# LAND COURT OF QUEENSLAND

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| CITATION: | *Xstrata Coal Queensland Pty Ltd & Ors v. Friends of the Earth - Brisbane Co-Op Ltd & Ors, and Department of Environment and Resource Management* [2012] QLC 13 |
| PARTIES: | Xstrata Coal Queensland Pty Ltd, ICRA Wandoan Pty Ltd and Sumisho Coal Australia Pty Ltd<br>(applicants)<br><br>v.<br><br>Friends of the Earth - Brisbane Co-Op Ltd<br><br>and<br><br>Barry Raymond Rich and Helen Maxine Rich<br><br>and<br><br>Roy Anderson, Bimbadeen Water Group, Herbert Bruggemann, Patrick Michael Devlin and Helen Joyce Devlin, Thomas Edmonds and Janice Edmonds, John Gerard Erbacher, Juandah Water Board, Cowan Keys and Helen Keys, Laurence Henry Peake and Gwenyth Alison Peake<br><br>and<br><br>Sally Maud Philp<br>(objectors)<br><br>and<br><br>Department of Environment and Resource Management<br>(statutory party) |
| FILE NOS: | MRA092-11 and EPA093-11<br>MRA098-11 and EPA099-11<br>MRA105-11 and EPA106-11 |
| DIVISION: | General Division |
| PROCEEDING: | Applications for mining leases and objections; objections to application for environmental authority, the draft environmental authority and conditions included in the draft environmental authority. |

DELIVERED ON: 27 March 2012

DELIVERED AT: Brisbane

HEARD AT: Brisbane, Dalby

PRESIDENT: CAC MacDonald

ORDER:

**1. I make the following recommendations, pursuant to s.269(1) of the *Mineral Resources Act*, to the Honourable the Minister administering the *Mineral Resources Act 1989* -**

**(a) Subject to the following recommendations in relation to the mining leases and the draft environmental authority being adopted, I recommend that the mining leases 50229, 50230 and 50231 be granted over the application area, other than over the land identified in Recommendation 1(b) below, for the term and purpose sought by the applicants, with the exception of the areas occupied by the proposed Woleebee South and Glen Haven Pits.**

**(b) In accordance with s.238(2) of the *Mineral Resources Act 1989*, the following areas of restricted land be excised from the lease areas -**

**(i) The land shown as restricted land on Drawing No. 921703 attached to the mining lease application, and the following land to the extent that it is not included in that drawing -**

**a. Mr and Mrs Edmonds' land: land within 100m laterally of the two residences and five sheds; land within 50m laterally of each of the two stockyards, two turkeys nests, the bore, those stock water troughs connected to a water supply and seven dams;**

**b. Mr Erbacher's land: land within 100m laterally of the residences, sheds and the piggery; land within 50m laterally of the stockyards, turkeys nest, water storages, bore, those stock water troughs connected to a water supply, tanks and dams;**

**c. Mr and Mrs Keys' land: land within 50m laterally of the stock water facilities connected to a water supply.**

**(ii) The land occupied by the water pipelines**

**providing water supply to the water storage facilities identified in a., b., and c. above and within 50m laterally of those water pipelines be excluded from the grants.**

**(c) I recommend that any leases granted over the areas of land occupied by the proposed Woleebee South and Glen Haven Pits be limited to infrastructure purposes associated with the mining activities on the balance of the lease areas.**

**(d) I recommend that the applicants must provide continuing access via public roads to the same standard as currently exists to the Edmonds and Erbacher properties, while those properties remain in the ownership of persons and entities other than the applicants.**

**2. I make the following recommendations, pursuant to s.222(2)(b) of the *Environmental Protection Act 1994*, to the Honourable the Minister administering the *Environmental Protection Act 1994* -**

**(a) Subject to the following recommendations in relation to the mining leases and the draft environmental authority being adopted, I recommend that the environmental authority be issued in the terms of the draft environmental authority issued on 10 December 2010.**

**(b) I recommend that the draft environmental authority be amended to include a condition that a monitoring program for the Hutton and Precipice Sandstone Aquifers, using the existing deep bores, be designed and implemented in consultation with DERM for the following purposes -**

**(i) to establish the base line yield and water quality of the supply from those bores; and**

**(ii) to regularly monitor the bores to identify any change in the yield and quality of the water supply from aquifers in accordance with parameters to be set by DERM.**

**(c) I recommend that, as a pre-requisite to the grant of the environmental authority, the applicants are 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.**

3. **I direct the Registrar of the Land Court to provide a copy of these reasons to the Honourable the Ministers administering the *Mineral Resources Act 1989* and *Environmental Protection Act 1994* and to direct the Ministers' attention specifically to my observations in [606] - [610].**

CATCHWORDS:

Mining - applications for mining leases - objections - functions and powers of the Land Court - *Mineral Resources Act 1989*, ss.268, 269

Mining - application for environmental authority - objections - functions and powers of the Land Court - *Environmental Protection Act 1994*, ss.216, 219, 222, 223

Mining - significant project - effect of Coordinator-General's conditions - statutory limits on the powers of the Land Court - *State Development and Public Works Organisation Act 1971*, ss.45(1), 46, 49(1) - *Environmental Protection Act 1994*, s.222(2) - extent Court can recommend conditions that are inconsistent with Coordinator-General's conditions - meaning of "inconsistency" - principles of statutory interpretation - ordinary and natural meaning

Mining - objections to draft environmental authority - limitations under the *Environmental Protection Act 1994* - Coordinator-General's conditions can not be objected to by anyone - power of the Land Court to hear "new" objections - *Environmental Protection Act 1994*, ss.216(2), 222(2)

Mining - inclusion of environmental buffers and exclusion zones in lease areas - inclusion of mining pit areas not intended to be mined during the life of the leases - whether acceptable level of development and utilisation of the mineral resources within areas applied for - whether leases sought an appropriate size and shape - whether leases sought for appropriate purposes - public interest - whether the proposed mining operation an appropriate land use - *Mineral Resources Act 1989*, ss.234(1), 269(4)(b), (c), (d), (i), (k), (l), (m)

Mining - whether improvements properly identified in mining lease applications - restricted land (category B) - "artificial water storage" - water troughs - water pipelines - *Mineral Resources Act 1989*, ss.238(2), 245(1)(g), Schedule 2 (Dictionary)

Jurisdiction of the Land Court – statutory limits on Court's powers to make recommendations under the *Mineral Resources Act 1989* and the *Environmental Protection Act*

*1994* - "environmental authorities" - "mining activities" - activities authorised under the *Mineral Resources Act 1989* - extent Court can make recommendations for activities regulated by the *Water Act 2000* - *Mineral Resources Act 1989*, s.235(3) - *Environmental Protection Act 1994*, ss.146, 147

Jurisdiction of the Land Court - groundwater impacts - whether impacts of "mining activities" or activities regulated by the *Water Act 2000* - insufficient investigations - conflicting expert opinions - precautionary principle - adequacy of draft conditions for the draft environmental authority - effect of Coordinator-General's conditions – *Environmental Protection Act 1994*, ss.146, 147, 222(2)

Jurisdiction of the Land Court - groundwater impacts - make-good agreements - jurisdiction and powers of the Court limited to activities authorised under the *Mineral Resources Act 1989* - Court unable to make recommendations to Minister administering the *Water Act 2000* - *Mineral Resources Act 1989*, ss.235(3), 269 - *Environmental Protection Act 1994*, ss.146, 147, 222

Evidence - expert opinion - impact of coal dust on cattle - conflicting opinions of different experts - lack of research - scientific uncertainty - precautionary principle - lack of evidence as to appropriate precautionary remedy - *Environmental Protection Act 1994*, ss.223(c), Schedule 4 (Dictionary)

Mining - dust and noise emissions - application of environmental protection policies - effect of Coordinator-General's conditions imposing relevant emission limits - limits on Court's power to recommend conditions for the draft environmental authority - *State Development and Public Works Organisation Act 1971*, s.49 - *Environmental Protection Act 1994*, s.222(2) - *Environmental Protection (Air) Policy 2008* - *Environmental Protection (Noise) Policy 2008*

Climate Change - whether "any adverse environmental impact" - whether the MRA permits consideration of downstream indirect environmental impacts - scope of "operations" limited to physical mining activities - test of causation - whether evidence required of specific environmental impact - public interest - whether "a good reason" to refuse proposed mining lease applications - *Mineral Resources Act*, ss.2, 6A, 234(1), 269(4)(i), (j), (k), (l)

Climate Change - consideration of the "standard criteria" - public interest - principles of ecologically sustainable

development (ESD) - limits on the jurisdiction of the Land Court - "environmental authorities" - "mining activities" - objects of the *Environmental Protection Act 1994* limited to protection of Queensland's environment - extent Court can consider "global impacts" under the ESD principles - evidence of scope 3 greenhouse gas emissions irrelevant - *Environmental Protection Act 1994*, ss.3, 5, 8, 223, 146, 147, Schedule 4 (Dictionary)

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| APPEARANCES: | Mr DJS Jackson QC with Mr D Clothier for the applicants.<br>Mr BG Cronin with Dr C McGrath for the objector Friends of the Earth - Brisbane Co-Op Ltd.<br>Mr P Ambrose SC with Ms K McIntyre for objectors BR and HM Rich.<br>Mr G Houen, agent, for objectors R Anderson, Bimbadeen Water Group, H Bruggemann, PM and HJ Devlin, T and J Edmonds, JG Erbacher, Juandah Water Board, C and H Keys, and LH and GA Peake.<br>Mr IR Pepper, Senior Lawyer, Department of Environment and Resource Management, for the statutory party. |
| SOLICITORS: | Allens Arthur Robinson for the applicants.<br>Environmental Defenders Office Qld Inc for the objector Friends of the Earth - Brisbane Co-Op Ltd.<br>Shannon Donaldson for the objectors BR and HM Rich. |

# INDEX

**Background**

[1] Xstrata Coal Queensland Pty Ltd, ICRA Wandoan Pty Ltd and Sumisho Coal Australia Pty Ltd (the applicants) have applied for three mining leases and an associated environmental authority in respect of a proposed open cut coal mine immediately to the west of the Wandoan township, approximately 350 kms north-west of Brisbane in the Surat Basin. The applications were made under the *Mineral Resources Act 1989* (MRA) and the *Environmental Protection Act 1994* (EPA) respectively.

[2] The key features of the project were described by the applicants as follows -

- Open-cut mining of thermal coal on mining lease applications (MLAs 50229, 50230 and 50231) at a rate of 30 million tonnes/annum (Mt/a) ROM Coal, with first coal export expected in early 2012. The in-situ coal resource identified within the Juandah Coal Measures of these MLAs is estimated to be in excess of 1.2 billion tonnes of thermal coal, of which approximately 500 Mt has a ROM strip ratio of less than 3:1 with the remainder of the coal typically being in the range of 3:1 to 5:1 strip ratio.

- Coal washing by a coal handling and preparation plant.

- Mine Infrastructure Area including administration and bath house facilities, vehicle parking, fuel storage and handling, lube and oil storage facility, heavy and light vehicle wash down facilities, services reticulation, workshop and stores and lay down areas.

- Export of coal from the site by a rail spur from the proposed Surat Basin Rail Project.

- Raw water supply for coal washing and other requirements by one of three potential options:

    - Coal Seam Methane (CSM) by-product water from south of the MLA areas
    - CSM by-product water from west of the MLA areas
    - Surface water from the raising of Glebe Weir.

- Site water management.

- Proposed upgrading of the existing Wandoan town potable water treatment facilities and a pipeline to the MLA areas to provide water for the construction stage and potable water for mining operations, including a new cooling tower and possibly an extra town bore.

- Proposed upgrading of the existing Wandoan town waste water treatment facilities to allow for discharge of municipal waste water from the mine.

- Security building at the mine site entrance and exit points.

- Dragline construction facilities, including workshop, store and maintenance facilities to service dragline erections and maintenance.

- Power supply for the mine by one of four potential options:

    - Total site supply by a 275 kV electricity transmission line including substation; or
    - Total site supply by a 132 kV electricity transmission line including substation; or
    - A base load total-site supply on site gas fired power generation of 80 MWe gross electric output, including gas supply pipe line from the peat Scotia lateral gas pipe line; or
    - A partial-site-supply, on site gas fired power generation of 30 MWe gross electric output, including gas supplied pipe line from the peat Scotia lateral gas pipe line. Remaining power would be supplied by a 132 kV electricity transmission line.

[3] The project targets the Juandah Coal Measures which are shallow lying coal measures within the MLA areas. Within the Juandah Coal Measures there are several coal seams, the Kogan, Macalister Upper, Macalister Lower and Wambo seams, which will be targeted. The applicants say that the shallow lying nature of these coal seams makes them eminently suitable for open cut mining. It also has the consequence, say the applicants, that they will not be mining deep into the underlying aquifers. The mining pits will extend to an estimated maximum depth of 75m.

[4] Mining Lease application (MLA) 50229 was lodged on 24 May 2007 for a term of 35 years over an area of 17,211 ha for the purpose of mining coal and bearing the name Wandoan No. 1.

[5] MLA 50230 was lodged on 24 May 2007 for a term of 35 years over an area of 11,101 ha for the purpose of mining coal and bearing the name Wandoan No. 2.

[6] MLA 50231 was lodged on 24 May 2007 for a term of 35 years over an area of 3,795 ha for the purpose of mining coal and bearing the name Wandoan No. 3.

[7] On 21 December 2007, the project was declared to be a significant project for which an Environmental Impact Statement (EIS) was required pursuant to s.26 of the *State Development and Public Works Organisation Act 1971* (*State Development Act*).[1]

[1] The project is an updated and refined version of the Wandoan project, which was declared a 'significant project for which an EIS is required' on 12 March 2007. The Wandoan project was withdrawn by the proponent on 20 December 2007, owing to changes in the size of the project, the number of activities considered part of the project and changes in the scope of the project: Coordinator-General's report, p.1.

[8] On 21 July 2008, aspects of the project were determined to be a "controlled action" by the relevant Commonwealth Minister under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBCA). The trigger for this was the project's potential environmental impacts to listed threatened species and ecological communities, being matters of national environmental significance. None of the objections filed in this matter relate to those triggers.

[9] An EIS was submitted by the applicants on 6 December 2008. The EIS was released for public and advisory agency comment. 62 submissions were received by the Coordinator-General from members of the public and advisory agencies.

[10] On 28 August 2009, the Coordinator-General requested a supplementary EIS (SEIS) under the *State Development Act*. The applicants provided the SEIS on 16 November 2009. The SEIS -

- identified that the applicants no longer proposed to mine the Woleebee South Pit in the first 30 years of operation;
- included the Glen Haven Pit as a potential mining area but noted that it would not form part of the project;
- provided updated information on ambient air quality impacts, mitigation and management measures;
- updated the assessment and information on noise impacts;
- specifically dealt with the economic impacts of the mine on agricultural production.

[11] The Coordinator-General invited comments from advisory agencies and submitters on the SEIS. 34 submissions were made.

[12] Under s.35 of the *State Development Act*, the Coordinator-General was required to consider the EIS and SEIS, the submissions and any other material the Coordinator-General considered relevant and prepare a report evaluating the EIS and SEIS. Section 45(1) of that Act provides that the Coordinator-General may state conditions for a proposed mining lease in the report; s.49(1) provides that the Coordinator-General may state conditions for any draft environmental authority (mining lease); s.52(1) provides that the Coordinator-General may recommend conditions for any other approvals process and s.54B provides that the Coordinator-General may impose conditions for the project to take effect under the *Sustainable Planning Act 2009* and the EPA.

[13] The Coordinator-General's report, released on 12 November 2010, recommended that the project proceed, subject to conditions including conditions for the environmental authority. The Coordinator-General also recommended conditions for other approvals including, relevantly, recommendations to the Minister administering the *Water Act 2000*. Conditions were also imposed under s.54B of the *State Development Act*.

[14] On 14 March 2011, the Commonwealth Minister approved the controlled action under the EPBCA.

**The mining lease application process**

[15] On 14 October 2010, the Mining Registrar prepared and endorsed Certificates of Application for the mining lease applications under s.252 of the MRA. On 8 and 10 December 2010, the applicants abandoned some parts of the land applied for in the MLAs, including the properties owned by objectors, Mr and Mrs Devlin, and by the son and daughter-in-law of objector, Mr Bruggemann. On 13 January 2011, the Mining Registrar re-issued Certificates of Public Notice for the MLAs under s.252A of the MRA. The objectors in these proceedings lodged objections to the MLAs under s.260 of the MRA on 25 February 2011 and the objections were referred to the Land Court under s.265 of that Act on 16 March 2011.

**The draft environmental authority process**

[16] On 10 December 2010, a draft environmental authority (EA) was issued under the EPA. Pursuant to s.210(2) of the EPA the draft EA incorporated conditions from the Coordinator-General's report. Following public notice of the application under s.211 of the EPA, the objectors objected to the application for the EA, the draft EA, and conditions included in the draft EA under s.216. Those objections were referred to the Court pursuant to s.219 of the EPA also on 16 March 2011.

[17] The Department of Environment and Resource Management (DERM) is a party to the proceedings by virtue of s.219(4)(a) of the EPA.

**Functions of the Land Court**

[18] The Court is required to conduct a hearing into the applications for the grant of the mining leases and objections under s.268 of the MRA and, under s.269, to make recommendations to the relevant Minister about whether to grant the mining leases and, if so, to recommend any relevant conditions to which the mining leases should be subject. Pursuant to s.219(1) of the EPA, the Land Court must make an objections decision in relation to any objections made under that Act to the application for an EA, the draft EA and the conditions included in the draft EA.

***Mineral Resources Act 1989***

[19] Section 268 of the MRA relevantly provides -

"**268 Hearing of application for grant of mining lease**

(1) On the date fixed for the hearing of the application for the grant of the mining lease and objections thereto, the Land Court shall hear the application and objections thereto and all other matters that pursuant to this part are to be heard, considered or determined by the Land Court in respect of that application at the one hearing of the Land Court.

(2) At a hearing pursuant to subsection (1) the Land Court shall take such evidence, shall hear such persons and inform itself in such manner as it considers appropriate in order to determine the relative merits of the application, objections and other matters and shall not be bound by any rule or practice as to evidence.

(3) The Land Court shall not entertain an objection to an application or any ground thereof or any evidence in relation to any ground if the objection or ground is not contained in an objection that has been duly lodged in respect of the application.

…".

[20] Relevantly, s.269 provides -

"**269 Land Court's recommendation on hearing**

(1) Upon the hearing by the Land Court under this part of all matters in respect of an application for the grant of a mining lease, the Land Court shall forward to the Minister -

(a) any objections lodged in relation thereto; and

(b) the evidence adduced at the hearing; and

(c) any exhibits; and

(d) the Land Court's recommendation.

(2) The recommendation of the Land Court upon an application for the grant of a mining lease shall consist of -

(a) a recommendation to the Minister that the application should be granted or rejected in whole or in part; and

(b) in the case of an application that relates to land that is the surface of a reserve and the owner of that reserve does not consent to the grant of a mining lease over that surface area, a recommendation to the Minister as to whether the Governor in Council should consent to the grant of the mining lease over that surface area and, if so, recommend the conditions (if any) to which the mining lease should be subject.

(3) A recommendation may include a recommendation that the mining lease be granted subject to such conditions as the Land Court considers appropriate, including a condition that mining shall not be carried on above a specified depth below specified surface area of the land.

(4) The Land Court, when making a recommendation to the Minister that an application for a mining lease be granted in whole or in part, shall take into account and consider whether -

(a) the provisions of this Act have been complied with; and

(b) the area of land applied for is mineralised or the other purposes for which the lease is sought are appropriate; and

(c) if the land applied for is mineralised, there will be an acceptable level of development and utilisation of the mineral resources within the area applied for; and

(d) the land and the surface area of the land in respect of which the mining lease is sought is of an appropriate size and shape in relation to -

(i) the matters mentioned in paragraphs (b) and (c); and
(ii) the type and location of the activities proposed to be carried out under the lease and their likely impact on the surface of the land; and

(e) the term sought is appropriate; and

(f) the applicant has the necessary financial and technical capabilities to carry on mining operations under the proposed mining lease; and

(g) the past performance of the applicant has been satisfactory; and

(h) any disadvantage may result to the rights of -

(i) holders of existing exploration permits or mineral development licences; or
(ii) existing applicants for exploration permits or mineral development licences; and

(i) the operations to be carried on under the authority of the proposed mining lease will conform with sound land use management; and

(j) there will be any adverse environmental impact caused by those operations and, if so, the extent thereof; and

(k) the public right and interest will be prejudiced; and

(l) any good reason has been shown for a refusal to grant the mining lease; and

(m) taking into consideration the current and prospective uses of that land, the proposed mining operation is an appropriate land use.

(5) Where the Land Court recommends to the Minister that an application for the grant of a mining lease be rejected in whole or in part the Land Court shall furnish the Minister with the Land Court's reasons for that recommendation.

…"

***Environmental Protection Act 1994***

[21] Section 216 of the EPA provides that -

"**216 Right to make objection**

(1) An entity may make an objection about -

(a) the application; or
(b) the draft environmental authority for the application; or
(c) a condition included in the draft.

(2) Also, a Coordinator-General's condition included in the draft under section 210 can not be objected to by anyone.

(3) An objection may be made only by giving it to the administering authority.

(4) To remove any doubt, it is declared that the reference to the application in subsection (1) does not include a reference to any other application document."

[22] Section 222 of the EPA provides -

"**222 Nature of objections decision**

(1) The objections decisions for the application must be a recommendation to the EPA Minister that -

(a) the application be granted on the basis of the draft environmental authority for the application; or

(b) the application be granted, but on stated conditions that are different to the conditions in the draft; or

(c) the application be refused.

(2) However, if a relevant mining lease is, or is included in, a significant project and, under section 210, Coordinator-General's conditions were included in the draft, any stated conditions under subsection (1)(b) -

(a) must include the Coordinator-General's conditions; and

(b) must not be inconsistent with a Coordinator-General's condition.

… "

[23] Section 223 of the EPA relevantly provides -

"**223 Matters to be considered for objections decision**

In making the objections decision for the application, the Land Court must consider the following -

(a) the application documents for the application;

(b) any relevant regulatory requirement;

(c) the standard criteria;

(d) …

(e) each current objection;

(f) any suitability report obtained for the application;

(g) the status of any application under the Mineral Resources Act for each relevant mining tenement."

***Effect of Coordinator-General's conditions***

[24] An underlying issue which arises by virtue of the content of some of the objections is the extent to which the Court may consider objections and make recommendations about proposed conditions that relate to the same general subject matter as the Coordinator-General's conditions.

[25] The general principles to be applied in determining whether the Court has power to deal with such objections and make such recommendations are considered here. The application of those principles to particular objections will be discussed throughout the remainder of the decision.

*Mining Lease Conditioning Powers*

[26] Section 45(1) of the *State Development Act* provides that the Coordinator-General's report may state conditions for the proposed mining lease.

[27] Section 46 then goes on to state –

"**46 Coordinator-General's conditions override other conditions**

(1) This section applies if -
(a) the proposed mining lease is granted; and
(b) the conditions of the mining lease include a Coordinator-General's condition; and
(c) there is any inconsistency between the Coordinator-General's condition and another condition of the mining lease.

(2) Subject to section 47, the Coordinator-General's condition prevails to the extent of the inconsistency.

(3) In this section—
***Coordinator-General's condition*** means -

(a) a Coordinator-General's condition that, under section 45, is taken to have been included in the proposed mining lease; or
(b) a condition that is substantially the same as a condition mentioned in paragraph (a)."

[28] The Coordinator-General did not state any conditions for the proposed mining leases pursuant to s.45(1) of the *State Development Act*. However, an issue arises as to whether the Court can recommend the inclusion of conditions in the proposed mining leases which are inconsistent with conditions stated by the Coordinator-General for the draft EA. I will address this issue further below.

*Environmental Authority Conditioning Powers*

[29] Section 49(1) of the *State Development Act* provides that the Coordinator-General's report may state conditions for any draft EA under the EPA for the proposed EA (mining lease).

[30] Section 222(2) of the EPA limits the Court's conditioning powers insofar as any conditions recommended by the Court must include the Coordinator-General's conditions and must not be inconsistent with a Coordinator-General's condition.

[31] Further, s.216(2) of the EPA provides that a Coordinator-General's condition included in the draft EA can not be objected to by anyone.

*Inconsistency Test*

[32] Some of the objections relating to particular subject matters were made under both the MRA and the EPA. Where the objections have some merit, an issue arises as to whether conditions can be recommended in relation to the proposed mining leases which would be inconsistent with the Coordinator-General's stated conditions for the draft EA. On a strict reading of s.46 of the *State Development Act*, it would appear there is no prohibition on recommending such conditions. However, it is my opinion that it would defeat the intent of both the *State Development Act* and the EPA to recommend conditions for the proposed mining leases that would be inconsistent with the draft EA. Accordingly I am not prepared to adopt that course in this case.

[33] It is clear that the Court's conditioning powers under the EPA are constrained by the operation of the *State Development Act*. The question is to what extent. The applicants have submitted that the effect of ss.222(2) and 216(2) of the EPA is that neither an objector nor the Court can go behind the Coordinator-General's stated conditions for the draft EA. The reason for that, the applicants submitted, was that the conditions are the result of an extensive EIS process which provide the opportunity for persons to make submissions about particular matters. It would make a nonsense of that process to enable the Coordinator-General's conditions to be re-examined a second time. Further, the applicants submitted, several of the objections concern alleged inadequacies in the Coordinator-General's conditions. Objections in relation to groundwater, dust and noise are in that category.

[34] It is submitted for the Richs that the Coordinator-General's conditions can be improved and made more strict by analogy with the process adopted by Mr Spalding, as set out in paragraph 10 of his affidavit. In the alternative, they submit that if the Court finds the Coordinator-General's conditions to be unreasonable or not as strong or as strict as they might be, and the Coordinator-General's conditions cannot be changed because to do so would be recommending inconsistent conditions then, while the Coordinator-General's conditions remain, the Court should make an unfavourable recommendation.[2] The other objectors did not address this issue in their submissions.

[35] The issue of what the Court can and cannot do when faced with Coordinator-General's conditions does not appear to have been examined before by this Court or the previous Land and Resources Tribunal.

[36] The applicants' submissions raise two distinct issues:

(1) To what extent can objectors raise issues with the Coordinator-General's conditions included in the draft EA?

(2) In what circumstances will a condition recommended by the Court be inconsistent with a Coordinator-General's condition?

[37] It is convenient to deal with the second issue first.

[38] Although there is no direct authority on point, there is a large body of case law derived from federal constitutional law dealing with s.109 of the Australian Constitution and inconsistency between Commonwealth and State laws. The test of "indirect inconsistency", developed by the High Court in *Clyde Engineering Co Ltd v Cowburn* (1926) 37 CLR 466, has been adopted by Courts when considering the operation of s.109 of the Australian Constitution. The test was explained by Kirby P (as he then was) in *Majik Markets Pty Ltd v Brake and Service Centre Drummoyne Pty Ltd*[3] where the New South Wales Court of Appeal was concerned with the operation of s.109 of the Australian Constitution and whether particular State legislation was inconsistent with Federal legislation. Kirby P said –

> "The class of 'indirect inconsistency' so recognised was usually expressed in terms of the metaphor of 'covering the field'.
>
> This was a test first developed by Isaacs J in *Clyde Engineering Co Ltd v Cowburn* (1926) 37 CLR 466 at 489(f); see also *Ex parte McLean* (1930) 43 CLR 472 at 490. Explaining this form of 'indirect' inconsistency in *McLean*, Dixon said of it (at 483):
>
> > 'The inconsistency does not lie in the mere coexistence of two laws which are susceptible of simultaneous obedience. It depends upon the

[2] Transcript 8-11.30 to 8-11.49.

[3] (1991) 102 ALR 621 at 625.

> intention of the paramount Legislature to express by its enactment, completely, exhaustively, or exclusively, what shall be the law governing the particular conduct or matter to which its attention is directed. When a Federal statute discloses such an intention, it is inconsistent with it for the law of a State to govern the same conduct or matter.'"

[39] Thus "indirect inconsistency" occurs when legislative provisions "cover the field" so that there is no room left for the inclusion of any other legislative provisions dealing with the same subject matter. In contrast, "direct inconsistency" would occur when it is impossible to obey both legislative provisions. This type of inconsistency has also been held to offend s.109 of the Australian Constitution[4], although in the *Majik* case it was said that the acceptance of two approaches to the determination of "inconsistency" for the purposes of s.109 of the Constitution did not imply that two different concepts were contained within the single word of the Constitution.

[40] Where statutes of the same Parliament are under consideration, however, courts appear to be reluctant to apply the "indirect inconsistency" test and instead favour the approach of "direct inconsistency".

[41] In *Tricare Australia Ltd v Gold Coast City Council*,[5] Skoien SJDC distinguished the constitutional cases on the basis that they were concerned with cases of overlap between Acts of superior and inferior legislative bodies. In the *Tricare* case, the Queensland Planning and Environment Court was concerned with whether conditions imposed by a local government on a proposed development under the *Mixed Use Development Act 1993* were inconsistent with conditions imposed on an earlier rezoning approval under the *Local Government Act 1936*. Skoien SJDC held that the indirect inconsistency test had no application as he was examining two Acts of the same Parliament and adopted the approach of "direct inconsistency".[6]

[42] In *Coffs Harbour Environment Centre Inc v Minister for Planning*,[7] the New South Wales Court of Appeal construed s.36 of the *Environmental Planning and Assessment Act 1979* (NSW) which dealt with the resolution of inconsistency between environmental planning instruments. Kirby P held that the term "inconsistency" in s.36 was to be construed having regard to the ordinary meaning of the word. He said that it

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4 See *Miller v Miller* (1978) 141 CLR 269 at 275; 22 ALR 119; see also *Blackley v Devondale Cream (Vic) Pty Ltd* (1968) 117 CLR 253 at 258.

5 [1998] QPELR 224 at 229-230.

6 *Tricare Australia Ltd v Gold Coast City Council* [1998] QPELR 224 at 229. On appeal, the Court of Appeal affirmed the decision of Skoien SJDC on different grounds - *Tricare Australia Ltd v Gold Coast City Council* [2001] 1 Qd R 663. Because of the different approach taken by the Court of Appeal, the discussion by Skoien SJDC of the concepts of direct and indirect inconsistency was not reviewed by the Court of Appeal.

7 (1994) 84 LGERA 324.

was inappropriate to apply the law governing the operation of s.109 of the Australian Constitution to s.36 saying that -

> "In general terms, s.109 of the Australian Constitution concerns, to the extent of any inconsistency, which law prevails and which law is made invalid as between the laws of at least two organs of the Federation purporting to make laws dealing with the same subject matter. Here the dispute concerns, to the extent of any inconsistency, which of at least two laws enacted by or made under the same Legislature is to prevail."[8]

[43] His Honour continued -

> "The resolution of this dispute requires only that the word 'inconsistency' be given its ordinary and natural meaning without the gloss which has necessarily developed around the meaning of the word in a constitutional setting. Upon that basis there will be an inconsistency if, in the provisions of one environmental planning instrument, there is 'want of consistency or congruity'; 'lack of accordance or harmony' or 'incompatibility, contrariety or opposition' with another environmental planning instrument."[9]

[44] This is not a case where I am required to determine whether one statute is inconsistent with another. The primary question to be determined is the intention of Parliament as expressed in s.222(2)(b) of the EPA. No assistance can be derived from the explanatory memorandum to the section.[10] Parliament's intention is to be ascertained by construing the words used in s.222(2)(b) of the EPA within the context of the statute as a whole.[11] In those circumstances, the approach adopted by Kirby P in the *Coffs Harbour Environment Centre* case appears, with respect, to be the appropriate approach here. That is, the word "inconsistent" as it is used in s.222(2)(b) of the EPA should be given its ordinary and natural meaning. The Macquarie Dictionary[12] defines 'inconsistent' as:

1. lacking in harmony between different parts or elements; self contradictory.
2. lacking agreement, as one thing with another, or two or more things in relation to each other; at variance.
3. not consistent in principle, conduct etc.
4. acting at variance with professed principles.
5. logic: incompatible.

[45] These definitions contemplate that, as a pre-requisite for determining inconsistency, there must be two or more "parts" or "elements" under consideration. The question is whether those elements lack harmony or are self-contradictory or are at variance, etc. In

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8 At 331.

9 At 331.

10 The substantive content of s.222(2)(b) was introduced into the *Environmental Protection Act 1994* by s.19 of the *State Development and Other Legislation Amendment Act 2001* as s.222(1A)(b). The explanatory memorandum is silent as to the basis for what is now s.222(2)(b) of the *Environmental Protection Act 1994*.

11 *CIC Insurance Ltd v Bankstown Football Club Ltd* (1997) 187 CLR 384 at 408; *K & S Lake City Freighters Pty Ltd v Gordon & Gotch Ltd* (1985) 157 CLR 309 at 315.

12 Second edition, 1991.

other words, under this definition, the issue of inconsistency does not and can not arise if there is only one condition dealing with a particular topic. If one is asked to examine whether there is an inconsistency, there must necessarily be two or more conditions for examination. Thus, in my view, the ordinary meaning of "inconsistent" indicates that it was not the intention of Parliament, as expressed in s.222(2)(b) of the EPA, that any Coordinator-General's condition would prevent the Court from recommending any conditions dealing with the same subject matter, for the draft EA.

[46] Further, if the Legislature had intended that the Court could not impose a condition dealing with the same subject matter as a Coordinator-General's condition, the Legislature could have said so using clear words to that effect. There are no such clear words in the EPA, or indeed the MRA or the *State Development Act*.

[47] I consider therefore that the Court has power under the EPA to recommend conditions for the draft EA dealing with the same subject matter as conditions imposed by the Coordinator-General, provided that the Court's recommended conditions do not contradict or lack harmony with the Coordinator-General's conditions.

[48] I turn now to the first question identified above - to what extent can objectors raise issues with the Coordinator-General's conditions in the draft EA? Section 216(2) of the EPA provides that a Coordinator-General's condition included in the draft EA can not be objected to by anyone. The applicants say the effect is that the Court cannot entertain the subject matter of an objection to a Coordinator-General's condition.

[49] Some guidance as to the extent of the prohibition in s.216(2) of the EPA may be obtained from reading that subsection in conjunction with s.222(2) of that Act. If an objection is not valid because of s.216(2), the Court would not be able to receive evidence as to anything related to the same subject matter as a Coordinator-General's condition and there would be no opportunity for the Court to recommend conditions dealing with the same subject matter as a Coordinator-General's condition. I do not consider that this is correct. If s.216(2) is given that meaning, s.222(2) would be rendered nugatory. Such a result would be contrary to the basic principle of statutory interpretation that different sections should be read so that they operate comfortably together.[13]

[50] The applicants further submitted that it would be contrary to ss.216(2) and 222(2) of the EPA for the Court to recommend against the draft EA or to take some other course such as recommending different lease boundaries, in response to a Coordinator-General's

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[13] *Ross v R* (1979) 141 CLR 432 at 440; *Commissioner of Stamps (SA) v Telegraph Investment Co Pty Ltd* (1995) 184 CLR 453 at 479; *Lee v Minister for Immigration and Citizenship* [2007] FCAFC 62 at 569 [39].

condition. The applicants say that if a person is not able to object to a Coordinator-General's condition, then nor is an objector able to do so by challenging the appropriateness of the condition and inviting a particular course of action to deal with the alleged criticisms of it. To do that is to object to the condition. There does not cease to be an objection to the condition merely because the invited method of dealing with the objection does not involve an alteration of the condition.

[51] As will become apparent in this decision, it is unnecessary for me to deal with those submissions.

**The Objectors and objections - in general**

[52] The objectors fall into two broad categories - landowners and the Friends of the Earth (FoE). The landowners hold land either within the proposed ML areas or in close proximity to them. In very broad terms, the landowners' objections are based on their concerns as to the size of the proposed mine, and the impact of the proposed mine on their general amenity and the productive use of their land. The FoE object to the MLAs and the draft EA on climate change grounds.

[53] In this decision, the landowners' objections are considered initially and the FoE objections will be considered separately, thereafter.

***The Landowners and their interests***

*Mr Anderson*

[54] Mr Anderson owns Elimatta which has an area of 1,982 ha. The property is to the west of and outside the MLA areas and is used for grazing.

*Bimbadeen Water Group*

[55] The Bimbadeen Water Group owns and operates the Bimbadeen Bore which draws water from the Precipice Sandstone Aquifer to a depth of 1,206m.

*Mr Bruggemann*

[56] Mr Bruggemann's family operate two properties in the Wandoan District used for beef production. One of them is Alcheringa which has an area of about 496 ha. The proposed MLA areas border the southern part of Alcheringa.

*Mr and Mrs Devlin*

[57] Mr and Mrs Devlin own Carmody Downs which has an area of 662.1 ha and is outside the MLA areas. The property is used for grazing. Mr and Mrs Devlin also operate a fuel agency business, Wandoan Rural Supplies, from their property.

*Mr and Mrs Edmonds*

[58] Mr and Mrs Edmonds own Turraden which has an area of 766 ha and is used for grazing. The property is towards the west of and within the MLA areas.

*Mr Erbacher/Juandah Water Board*

[59] Mr Erbacher owns two adjacent properties - East Lynne (Lot 34 on FT 490) and Tamarra (Lot 35 on FT 987) which have a total area of approximately 982 ha. The two properties are located within and towards the centre of the MLA areas and are used for the production of cattle, pigs and grain crops.

[60] The Juandah Bore is under the control of the Juandah Water Board. Mr Erbacher is the secretary of the Board. The Bore is located on its own land (Lot 56 on FT 987) immediately to the south of Tamarra. That land was removed from the MLA areas as a result of the EIS process.

*Mr and Mrs Keys*

[61] Mr and Mrs Keys and their family trust own Langowan and Avonview which have a total area of 1,182 ha. The two properties are separated by Grosmont Road, and are located within and towards the centre of the MLA areas, the northern area of Langowan and Avonview being within the proposed Mud Creek Pit. The properties are used for grazing but are suitable for cropping.

*Mr and Mrs Peake*

[62] Mr and Mrs Peake own Cherwondah with an area of 1,039 ha. The property is to the south of and outside the MLA areas and is used for grazing.

*Ms Philp*

[63] Ms Philp owns Yeovil (Lot 37 on FT 803582). The property is some distance north of and outside the MLA areas.

[64] Pursuant to Land Court Practice Direction No 7 of 2009, Ms Philp elected to be a Level 1 Objector which had the consequence that she did not file any evidence or participate in the hearing. Her objection relates to the effect of the project on artesian bore 18178, which is located on a neighbouring property and provides water to Yeovil.

*Mr and Mrs Rich*

[65] Mr and Mrs Rich own two properties, Amber Downs and Paradise Downs. Paradise Downs adjoins Amber Downs to the south and has an area of 2,021.809 ha. Paradise Downs does not share a boundary with the MLA areas.

[66] Amber Downs consists of two adjoining blocks which have a total area of 2,016.245 ha. Amber Downs adjoins the southern boundary of MLA 50230. A feedlot and homestead are located on Amber Downs. The feedlot is in the north west of the site approximately 400m from the proposed Woleebee South Pit. The homestead is in the north east portion of the property, approximately 500m from the Woleebee South Pit.

[67] Amber Downs and Paradise Downs are used for cropping and grazing cattle. In 1996 the grazing enterprise received an environmental authority to create a 500 standard cattle unit (scu) intensive cattle feedlot. On 3 February 2000, it received an environmental authority to increase operations to a 3,500 scu intensive feedlot on Amber Downs. Mr and Mrs Rich submitted an application for further expansion to 9,999 scu in July 2008 which was approved and an environmental authority was granted in 2010.

[68] Mr and Mrs Rich also operate a feed milling operation on Amber Downs which prepares feed for its cattle and for sale to other properties. In this regard Mr and Mrs Rich have approximately 750 ha of active dry land cultivation over Amber Downs and Paradise Downs where they primarily grow grain and forage crops which are used in the feedlot enterprises. Two of the cultivation paddocks are within metres of the MLA boundary.

[69] As an adjunct to the feedlot, Mr and Mrs Rich also lease a silo complex on the Warrego Highway in the vicinity of the proposed Wubagul Pit.

**Consideration of Landowners' objections**

***Premature issue of draft EA***

[70] Mr Bruggemann, Mr and Mrs Devlin, Mr and Mrs Edmonds, Mr Erbacher, the Juandah Water Board, Mr and Mrs Keys, Mr and Mrs Peake and Mr Anderson objected to the draft EA on the ground that -

> *The draft EA was issued prematurely without waiting for the Commonwealth Minister's decision on the controlled action.*

[71] In essence, the objectors say that because the Commonwealth declared the project to be a "controlled action" under the EPBCA, the EIS process was conducted jointly by the State and the Commonwealth under the relevant bilateral agreement. The Commonwealth Minister gave notice, on 24 November 2010, extending the period for a decision whether to approve the controlled action (and if so any conditions that were to be imposed) to 22 February 2011. The State issued the draft EA on 10 December 2010 without waiting for the Commonwealth's decision. That triggered the public notice process under the MRA, say the objectors, because under s.252A(2) of that Act, the mining registrar is obliged to issue the certificate of public notice for the lease application within five business days of being given the draft EA.

[72] The objectors say that they have been prejudiced because they were required to make their objections before they knew whether the controlled action would be approved by the Commonwealth and, if it were allowed to proceed, what, if any, conditions the

Commonwealth would impose. If the controlled action were not approved under the EPBCA, the objectors submitted, their efforts and costs would be wasted. Any Commonwealth conditions may substantially alter the issues about which the objectors were concerned. Their grounds of objection may be rendered redundant or partially so, or there may be new grounds on which they have not been heard. The objectors therefore gave notice that in the event that the Commonwealth Minister imposed conditions on the controlled action, they may make application to amend their grounds of objection.

[73] There has been no application for amendment of the grounds of objection since the Commonwealth Minister approved the controlled action under the EPBCA on 14 March 2011.

[74] Mr RJ Spalding, a principal environmental officer employed by DERM, gave evidence at the hearing. Mr Spalding was the delegate of the administering authority for the decision made, pursuant to s.207 of the EPA, to allow the application for the EA to proceed under Chapter 5, Part 6, Divisions 4 to 7 of that Act. He was also the delegate for the issue of the draft EA pursuant to s.210 of the Act. Mr Spalding's evidence was that pursuant to s.207(2) he had decided within the prescribed period to allow the application to proceed, because the application documents included a determination by the Coordinator-General about the mining activity which was sufficient for assessment of the application in relation to the standard criteria.

[75] In accordance with s.210(2)(a) of the EPA, Mr Spalding included in the draft EA the conditions in the Coordinator-General's report, except conditions W2, W4, W38, W39 and G5. Mr Spalding also included conditions, other than the Coordinator-General's conditions, pursuant to s.210(2)(b) of the Act. In fixing the proposed conditions for the draft EA, he considered the suite of conditions imposed or recommended by the Coordinator-General other than for the draft EA for the mining activity which conditions addressed, amongst other matters, greenhouse gas emissions, groundwater and surface water connectivity and potential groundwater impacts.

[76] In Mr Spalding's opinion, there was no requirement that the State receive the approval for the mining activity under the EPBCA prior to the issue of the draft EA. Accordingly, he proceeded to make the decision to grant the draft EA in accordance with the relevant statutory requirements, including the timeframes under the EPA. Mr Spalding did not consider that the Commonwealth approval was relevant to the decision-making process he was engaged in under the EPA because the decisions under the EPBCA related to rare and threatened species and vegetation management. He said

that there will be other decision-making processes under the State *Vegetation Management Act 1999* and the *Nature Conservation Act 1992* that the Commonwealth decisions will have a bearing on. The EPA was concerned with limiting the release of or potential for the release of contaminants from the mining activity rather than a decision-making process about rare and threatened species.

*Conclusions as to whether the draft EA was issued prematurely*

[77] The EPBCA applies when a proposal has the potential to have a significant impact on a matter of national environmental significance. The Act identifies the following matters of national environmental significance - World Heritage sites, National Heritage places, "RAMSAR" wetlands, listed threatened species and ecological communities, migratory species, Commonwealth marine areas, the Great Barrier Reef marine park and nuclear actions.

[78] The approvals process under the EPBCA is separate from and additional to the approval processes under State legislation (that is, under the *State Development Act* and the EPA). The timeframes in the EPBCA are not linked to any timeframes in the State legislation and vice versa. The only relationship between the Commonwealth and the State laws relates to the EIS process because, under a bilateral agreement between the Commonwealth and the State of Queensland,[14] the Commonwealth Minister may rely on the EIS process carried out under the *State Development Act* and the Coordinator-General's report to make a decision under the EPBCA. It is also relevant to note that the statutory party's assessment under the EPA is concerned with broader environmental issues while the Commonwealth Minister's assessment is limited to environmental issues that are matters of national environmental significance under the EPBCA as set out above. None of the objections in this matter relates to matters of national environmental significance.

[79] There is nothing in the EPBCA, the bilateral agreement, the *State Development Act* or the EPA which requires the administering authority to defer issuing a draft EA (mining lease) until after the Commonwealth Minister has made a decision under Part 9 of the EPBCA. The administering authority's decision-making period in s.207 of the EPA is triggered by the completion of the Coordinator-General's report. Under s.208 of the EPA, the administering authority must give the applicants and the mining registrar a draft EA within five business days after the period ends or such longer period as may be agreed.

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[14] The agreement was made on 11 August 2009 and amended on 18 December 2009.

[80] Accordingly, I do not consider that it was premature for the administering authority to issue the draft EA before the Commonwealth Minister had made a decision under the EPBCA.

***Size and shape of MLA areas***

[81] Section 234(1) of the MRA provides -

> "**234 Governor in Council may grant mining lease**
>
> (1) The Governor in Council may grant to an eligible person or persons, a mining lease for all or any of the following purposes -
>
> (a) to mine the mineral or minerals specified in the lease and for all purposes necessary to effectually carry on that mining;
> (b) such purposes, other than mining, as are specified in the mining lease and that are associated with, arising from or promoting the activity of mining."

[82] Relevantly, s.269(4)(b), (c), (d), (i), (k), (l) and (m) of the MRA provide that -

> "**269 Land Court's recommendation on hearing**
> …
>
> (4) The Land Court, when making a recommendation to the Minister that an application for a mining lease be granted in whole or in part, shall take into account and consider whether -
> …
>
> (b) the area of land applied for is mineralised or the other purposes for which the lease is sought are appropriate; and
>
> (c) if the land applied for is mineralised, there will be an acceptable level of development and utilisation of the mineral resources within the area applied for; and
>
> (d) the land and the surface area of the land in respect of which the mining lease is sought is of an appropriate size and shape in relation to -
>
> (i) the matters mentioned in paragraphs (b) and (c); and
> (ii) the type and location of the activities proposed to be carried out under the lease and their likely impact on the surface of the land;
> …
>
> (i) the operations to be carried on under the authority of the proposed mining lease will conform with sound land use management; and
>
> (k) the public right and interest will be prejudiced; and
>
> (l) any good reason has been shown for a refusal to grant the mining lease; and
>
> (m) taking into consideration the current and prospective uses of that land, the proposed mining operation is an appropriate land use."

[83] Landowner objectors Mr Bruggemann, Mr and Mrs Devlin, Mr and Mrs Edmonds, Mr Erbacher, Mr and Mrs Keys and Mr and Mrs Peake objected to the MLAs on the ground that -

> *The applicant has not given valid reasons why a mining lease should be granted in respect of the area and shape of the land described in the lease.*

[84] Mr and Mrs Rich also objected to the EA application on the basis that -

> *Woleebee South Pit can be reactivated at any time which would cause a very substantial increase in emissions.*

*Environmental buffers*

[85] The objectors represented by Mr Houen said that the applicants had stated in the mining lease application that the reasons for the area and shape of the proposed leases were "*to economically and fully recover coal reserves, allow for overburden removal and coal haulage and to meet environmental obligations*" (objectors' emphasis). The objectors submitted that this was an admission by the applicants that their objective was to include extra non-mining land in the leases to create a buffer between mining operations and the more distant sensitive places.[15] The objectors say that the applicants are not entitled, under the MRA, to apply for mining leases over such non-mining land for that purpose. Further the MRA does not empower the State to grant a mining lease for that purpose.

[86] These objectors also said that the inadequacy of the groundwater investigation was compounded by the applicants' unwarranted assumption that a large area of extra land, which was not required for mining, will be included in the mining leases as an environmental buffer and that groundwater impacts within that contrived boundary could therefore be ignored.

[87] Further, the Bimbadeen Water Group and Mr and Mrs Peake said that the applicants' criterion for setting the lease boundary was not the land required for mining but the desire to encircle and eliminate those residences at which emission limits would be exceeded. There was no basis in the legislation, these objectors said, for setting the

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15 A "sensitive place" is defined in the "Definitions" section of the draft EA to mean:
a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
b) a motel, hotel or hostel; or
c) an educational institution; or
d) a medical centre or hospital; or
e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 2004* or a World Heritage Area; or
f) a public park or gardens; or
g) means a work place used as an office or for business or commercial purposes, which is not part of the mining activity.

mining lease boundary to suit that purpose and thus to allow the applicants to escape the need to assess the impacts of mining on groundwater.

[88] Mr Philip Price, the operations manager for the Wandoan Coal Project, gave evidence on behalf of the applicants. Mr Price said that the original area of land applied for under the MLAs lodged in May 2007 was approximately 32,000 ha. In December 2010, the applicants notified the mining registrar of their intention to abandon part of the land covered by each of the MLAs, leaving a balance area of approximately 30,000 ha.

[89] Approximately 11,000 ha of the total area applied for is required exclusively for mine pits which will be disturbed by mining operations. That 11,000 ha does not include areas of land required by the applicants for additional infrastructure such as haul roads, access roads, the rail spur, overland conveyors, environmental ponds, drains and levees to manage surface water flows in compliance with EA conditions and road and creek diversions. Additional space within the MLA areas is required to accommodate that infrastructure. The applicants planned to allow a 100m area around all roads, access roads, the rail spur, overland conveyors, environmental ponds, drains, levees and road and creek diversions.

[90] The applicants also included certain areas around the mine pits and the explosives storage area as exclusion zones so as to protect persons and property from the potential impacts of blast vibration and fly-rock. These areas are discussed below.

[91] The applicants submitted that the ground of objection assumes that an environmental buffer is not necessary to effectually carry out mining operations and that it is impermissible to have one. That assumption was incorrect and contrary to previous decisions of this Court where environmental buffers have been included in mining lease areas.[16] As a matter of construction of the MRA, the area of a mining lease can include an environmental buffer. Mining can only be carried on in accordance with an environmental authority. There could hardly be a more necessary or associated purpose to include within a mining lease areas of land that are required in order to ensure that the mining activities are carried on lawfully.

*Loss of pastoral land*

[92] The objectors also say that only about 11,000 ha of the total area of 32,000 ha originally applied for would be used for mining operations. They submitted that the land within the application areas is highly productive agricultural land capable of both grazing and cropping. To lock up a significant area without warrant would aggravate the loss of

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[16] Citing *Re Xstrata Coal Queensland* [2010] QLC 29; *Re Idemitsu Australia Resources Pty Ltd* [2010] QLC 118 and [2010] QLC 120. No questions were raised in those cases (which concern uncontested mining lease applications) as to the validity of such clauses and hence there is no discussion of this issue.

productivity and needlessly harm the important food production role that individual farm enterprises are currently performing. It would unnecessarily add to the negative socio-economic effects from loss of individual farming enterprises.

[93] Mr and Mrs Edmonds, Mr Erbacher and Mr and Mrs Keys included additional material in support of this ground of objection. Mr and Mrs Edmonds said that only about 120 ha of their property, Turraden, were required for mining. The balance of their land was unjustifiably included in the mining lease application. Mr Erbacher said that it appeared from the applicants' plans that about 370 ha of his Lot 35 were not required for mining and about 430 ha of his Lot 34 were similarly not required. Therefore a total of about 800 ha of his land was included in the proposed mining lease without justification. Mr and Mrs Keys estimated that approximately 600 ha of their land were required for mining so that the balance of their property was unjustifiably included in the proposed lease.

*Exclusion zones*

[94] As noted above, areas around the proposed mine pits and the explosives storage area have been set aside as exclusion zones as a protective measure against the impacts of blast vibration and fly-rock.

[95] Mr Price's evidence was that it is the practice of Xstrata to adopt a minimum 600m exclusion zone around any blast site and a 1.4 km exclusion zone around an explosives storage area. The exclusion zone areas are included in the ML areas applied for. There are areas where the MLA boundaries do not accommodate the planned blasting exclusion zone because the natural boundary of the area at that point is a road which falls short of the radius of 600m. Those areas are the south-west area of the Turkey Hill Pit and the north-east area of the Wubagul Pit. The shortfall will be managed by free digging, temporarily closing the adjoining roads or adjusting the pit boundary, Mr Price said. Mr Price also said that the standard exclusion zone for the safe storage of explosives is 1.4 km from the storage area.[17]

[96] The objectors have challenged whether the 9,000 ha exclusion zones around the pits, the blasting areas and the explosives storage area were justified. Mr Erbacher said the fly-rock exclusion zones had not been mentioned, prior to Mr Price's affidavit, as a justification for the size and shape of the MLA areas, other than in the EIS in relation to the Wubagul Pit. The objectors also submitted that blasting will only occur while overburden is being stripped, with this occurring at specific times over relatively short

[17] Australian Standard 2187.2.

periods of the lease term. They proposed that the applicants should meet their fly-rock safety obligations by agreement with the persons affected.

[97] The applicants submitted that, where possible, the maintenance of a permanent exclusion zone is to be preferred to an exclusion zone established on a blast by blast basis. Mr Price's evidence was that it is industry practice to charge explosives for a number of days prior to a blast, during which times the explosives are liable to detonation by lightning strike. Storms may occur at night or on short notice, posing obvious difficulties in evacuating nearby residents in sufficient time. The inclusion of the fly-rock exclusion zones within the MLAs, where the applicants can permanently control access and ensure the safe removal of all persons when required, was the applicants' practice. In Mr Price's opinion, allowing landholders to occupy land within the area of a fly-rock exclusion zone, where a safer alternative is available, would impose an unacceptable safety risk.

[98] The applicants submitted that the landowners' proposal that the applicants should be left to agree arrangements with the relevant landowner in relation to times when blasting occurs should be rejected because -

- It is entirely artificial to draw the boundaries of a mining lease at the edges of pits identified in a pre-construction mine plan. The operational life of the project during the term of the lease will be 30 years. During that period the mine plan may change.

- It would be unprecedented for a mining lease to be recommended or granted with the boundaries set precisely at the estimated pit boundaries according to the pre-construction mine plan. Realistic boundaries have to be drawn which extend beyond the presently estimated pit boundaries to allow for flexibility in operations during the life of the mine.

- The history of negotiations between the applicants and the landowners shows that they have not always been speedy or fruitful. The applicants anticipate that there would be times when their practical ability to exploit their lease rights, if they were subject to the agreements of particular landowners at particular times, would be fraught with difficulties.

- The effect of the landowners' proposal is that the applicants will be left to the agreement of particular landowners for the safe and efficient conduct of their operations. There is no suggestion that the applicants have any lawful ability to require or enforce such an agreement and the Court has no power to impose such an agreement on the landowners. If agreement cannot be reached at all or in a timely and efficient manner, the applicants' activities will be restricted or hampered in circumstances where they will be left without rights. The grant of leases over the landowners' properties gives rise to compensation rights which can be enforced in the Court.

- It is incumbent upon the applicants to conduct their operations as safely as they can. Exclusion zones for blasting over which the applicants have permanent control is the

> safest means of achieving that. The consequent interference with the desires of individual landowners to retain control over much of their properties is not a factor which overrides these considerations. The MRA permits the grant of mining leases over areas owned by others against their objections and the right of the landowners in that event is for compensation assessed under the MRA.

[99] Exhibit 1 (a map showing the MLA boundaries) shows the impact of the proposed mining operation on Mr Erbacher's properties. Part of the south east corner of his East Lynne property is within the proposed Woleebee North Pit. A substantial part of the northern area of Tamarra and part of the north western corner of East Lynne are within the proposed Mud Creek Pit. It is proposed to locate a storage explosives area on East Lynne with a substantial buffer around it. The buffer will take up a large part of East Lynne and also part of Tamarra.

[100] The location of the storage explosives area has the consequence that Mr Erbacher's express desire to continue grazing and farming on his properties is not a viable proposition. Mr Erbacher said that it is an extravagant and unwarranted use of good quality land to locate the explosives storage area where proposed and that it should instead be placed within the pit areas where the land is already unavoidably sterilised.

[101] The applicants response was that the explosives storage area is a permanent feature which requires a permanent exclusion zone and that the proposed location of the explosives storage area is appropriate. Mr Price's evidence was that the site was chosen after careful consideration by the applicants of the relevant criteria, namely the Australian Standard, the risk of transporting explosives on roads, the need to avoid potential areas of flooding and the central location of the proposed area with respect to the mining pits and the MLA areas. He said that the proposed site was the only suitable site for the explosives storage area, practically, and in order to comply with the Standard. It was not practical to use pits for explosives storage as this would require the relocation of explosives periodically during the life of the lease.

*Conclusions as to proposed environmental buffers, loss of pastoral land and exclusion zones*

[102] I have accepted the applicants' submission that, as a matter of construction of the MRA, the area of a mining lease can include an environmental buffer. Section 234(1)(b) of the MRA provides that a mining lease may be granted for purposes, specified in the lease, that are associated with, arise from or promote the activity of mining. The inclusion of environmental buffers and exclusion zones for safety reasons are purposes that are associated with the activity of mining and therefore may properly be included in the MLA areas.

[103] The applicants have provided detailed and cogent evidence as to their need for additional land to support their mining operation. The map supplied as Exhibit 1 to Mr Price's affidavit[18] shows that the bulk of the additional areas applied for is required to give effect to the 600m exclusion zone for blasting. I have accepted the applicants' submission that it would not be satisfactory for the blasting to occur on the basis that the applicants and landowners should enter into agreements, on an ad hoc basis, in relation to each blasting operation.

[104] There was no evidence to support the objectors' assertions that blasting will only occur during the initial phases of the mining of any particular pit for the purpose of moving overburden. It appears that blasting may occur at any time during the operational life of the mine[19] and given the safety issues involved, I consider that it is reasonable that the 600m exclusion zone for blasting be imposed for the term of the leases.

[105] I have also accepted the applicants' evidence as to their reasons for the establishment of a permanent explosives storage area, and for the location and size of that area. While that has the consequence that Mr Erbacher will not be able to continue grazing and farming on a large part of his properties, there was no evidence presented as to any alternative suitable site for a permanent explosives storage area. I do not accept that it would be reasonable for the storage area to be moved from one disused mining pit to another, from time to time. Safety is obviously a primary consideration in storing explosives and the evidence was that the establishment of a permanent area with a 1.4 km exclusion zone was the most appropriate method to meet safety standards.

[106] It follows that I have not accepted the objections that pastoral land will be lost unnecessarily to this project. Good reasons have been given by the applicants, particularly in relation to the areas required for safe blasting and explosives storage, justifying the areas sought.

*Purpose of grant is to run cattle*

[107] The applicants' evidence was that they have purchased 42 of the 45 lots that comprise the proposed lease areas. Those areas will be mined progressively. Where practicable and allowable, the land will be used by an Xstrata subsidiary company for grazing prior to its use in the mining operations in order to maximise the productive use of the land.

[108] Mr Bruggemann, Mr Erbacher and Mr Peake objected to the grant of the mining lease on the basis that running cattle was not a justification for the grant of mining leases.

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18 Exhibit 60.

19 See the EIS, Chapter 6, section 6.3.3 and Chapter 16, section 16.4.

[109] The applicants submitted that the mining leases are not sought for pastoral purposes and that the project cannot sensibly be characterized as an attempt by the applicants to obtain land to carry out their own grazing enterprise. The purpose of the proposed mining leases is, the applicants submit, to carry out mining operations and associated activities. Mr Price said that he understood that a mining lease did not entitle the holder to conduct activities not authorized under a mining lease, including the grazing of cattle. However, the applicants said, the grazing activities to be carried out by Xstrata's subsidiary on the land, are activities which Xstrata is entitled to pursue as the owner of that land. Use of some of the area of the proposed leases for grazing for some of the time is simply a responsible way to manage the land when it is not being used for mining operations.

[110] The applicants also rejected any suggestion that the landowners should also be entitled to graze the land. Xstrata said that grazing activities by Xstrata's subsidiary would remain under the control of the applicants and would not interfere with their mining operations or restrict their flexibility as to their mining operations.

*Conclusions about proposal to run cattle*

[111] Section 234(1) of the MRA provides that a mining lease may be granted to mine the minerals specified in the lease and for all purposes necessary to effectually carry on that mining and for such specific purposes, other than mining, that are associated with or arise from or promote the activity of mining.

[112] However, s.276(1)(a) of the MRA provides that -

> "**276 General conditions of mining lease**
>
> (1) Each mining lease shall be subject to—
> (a) a condition that the holder shall use the land comprised in the mining lease bona fide for the purpose for which the mining lease was granted and in accordance with this Act and the conditions of the mining lease and for no other purpose; "

[113] The applicants say that the mining leases are not sought for pastoral purposes and therefore, the proposed grazing activities are not contrary to s.234(1). I accept that. It is clear from the terms of the MLAs that the purpose of the applications is to carry out mining and associated activities. If the mining leases are granted the applicants will hold the land they have purchased in two capacities - as landowners and lessees. The mining operations will be carried out in their capacity as lessees. Use of parts of the land, from time to time, for grazing activities does not mean that the leases are sought for those purposes. Rather they are uses that, as landowners, the applicants are entitled to undertake. It follows that, since the grazing activities will be carried out by the landowners, there will be no breach of s.276(1)(a).

*The Woleebee South, Glen Haven and Wubagul Pits*

[114] The SEIS provided by the applicants in November 2009 relevantly noted the following amendments to the project[20] -

- The deferral of the Woleebee South Pit from the proposed 30-year life of the mine operations - this pit no longer forms part of the Project.

- The addition of the Wubagul Pit to the south of the Wandoan township, adjacent to the Leichhardt Highway.

- Identification of an approximate outline of the Glen Haven Pit between the Woleebee Pit and the Wubagul Pit, with no mining scheduled within the first 30 years of operation of the mine - this pit does not form part of the Project.

[115] It appears that mining of the Woleebee South Pit was deferred from the proposed 30-year life of mine operations due to the close proximity of sensitive receptors to the south of the MLA areas. While the applicants expected that this area would ultimately be mined, approval for mining was not sought in this application. The Glen Haven Pit (which is between the Woleebee South and Wubagul Pits) had been identified as a potential mining area and for further exploration drilling. While the applicants expected that the area would ultimately be mined, at this stage approval was not sought for mining.[21]

[116] Chapter 6, section 6.3 of the SEIS also proposed that -

- Initial mining of the Wubagul Pit would occur during Years 3 to 5;
- Mining would then recommence in the Wubagul Pit in about Year 25 as an alternative to the mining of the Woleebee South Pit;
- Mining will be undertaken using a dragline to remove overburden, followed by truck and excavator removal of ROM coal.

Chapter 16, section 16.4 of the SEIS says that -

> "Mining will begin with a dragline box cut parallel to the Leichhardt Highway on the eastern side of the pit and progress in a series of strips to the south-west. The depth of the box cut will range from 20m to 25m. Similar depths will be experienced on the northern and southern ends of the pit during the early years of mining. The depth of cover in the centre of the strips will increase to 30m by Year 5 of the project and interburden thicknesses of this order will develop on the southern side of the pit. Overburden thicknesses vary between 30m and 53m in the later strips which will be mined in the final years of the Project."

[117] Mr Erbacher and Mr Peake relied on the fact that the Woleebee South and Glen Haven Pits are no longer part of the project as part of their evidence objecting to the size and shape of the mining lease areas.

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20 SEIS, Executive Summary, Book S1.1, p.SEIS-iii.

21 SEIS, Chapter 6, section 6.3.

[118] Mr Peake said that he and his wife had a particular concern that MLA 50230 included approximately 4,500 ha adjacent to their property, designated for the Woleebee South and Glen Haven Pits. He said that if MLA 50230 were confined to the area actually needed for mining and infrastructure, it would come no further south than the Woleebee Pit. There would then be a 3 km buffer between his property and the mining lease and the owners' right to quiet enjoyment would suffer less damage. Mr Peake said that he had no land actually within the MLA areas and therefore no right to compensation under the MRA even though the grant of the leases would undoubtedly lower the value of his property.

[119] The applicants submitted that the quiet enjoyment of Mr and Mrs Peake's land would not be affected by altering the boundary of the MLAs and their complaint was really one of compliance with the noise conditions. The noise issues are dealt with later in this decision. Further, the applicants said, there was no evidence of the effect, if any, of moving the mining lease boundary on the value of the Peake's land.

[120] Mr Ambrose, Senior Counsel for Mr and Mrs Rich, submitted that the Court -

a. could not be satisfied that the land and surface area of the land in respect of which MLA 50230 was sought was of an appropriate size and shape in respect of the type and location of the activities proposed to be carried out under the lease (s.269(4)(d) MRA) because the applicant had reduced the proposed mine plan by removing the Woleebee South Pit and Glen Haven Pit due to the economic and environmental factors, but had failed to reduce that portion of land appropriately;

b. could not be satisfied that there would be an acceptable level of development and utilisation of the resources in the area applied for in MLA 50230 if the Woleebee South and Glen Haven Pits were not mined in the current term of the lease, and a substantial portion of the Wubagul Pit was not mined until Year 25 of the lease, (s.269(4)(c) MRA).

[121] Mr Ambrose said that there was no good reason for the applicants to retain the area if they did not intend to mine it and that any retention of this land would preclude another company from exploiting the reserves and deprive the State of its right to royalties. He submitted that the applicants were, in essence, landbanking and should not be permitted to do so. Inclusion of this land would be inconsistent with ss.2(a), (c), (e) and (g) of the MRA.[22]

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[22] "**2 Objectives of Act**
The principal objectives of this Act are to -
(a) encourage and facilitate prospecting and exploring for and mining of minerals; …
(c) minimise land use conflict with respect to prospecting, exploring and mining; …
(e) ensure an appropriate financial return to the State from mining; …
(g) encourage responsible land care management in prospecting, exploring and mining.".

[122] Accordingly, the Court should recommend a lesser area of the lease such that -

(a) if the Woleebee South, Glen Haven and Wubagul Pits were excluded, the lease area would be reduced by approximately 4,000 ha,

(b) if the Woleebee South and Glen Haven Pits were excluded, the lease area would be reduced by approximately 3,000 ha.

[123] Although Mr Thatcher, a consultant project manager for the project, said that some of the infrastructure, such as dams, access roads and power supply, required for the mining operation will be located on these pit areas, there is no indication in the maps in the EIS and SEIS showing such a proposal. Mr Price's evidence was more persuasive in that he said that part of the area of the Woleebee South Pit was required for water management to enable the applicants to control water flows in that region. However he was unable to give any detail as to these requirements other than to say that the SEIS showed a natural catchment progressing to the south of the Woleebee Pit and encroaching on part of the area of the Woleebee South Pit. Mr Price said that the details were the province of the experts.

[124] Further, Mr Price said that the applicants needed to divert the Jackson-Wandoan Road by constructing a road that will pass immediately to the north of the Woleebee South Pit, as well as construct a haul road into the Wubagul Pit. Dirty water runoff from that road would have to be managed. A haul road crosses to the Woleebee South Pit. One hundred metre exclusion zones are required around the haul roads, but, Mr Price said, a larger distance may be required to manage the water flows from the haul roads.

[125] Mr Price also said that although the Glen Haven Pit is not required for the Jackson-Wandoan Road diversion, that area would be used to manage the water flows around the back of the Wubagul Pit. He was unable to say whether those water flows could be managed so as not to run into the Glen Haven Pit.

[126] The applicants relied on the evidence of Mr Thatcher and Mr Price in support of their submission that the relevant areas should be retained as part of the MLA areas. Moreover, the applicants submitted, the areas are mineralized and may be mined at a later stage, subject to any legal requirements including the terms of the EA. The fact that mining may not occur in the first term of any lease does not mean that the areas may not be included.[23] There was no factual foundation, the applicants submitted, for the allegation that the pits are being denied to others and that the applicants are landbanking and there is no evidence that they would be viable to mine by some other company as an independent project.

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[23] *Wallace v Anson Holdings Pty Ltd v The Environmental Protection Agency* [2009] QLC 63.

[127] The applicants also submitted that Mr and Mrs Rich's concern that the Woleebee South Pit could be reactivated at any time was unfounded because if a proposed activity would contravene a condition of the EA, then it cannot be carried out.

*Conclusions about the Woleebee South Pit and the Glen Haven Pit*

[128] The evidence has established that the applicants do not intend to mine the Woleebee South or Glen Haven Pits during the term of ML 50230. In *Sinclair v Mining Warden at Maryborough*,[24] Barwick CJ said that in considering a mining lease application -

> "[i]t was essential that there be material before [the mining warden], quite apart from any objection, which would warrant an affirmative conclusion on the substance of the applications that the recommendations should be made. This, at the least, required that he be satisfied that the areas applied for held mineral, and that no greater area was recommended than was reasonably necessary for the efficient extraction of the mineral of whose presence there was evidence. By so saying, I am not meaning to imply that evidence as to the presence of mineral will be enough in all cases to warrant a recommendation of acceptance of an application for a mining lease, but at least so much must be evidenced."

[129] Similarly, in *Armstrong v Brown*[25] P McMurdo J said -

> "There would be no proper purpose in recommending the grant of a mining lease which was not going to be used for or in relation to any mining."

[130] While there is to be no mining on the Woleebee South and Glen Haven Pits during the term of the lease, there was evidence, as set out above, that some part of those areas will be required for infrastructure associated with the mining activities particularly for road development and to manage surface water flows. No details were given as to the location of such infrastructure other than the proposed roads. However, I have accepted Mr Price's evidence in this regard, other than in relation to the need for the Glen Haven Pit area to manage the water flows around the back of the Wubagul Pit as this is not evident from any of the material supplied to the Court.

[131] In those circumstances, I do not consider that a mining lease should be granted over the Woleebee South and Glen Haven Pit areas for the purpose of mining coal. Rather, pursuant to s.234(1)(b) of the MRA, the purpose for which the lease is granted over those areas should be limited to infrastructure purposes associated with the mining activities on the remaining MLA areas. My recommendation in this regard is not inconsistent with any Coordinator-General's condition. The Coordinator-General has not stated any conditions for the proposed mining leases pursuant to the *State Development Act*. Further, I note that none of the Coordinator-General's other

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[24] (1975) 132 CLR 473 at 481. See also *Salmon v Armstrong* [2001] QLRT 72 at [33], [34].

[25] [2004] QCA 80 at [14], [15].

conditions deal with the purpose of the proposed leases so there can be no suggestion that my stated conditions are inconsistent with a Coordinator-General's condition.

*Conclusions about the Wubagul Pit*

[132] The applicants submitted that the Richs' contention that there would not be an acceptable level of development and utilisation of resources if a substantial portion of the Wubagul Pit were not mined until Year 25 of the lease was not a ground of their objection.

[133] I have accepted this submission. There is nothing in the objections to the MLAs, the draft EA or the further and better particulars supplied by the objectors dealing with this issue. The result is that I am unable to consider the submission. Section 268(3) of the MRA provides that the Land Court shall not entertain an objection if the objection is not contained in an objection that has been duly lodged in respect of the mining lease application.[26]

[134] Similarly, there is no provision in the EPA which enables me to deal with a "new" objection to a draft EA.[27] Pursuant to s.219(1) of the EPA, the administering authority referred the current objection to the draft EA to the Land Court. No objection by the Richs to the Wubagul Pit was referred to the Court and accordingly there is no proceeding before the Court dealing with that issue. I, therefore, have no jurisdiction to consider this submission.

*Restricted land and sensitive places*

Restricted land

[135] Mr and Mrs Edmonds, Mr Erbacher and Mr and Mrs Keys objected to the MLAs as follows -

> *The lease application did not properly identify the improvements which constitute restricted land within our property.*

[136] Those objectors said that the improvements constituting restricted land were named in the MLAs as houses, sheds, yards and man-made dams. No details were given. Similarly, the relevant plan attached to the application (Drawing No. 921703) showed certain restricted land on their properties without identifying the specific improvements.

[137] Mr and Mrs Edmonds said that the plan failed to show two residences, five sheds, two stockyards, two turkeys nest water storages, one bore, twelve stock water troughs, seven dams and network water pipelines providing the requisite water supply on their property.

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[26] *ACI Operations Pty Ltd v Quandamooka Lands Council Aboriginal Corporation* [2002] 1 Qd R 347; *Lee v Kokstad Mining Pty Ltd* [2008] 1 Qd R 65.

[27] See *Gregcarbil Pty Ltd v Backus & Ors* [2011] QLC 0042.

[138] Mr Erbacher said that the plan failed to show 13 sites on his property at which there are tanks and troughs. The piggery constituted a workplace and was therefore restricted land - it had not been identified. The plan also failed to show the network of water pipelines which provide water storage as well as providing the requisite supply of water to the tanks and troughs which also met the criteria for restricted land.

[139] Mr and Mrs Keys said that the plan failed to show five other sites on their property at which there are stock water facilities, and the network of water pipelines which provide water storage as well as the means of the requisite supply of water to the tanks and troughs which also met the criteria for restricted land.

Sensitive places

[140] Ground 2 of the objections to the draft EA by Mr Bruggemann, Mr and Mrs Devlin, Mr and Mrs Edmonds, Mr Erbacher, Mr and Mrs Keys and Mr and Mrs Peake was as follows -

> *The draft EA was issued on, and remains based on, a false premise, i.e. that sensitive places within the boundary of the land applied for in the mining lease can be ignored.*

[141] The objectors submitted that the sensitive places and sites of other improvements on the MLA areas constitute restricted land and would be excluded from the lease unless the landowners consent. The emission levels at the sensitive places had not been assessed by the applicant and therefore it could not be assumed that agreements will be reached allowing the restricted areas to be included in the lease areas. Unless the applicants could comply with environmental conditions at those sensitive places, the EA should not be granted, but even if it were granted, it would be impracticable to mine around the excluded restricted zones.

[142] Mr Bruggemann said that in the amended lease application, his family's property Alcheringa was finally and belatedly confirmed as lying outside the lease application area, having been partly within the original boundary.

[143] Mr and Mrs Devlin said that in the amended lease application, their property and their residence were finally confirmed as outside the lease application area, having been within the original lease boundary. The applicants had not disclosed emission levels at their residence because it was originally within the lease. However, the applicants were now seeking an agreement with Mr and Mrs Devlin for the relocation of their residence to a position further south for increased distance from the mining activities. No agreement had been reached which would provide for relocation of the buildings and also deal with the possibility of the emissions exceeding allowable limits at the new site.

[144] Mr and Mrs Edmonds said that the residence on their land was a sensitive place and had not been assessed as to the forecast levels of emissions such as dust, noise and blasting. They said that the applicants had not reached any agreement with them which would provide for their residence, which is restricted land under the MRA, to be included in the MLA areas or for emission limits to be exceeded.

[145] Mr Erbacher said that there were two houses and a piggery on his properties. The piggery was within the boundaries of the amended lease application but not shown on Drawing No. 921073. Unless and until there was an agreement in respect of not only his sensitive places but all the sensitive places within the adjusted areas applied for, the draft EA did not have a valid basis.

[146] Mr and Mrs Keys said there were two residences located on their land within the boundaries of the lease application and many more sensitive places within the lease application area and no assessment had been made of the environmental impacts of mining at any of those sensitive places. The applicants had not reached any agreement with them, by transfer of the title to the applicants, or any other concession, which would remove those sensitive places or allow the emission limits to be exceeded at them. It could not be assumed that such an agreement would be reached. Because the sensitive places constituted restricted land under the MRA, they would remain in place even if the mining lease were granted over their land, in the absence of any agreement to the contrary.

*Conclusions about restricted land*

[147] Section 238(2) of the MRA provides -

> "**238 Mining lease over surface of reserve or land near a dwelling house**
>
> **(2)** Also, a mining lease may be granted over the surface of land that was restricted land when the application for the lease was lodged only if -
>
> (a) the owner of the land where the relevant permanent building, or relevant feature, is situated, consents in writing to the application; and
> (b) the applicant lodges the consent with the mining registrar before the last objection day ends."

[148] "Restricted land" is defined in Schedule 2 of the MRA as follows -

> "***restricted land*** means restricted land (category A) or (category B).
>
> ***restricted land (category A)*** means land within 100m laterally of a permanent building used -
>
> (a) mainly as accommodation or for business purposes; or
> (b) for community, sporting or recreational purposes or as a place of worship.
>
> ***restricted land (category B)*** means land within 50m laterally of any of the following features -

(a) a principal stockyard;
(b) a bore or artesian well;
(c) a dam;
(d) another artificial water storage connected to a water supply;
(e) a cemetery or burial place."

[149] The applicants say that the water troughs are chattels comprising a temporary relocatable feature of a minor nature which do not give rise to restricted land. Similarly, they challenge whether the pipelines give rise to restricted land.

[150] There is no requirement in the definition of restricted land (category B) that the artificial water storage improvements referred to be permanently fixed. The definition of Category B land is to be contrasted with the definition of Category A land which requires that the relevant buildings be permanent. I therefore do not accept the applicants' submission that the water troughs can not constitute relevant improvements giving rise to restricted land (category B). The evidence as to the nature of the troughs was sparse. Any troughs that are connected to a water supply fall within Category B(d). Any that are not so connected do not.

[151] Section 245(1)(g) of the MRA requires an applicant for a mining lease to "identify any improvements referred to in section 238(2) on land identified in the application".

[152] In their applications, the applicants identified the restricted land in the MLA areas as "houses, sheds, yards, man-made dams" and appended plans showing restricted areas. As shown by the evidence of the objectors, the applicants failed to comply with s.245(1)(g) by not identifying with any specificity the improvements referred to in s.238(2) of the MRA on each of the objectors' properties. The applicants say that their non-compliance was minor and that the reason for not identifying the restricted land accurately was that, at the time when they were required to prepare the mine plan pursuant to the Coordinator-General's terms of reference for the EIS and the subsequent SEIS, the applicants did not know and could not predict which areas of land would remain as restricted land. They said that they had engaged in real and substantial efforts to acquire land that may be restricted land, thus minimising the impact on landowners. Further, they say that there is no prejudice to the objectors because of the non-compliance and in any event the MRA provides, by s.392, for substantial compliance. The non-compliance ought not weigh against the Court recommending that the leases be granted.

[153] In my opinion the applicants have failed to comply with the requirements of s.245(1)(g) of the MRA, that is, they have not identified the improvements referred to in s.238(2) on land identified in the application areas. Further, I do not consider their explanation

for the non-compliance is satisfactory as the objectors have been forced to spend time and money dealing with the consequences of the non-compliance. However, I do not consider that the non-compliance provides a sufficient reason to recommend against the grant of the leases.

[154] The evidence established that the restricted land on the MLA areas is the land shown as restricted land on Drawing No. 921703 attached to the MLAs. In addition, the following areas are restricted land to the extent that they are not included in that drawing -

- Mr and Mrs Edmonds: Category A - land within 100m laterally of the two residences and five sheds on their land. Category B - land within 50m laterally of each of the two stockyards, two turkeys nests, the bore, those stock water troughs connected to a water supply and seven dams on their land.
- Mr Erbacher: Category A - land within 100m laterally of the residences, sheds and the piggery on his land. Category B - land within 50m laterally of the stockyards, turkeys nest, water storages, bore, those stock water troughs connected to a water supply, tanks and dams.
- Mr and Mrs Keys: Category B - those stock water facilities connected to a water supply. Land within 50m laterally of each of those facilities is restricted land.

[155] Section 238(2) of the MRA is clear that a mining lease may not be granted over the surface of land that was restricted land when the application for the lease was lodged, the stated exceptions being inapplicable. In those circumstances the mining leases cannot be granted over the restricted land identified above. I therefore consider that those areas must be excised from the grant of any mining leases.

[156] Although the objectors said that the pipelines providing the water supply to the tanks and troughs also provide water storage, I do not consider that the water pipelines come within the concept of "artificial water storage" in Category B(d). The primary purpose of the pipes is to provide water supply and any storage is incidental.

[157] Nevertheless I do not consider that the objectors should be left without any water supply for their tanks and troughs or any other water storage facilities as that would defeat the evident purpose of s.238(2) which is to preserve the relevant improvements (in this case water storage facilities) and the specified area surrounding them, from mining. In those circumstances, I will recommend that the areas occupied by the water pipelines and within 50m laterally of them also be excluded from the grants.

*Conclusions about sensitive places*

[158] In response to the objections that there were a number of sensitive places on the objectors' properties where the emissions from the mine had not been assessed, the applicants submitted that the draft EA imposes conditions for emissions at sensitive places. Those conditions do not depend on whether a sensitive place is within the mining lease area.

[159] I have accepted that submission and therefore do not consider that any further recommendations are necessary in this regard. The objectors' objections in relation to dust and noise emissions are dealt with later in this decision.

**Past Breaches of Code and Statutory Requirements**

*Alleged Breaches of Codes*

[160] Objectors Mr Erbacher, Mr and Mrs Devlin and Mr and Mrs Keys alleged that the applicant had committed various breaches of the Code of Environmental Compliance for Exploration and Mineral Development Projects (Code of Environmental Compliance) and the Code of Conduct 'Procedure for Sound Landholder/Explorer Relations' (Code of Conduct).

[161] The evidence established that there have been occasions when the applicants' employees entered the objectors' land, without proper notice and without properly obtaining consent. Drillholes had been sunk without prior notice. Some drillholes were left uncapped posing a danger. One of the drillholes on Mr Devlin's land was sunk on restricted land.

[162] Mr Erbacher complained that drillholes which intersect the coal seam aquifers have not been plugged as required under the Code of Environmental Compliance. Mr Smith, for the landowner objectors, said that plugging is necessary to prevent interconnection of the aquifers. Further, components of the AB foam used to plug most of the drillholes are toxic and its use is an inferior technique.

[163] Mr Matthews for the applicants stated that all holes were plugged with AB Foam, unless water flowed over the casing in which case cement was used.

[164] Mr Erbacher also said that uncontrolled discharge of drilling waste occurred on his property between 20 June and 24 June 2008, which was not reported in accordance with Xstrata's Business Development - Incident Management Standard. Attachment D to Mr Erbacher's statement contains photographs dated 23 June 2008 showing a muddy area. The second photograph locates that area near drillhole R7178.

[165] Although Mr Matthews accepted that there was mud and water present near the drill site, he said that it was not apparent that the discharge of water was uncontrolled or

channelled into a nearby waterway. The photos, he said, do not indicate any water flow or discharge rates that exceed normal drilling practices. Mr Matthews noted also that the photographs appear to have been taken before any rehabilitation was carried out on that drillhole. Any slurry was removed during rehabilitation. Photographs appended to Mr Matthews statement show the before and after condition.

[166] The evidence of Mr Erbacher and Mr and Mrs Devlin also established their concern about the spread of parthenium because of the applicants' failure to produce washdown certificates upon request. The objectors also complained about receiving inaccurate and misleading information from the applicants' employees about their rights and the activities being conducted on their land.

[167] The applicants say that to the extent there have been instances of non-compliance, they have been isolated and inadvertent and of no ultimate consequence. They have not been systemic or deliberate.

*Conclusions about Breaches of Codes*

[168] I do not consider that the applicants' failure to plug all the drillholes with cement was a breach of the Code of Environmental Compliance or the Code of Conduct. Mr Matthews' evidence established that cement was used, where necessary, to stop the flow of water. There appears to be nothing in the Codes to prevent use of AB foam to plug the other drill holes. Further, it is noted that the EIS states that a development permit and water permit were required for each borehole drilled for hydrogeological purposes.[28] There is no evidence that any relevant conditions of those permits have been breached. I have also concluded that the evidence did not show that the applicants had breached their obligations regarding drillhole R7178.

[169] In respect of the other matters outlined above, the evidence has established that there has been non-compliance with the relevant requirements. While that conduct resulted in the objectors suffering unnecessary anxiety and expending time and money to deal with the non-compliance, the breaches are not sufficient on their own to cause me to recommend that the MLAs not be granted.

***Failure to Serve Notice of Abandonment***

[170] The applicants abandoned part of the land the subject of the MLAs by written notices sent to the mining registrar on 8 and 10 December 2010. By s.307(3) of the MRA, the applicants were required to "forthwith" serve a copy of those notices on "all other persons upon whom the applicant was required under this Act to give a copy of the certificate of public notice for the mining lease".

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[28] EIS, Chapter 10, section 10.2.

[171] Mr Bruggemann and Mr and Mrs Devlin complained that they were not served with the notices of abandonment. Mr Erbacher, Mr and Mrs Keys and Mr and Mrs Edmonds were given the notices of abandonment, together with the certificates of public notice and application documents, by covering letter dated 15 December 2010. Mr Erbacher received the letter on or about 21 December 2010. They say that this was not "forthwith" as required by s.307(3).

[172] The applicants submitted that they were not required to serve Mr Bruggemann and Mr Devlin with the notices of abandonment since, as a result of the abandonment, their land was removed from the area of the MLAs. The applicants rely on s.252B(1)(c)(i) of the MRA which states that a copy of the certificate of public notice must be given to "each owner of relevant land or any other land necessary for access to relevant land". "Relevant land" is defined in Schedule 2 to mean, for a mining lease application, "the land the subject of the application". The applicants submitted that if land is not the subject of the MLA at the time the certificate of public notice issued, there is no requirement to give a copy of the certificate to the landowner and therefore there is no requirement to serve the notice of abandonment.

[173] In my opinion, the applicants have misconstrued s.307 of the MRA. Service of a notice under s.307 is not dependent upon the issue of a certificate of public notice. Regardless of when the certificate of public notice issues, the notice of abandonment must be served on persons to whom the applicant "was" required to give a copy of the public notice – in other words, persons who, but for the abandonment, would have been entitled to receive a copy of the certificate of public notice. That this is the proper interpretation is confirmed by consideration of the situation where an applicant abandons the whole mining lease application. If this occurred before the certificate of public notice issued then, on the applicants' submission, there would be no requirement to serve any owner of land with the notice of abandonment. I do not consider that to have been the intention of Parliament in enacting s.307(3).

[174] I therefore consider that in failing to serve Mr Bruggemann and Mr and Mrs Devlin with the notices of abandonment, the applicants did not comply with s.307(3) of the MRA. Notwithstanding, it does not appear that any prejudice has been suffered by the relevant objectors – they have been able to lodge properly made objections and pursue them before the Court.

[175] The main complaint of Mr Erbacher, Mr and Mrs Keys and Mr and Mrs Edmonds, is that they were not served "forthwith" with the notices of abandonment. The word "forthwith" is contained in many statutes. Judicial consideration of the word indicates

that it generally means "immediately", "straightaway", "as soon as possible" or "as soon as reasonably possible". However, the meaning depends on the context of the statute.[29]

[176] In the present case, it appears that the applicants waited for the certificate of public notice to issue before serving the notices of abandonment. As mentioned above, I do not think the operation of s.307 was dependent upon the issue of the certificate of public notice and, therefore, I would regard the time lag of five days from the issue of the certificate of public notice as non-compliance with the section. Having said that, I find that no prejudice has been suffered by the relevant objectors and that there has been substantial compliance with the requirement.[30]

***Failure to Serve Certificate of Application***

[177] One objector, Mr Bruggemann, complained that the owners of the property Alcheringa were not given a copy of the certificate of application for MLA 50229. The owners of the property are Mr Bruggemann's son and daughter-in-law, Jason and Kylie Bruggemann, who did not object to the MLAs.

[178] Section 252 of the MRA provides for the issue of a certificate of application. Under s.252(1), the mining registrar must issue that certificate upon being satisfied that the applicant is eligible to apply for the mining lease and has complied with the requirements of the MRA with respect to the MLA. Under s.252(4), the applicant must give a copy of the certificate of application and the MLA, other than any part of it that states the applicant's financial and technical resources, to "each owner of the land the subject of the proposed mining lease or any other land necessary for access to that land".

[179] The certificate of application for MLA 50229 issued on 14 October 2010. The applicants say they sent the certificate of application by letter dated 18 October 2010, but admit the letter was incorrectly addressed to Allan Bruggemann rather than Jason and Kylie Bruggemann. Mr Bruggemann says the certificate was never received by his family.

[180] Although there appears to have been a mistake made by the applicants, it does not invalidate the MLAs as it does not appear that Mr Bruggemann or his family have suffered any prejudice as a result of the matter.

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29 *CMS (a child) v Giacomini* [2002] WASCA 151 at [38]; *Fauser v Boyle* (1993) 19 MVR 515 at 518; *Measures v McFadyen* (1910) 11 CLR 723.

30 Section 392 of the *Mineral Resources Act 1989*.

## Water

### *Introduction*

[181] The impact of the mining operations on the water resources in the vicinity of the proposed mine is a major concern to the landowner objectors.

[182] Two deep aquifers underlie the MLA areas, the Hutton Sandstone Aquifer and the Precipice Sandstone Aquifer which are aquifers in the Great Artesian Basin (GAB). The Hutton Sandstone Aquifer lies about 240m below the bottom of the proposed coal mining activities and the Precipice Sandstone Aquifer approximately 600m below those activities. These deep aquifers provide the major source of water for the area including the Wandoan town bores and other community bores including the Juandah, Bimbadeen and Grosmont Bores. Shallower aquifers are located in the Walloon Coal Measures. The uppermost strata of those are the Juandah Coal Measures which are proposed to be mined by the applicants. Private bores owned by some of the objectors tap into the shallower aquifers. There are also alluvium aquifers in the region of the local creeks.

[183] The issues in relation to groundwater are -

1. The impact on the quality and supply of water in the Precipice Sandstone Aquifer and the Hutton Sandstone Aquifer in relation to:
    - the mining operations;
    - taking water for construction purposes from the Precipice Sandstone Aquifer;
    - taking water for operational activities from the Precipice Sandstone Aquifer;[31]
    - blasting;
    - the release of contaminants.
2. The impact on the quality and supply of water in the shallow and alluvium aquifers in relation to:
    - mine pit dewatering;
    - the release of contaminants.

The effect of the proposed diversion of Woleebee Creek is of particular concern to Mr and Mrs Rich.

Mr and Mrs Peake's overriding concern is water security.

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[31] It was indicated in the EIS that the applicants are assessing alternative raw water supply options, as drawing operational supplies from the Great Artesian Basin aquifers was assessed to be unsustainable (Chapter 11, section 11.4.4, p.11-34). The SEIS further states that raw water will not be obtained from the Precipice or Hutton Sandstone Aquifers of the GAB for non-potable operational supply purposes (Chapter 11, section 11.4.4, p.11-9). Hence I have not dealt with this issue.

***The EIS and SEIS***

[184] In the EIS and SEIS, the applicants concluded that -

a. with respect to the supply of water to the site -

   i. a large proportion of the construction raw water demand could be supplied from existing surface water dams. A new bore would be established in the Precipice Sandstone to be used only as a last resort for construction water supply under a temporary permit that would be applied for under the *Water Act*. That bore would then be transferred to the Wandoan District Regional Council for use as a third municipal water supply bore upon commissioning of the operational water supply system;

   ii. it was not sustainable for operational water to be provided by groundwater from the Great Artesian Basin. Water would instead be supplied by one of two alternative pipeline options;

b. with respect to the impact of mining activities on groundwater -

   i. the deep bores extracting water from the GAB would not be impacted due to the significant depth of separation and presence of impermeable strata between the proposed mine operations and these aquifers;

   ii. only a preliminary assessment of the impact on shallower bores was carried out and further investigations were proposed in respect of those bores.

[185] In the SEIS, the applicants committed that -

a. they would develop and maintain an ongoing groundwater monitoring program of the coal seam groundwater systems, in consultation with DERM. The groundwater monitoring network would be carried out generally in accordance with section 10.8 of the SEIS;

b. they would carry out an additional assessment, after sufficient data had been collected from the current and proposed monitoring bores, of the dewatering. A conceptualisation of the hydrogeology, the zones of influence, and the identification of shallow bores within these zones would be compiled. The groundwater monitoring network would be altered accordingly to monitor groundwater levels within these areas and bores allowing for the verification or alteration of predictions;

c. where the groundwater modelling or monitoring demonstrated that mining activities will have an unacceptable impact on the use of community or other multi-user bores within the areas surrounding the MLAs, they would consult with impacted users in relation to appropriate "make-good" mitigation measures. Such measures may include, where appropriate, sinking of new bores, replacement or deepening existing bores or providing an alternative water supply;

d. where there is a risk of contamination from artificial recharge from water storage, design considerations such as the use of appropriate impermeable linings will be considered and adopted where necessary.

***The Coordinator-General's report***

[186] Schedule 3 to the Coordinator-General's report stated the conditions that should apply to any draft EA issued under the EPA for the mining activities on the proposed mining leases.[32] Relevantly, the conditions stated in relation to groundwater are as follows -

> W38: A groundwater monitoring program must be designed and implemented as described in Table W9 at the locations shown in Figure W1.
>
> W39: Mining activities must not cause groundwater in aquifers potentially affected by mining activities to exceed any of the contaminant limits and levels in Table W10 - groundwater contaminant limits and levels.
>
> W40: Groundwater monitoring bores must be constructed and operated in accordance with methods prescribed in the latest edition of the Land and Water Biodiversity Committee, 2003 'Minimum Construction Requirements for Water Bores in Australia'.

[187] The conditions in the draft EA were amended, as compared with the conditions recommended by the Coordinator-General, for the reasons given by Mr Spalding in his statement of evidence. The draft EA conditions were -

> W38: A groundwater monitoring program must be designed and implemented as described in Table W9 at the locations shown in figure W1.
>
> W39: The holder of the environmental authority must, when requested by the administering authority, submit within 30 days an assessment report on the results of the groundwater monitoring program. The assessment must address whether the environmental values are being protected with reference to water quality parameters in Table W9 and any other monitoring data obtained, and state the basis on which the conclusions are drawn. If necessary corrective and mitigation measures taken should be described.
>
> W40: Groundwater monitoring bores must be constructed and operated in accordance with methods prescribed in the latest edition of the Land and Water Biodiversity Committee, 2003 'Minimum Construction Requirements for Water Bores in Australia'.

[188] In Schedule 8 to the Coordinator-General's report, the Coordinator-General recommended, relevantly, conditions for other approvals as follows -

> *Condition 3: groundwater and surface water connectivity*
>
> I recommend to the Minister responsible for administration of the Water Act 2000, that the proponent must continue investigations into the potential for connectivity between local groundwater and surface water. The results of investigations to date include an assessment of the alluvium aquifers and the shallow coal seam aquifers and their potential connectivity with the local surface water resources. Both aquifers, due to poor aquifer potential and salinity, have limited environmental values. The alluvium has limited effective storage, which does not allow for significant base flow to surface water during the dry seasons. The shallow coal seam aquifers are not considered to contribute to the surface water resources on site.

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[32] Section 49 of the *State Development and Public Works Organisation Act 1971*.

The results of the continuing investigation should be made available to DERM prior to the commencement of the mining activities. A hydrogeological report, compiled in April 2010, for the Project includes the results of the additional monitoring bores constructed to monitor shallow groundwater resources.

a. Should the results of this investigation indicate that a connection is likely:

   (i) the proponent must design and implement a strategy to minimise the impact of the mining activities on ground and surface waters, specifically targeted at the findings of the investigation.
   (ii) the strategy should include monitoring and reporting arrangements and actions that the proponent will take to minimise and "make-good" any adverse impact of the mining activities on groundwater quality or quantity in accordance with 5 below.

*Condition 4: Potential groundwater impacts*

I recommend to the Minister responsible for administration of the Water Act 2000 that the following conditions be attached to any licence, permit or approvals required by the proponent associated with groundwater impacts of the project -

a. Mechanisms should be implemented to ensure that the project does not result in an undue adverse impact on the availability and quality of groundwater supplies to neighbouring landholders. Dewatering will take place and impacts on groundwater levels within the coal seam aquifers and limited alluvium aquifers are predicted. Monitoring and water replacement have been envisaged to manage this impact.

b. The proponent should reach mutually agreeable arrangements with landholders potentially affected by groundwater drawdown for the provision of alternative supplies throughout the mine life, and after mine closure. Alternative supplies should be put in place before supplies from relevant existing landholder bores are adversely affected and the costs associated with changes to landholder extraction of groundwater from bores on affected land should be covered by the proponent.

c. Prior to the surrender of mining leases, post-mining, pursuant to the MRA and the EPA, the conditions under which an alternative supply of groundwater would be provided to any landholders potentially adversely affected by impacts to groundwater directly attributable to the mine dewatering program must be agreed between the proponent and the relevant regulators.

***Details of water supply to the objectors' properties***

[189] Mr Anderson's property, Elimatta, adjoins the proposed MLA areas and is watered by the Yabba Bore which is inside the MLA areas. The bore has a depth of 1,247m and taps into the Precipice Sandstone Aquifer. Mr Anderson also has two private bores on Elimatta which tap into the Injune Creek shallow aquifer, which he considered were at risk from drawdown because of mining activities and from the impacts of blasting at the mine.

[190] The Bimbadeen Water Group owns and operates the Bimbadeen Bore which draws water from the Precipice Sandstone Aquifer to a total depth of 1,206m.

[191] Groundwater from the Grosmont Bore, a community bore outside the MLA areas, supplies both the beef production enterprise and domestic use on the Bruggemann property. The bore has a depth of 1,182m and taps into the Precipice Sandstone Aquifer.

[192] Mr and Mrs Edmonds' property is watered by the Grosmont Bore and two private bores. They consider that the private bores are at risk from drawdown because of mining activities and from the impacts of blasting at the mine.

[193] The Juandah Bore is a community bore operated by the Juandah Water Board which supplies water to various landholders in the district. The Bore has a depth of 680m and draws water from the Hutton Sandstone Aquifer.

[194] The Juandah Bore supplies the beef production enterprise and domestic use on Mr and Mrs Keys' properties. Mr Keys regards the Juandah Bore as "fundamentally important" to the operations on Langowan and Avonview. They also have a private bore which is kept as a reserve.

[195] Groundwater from the Juandah Bore also supplies the piggery, the beef production enterprise and domestic use on Mr Erbacher's properties. Mr Erbacher also has two private bores.

[196] Mr and Mrs Devlin's property is dependent upon the Juandah Bore.

[197] Mr and Mrs Peake's property is watered from Peake's Bore. Other properties, Trelinga and Tarwarri, which are now owned by Xstrata, are also supplied from that bore. Peake's Bore is a private bore drawing water from the Hutton Sandstone Aquifer to a depth of 670.6m. Mr and Mrs Peake also have an agreement giving them a water entitlement from another deep bore which at this stage has not been developed.

[198] Ms Philp's property, Yeovil, is used for grazing cattle. It takes water from artesian bore 18178 constructed on land owned by D and J Conway for the joint use of the Conways and herself. The bore is approximately 1,056m deep indicating that it draws water from the Precipice Sandstone Aquifer.

[199] Groundwater currently supplies the majority of the water requirements for Mr and Mrs Rich's feedlot, including its planned expansion from the present capacity of 3,500 to 9,999 head of cattle, as well as their grazing and domestic use. Mr and Mrs Rich are planning to use bore water from their existing Hutton Sandstone Aquifer allocation, the Woleebee Creek alluvium, the Walloon Coal Measures and the Precipice Sandstone Aquifer to provide water for their feedlot. The Richs' property has a groundwater

allocation of 56 ML/a from the Woleebee Creek alluvium to service their enterprise. In addition they use water in their dams for irrigated cultivation on Amber Downs. Mr Rich said that he and his wife would have gone ahead with their plans to expand the feedlot by now if it were not for the MLAs and the uncertainty surrounding the effects of the proposed mine on their properties. They were concerned about the potential impacts on their property including the dewatering of the Woleebee Creek alluvium. Geographically, Amber Downs is upstream of the MLAs.

***Objections***

[200] Mr Anderson, the Bimbadeen Water Group, Mr Bruggeman, Mr and Mrs Devlin, Mr and Mrs Edmonds, Mr Erbacher, the Juandah Water Board, Mr and Mrs Keys, and Mr and Mrs Peake objected to the MLAs in the following terms -

> *The applicant has not adequately investigated the impact of proposed mining on groundwater resources and has not entered into or offered to enter into a groundwater make-good agreement with me/us.*

[201] Mr and Mrs Rich's objection to the MLAs was as follows -

> *The applicant has not adequately investigated the impact of proposed mining on groundwater resources, has failed to identify the serious risk to our vital groundwater supply and has not entered into, or offered to enter into, a groundwater make-good agreement with us. Neither the draft EA conditions nor any legislation nor the Coordinator General's recommendation will protect us against the environmental impacts in the form of damage to bores, nor provide compensation for that damage.*

[202] Ms Philp's grounds of objection to the MLAs were -

> *The carrying out of open cut mining by the applicants will have a serious long-term adverse impact on artesian bore 18178 which is a critical part of the water infrastructure for the grazing operations she conducts on her property, Yeovil.*
>
> *The groundwater assessment carried out by the applicants did not give sufficiently detailed consideration to the potential impact on underground water supplies of the project in the locality of the MLAs, for reasons that were similar to those set out by the landowner group and Mr and Mrs Rich.*

Ms Philp said that the continued successful operation of her cattle grazing enterprise on Yeovil was dependent on maintaining both the quality and quantity of water available currently from artesian bore 18178. She sought the signing of a make-good agreement with the applicants to provide her with security both as to the quality and quantity of water supply to her property.

[203] All of the above objectors (other than Ms Philp and Mr Anderson) also objected to the draft EA on the following grounds -

> *(i) The draft EA has been issued without sufficient investigation by the applicant of the impacts of mining on groundwater resources and community and private bores.*

(ii) *The applicants' commitment in the environmental management (EM) plan (SEIS 28-11) regarding making good any unsuccessful groundwater impact was:*

- *Ineffective and unenforceable;*
- *Only obliged the applicants to "consult" affected users about make-good;*
- *Applied only to community bores and multi-user bores, not the bores of private individuals; and*
- *Made no provision for compensation if damage could not be made good.*

[204] Mr and Mrs Rich objected to the draft EA on two grounds -

(i) Ground 1 was in identical terms to their objection to the MLAs (set out in [201] above); and

(ii) Ground 2 was the same as ground (i) of the remaining landowner objectors to the draft EA (set out in [203] above).

***Land Court jurisdiction concerning water issues***

[205] The objections in relation to water issues broadly centre around four main topics -

- whether the impact of the mining operations on the alluvium, shallow and deep aquifers will be adequately monitored. The objectors are concerned as to the potential contamination of and interference with their groundwater supplies by the mining operations;
- the impact of the possible extraction of construction water from the Precipice Sandstone Aquifer on the supply of water from that aquifer;
- the impact of the possible diversion of Woleebee Creek on the Richs' water supply from the Woleebee Creek alluvium;
- the need for satisfactory make-good agreements to be entered into between the applicants and the objectors, prior to the commencement of the mining operations.

[206] Activities involving water diversions and extractions are regulated by the *Water Act* and it will be necessary for the applicants to apply for water licences under that Act for proposed activities such as the mine dewatering program, taking water for construction purposes from the Precipice Sandstone Aquifer and the diversion of Woleebee Creek. Section 235(3) of the MRA provides -

> "235(3) Where any Act provides that water may be diverted or appropriated only under authority granted under that Act, the holder of a mining lease shall not divert or appropriate water unless the holder holds that authority."

[207] Section 269(4)(j) of the MRA provides that the Court shall, when making a recommendation to the Minister, take into account and consider whether there will be any adverse environmental impact caused by the proposed mining operations and if so,

the extent thereof. Schedule 2 of the MRA provides that "environment" has the meaning given by the EPA. Section 8 of the EPA defines "environment" as follows -

> "**8 Environment**
>
> ***Environment*** includes—
>
> (a) ecosystems and their constituent parts, including people and communities; and
> (b) all natural and physical resources; and
> (c) the qualities and characteristics of locations, places and areas, however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community; and
> (d) the social, economic, aesthetic and cultural conditions that affect, or are affected by, things mentioned in paragraphs (a) to (c)."

[208] As discussed further below, the evidence is that some of the proposed extractions/diversions will have an adverse environmental impact within the meaning of s.269(4)(j) of the MRA. The applicants have submitted that the effect of s.235(3) is that such extraction/diversion is not a permitted or authorized use under the MRA and it is not therefore an activity about which I can make a recommendation pursuant to s.269 of the MRA in relation to the proposed mining leases.

[209] A similar issue arises in relation to any recommendations the Court might make about the draft EA. Environmental authorities are issued under the EPA for "mining activities".[33] Section 147 of the EPA defines a "mining activity" as follows -

> "**147 What is a mining activity**
>
> (1) A ***mining activity*** means an activity mentioned in subsection (2) that, under the Mineral Resources Act, is authorised to take place on -
>
> (a) land to which a mining tenement relates; or
> (b) land authorised under that Act for access to land mentioned in paragraph (a).
>
> (2) For subsection (1), the activities are as follows -
> (a) prospecting, exploring or mining under the Mineral Resources Act or another Act relating to mining;
>
> (b) processing a mineral won or extracted by an activity under paragraph (a);
>
> (c) an activity that—
> (i) is directly associated with, or facilitates or supports, an activity mentioned in paragraph (a) or (b); and
> (ii) may cause environmental harm;
>
> (d) rehabilitating or remediating environmental harm because of a mining activity under paragraphs (a) to (c);
>
> (e) action taken to prevent environmental harm because of an activity mentioned in paragraphs (a) to (d);

[33] Section 146 of the *Environmental Protection Act 1994*.

(f) any other activity prescribed for this subsection under a regulation."

[210] The effect of s.147(1) of the EPA is that a mining activity is an activity that is authorised under the MRA to take place on land to which the mining tenement relates. It is clear from s.235(3) of the MRA that that Act does not authorise the holder of a mining lease to divert or appropriate water unless the holder has an authority under the *Water Act*. Since water diversions and extractions are not activities that are authorised by the MRA, they are outside the scope of an environmental authority under the EPA. That being the case, I do not consider that the Land Court has power in these proceedings to make recommendations under the EPA in relation to activities involving the extraction or diversion of water.

[211] More specifically, I do not consider that I can make recommendations to either of the relevant Ministers about the possible extraction of water for construction purposes from the Precipice Sandstone Aquifer, the possible diversion of Woleebee Creek or any mine pit dewatering. In my view, this limitation also extends to the inclusion of provisions in make-good agreements about the extraction or diversion of water.

[212] However, it is noted that the *Water Act* contains provisions which enable the landowners to seek the imposition of appropriate conditions in relation to the grant of any water licences in relation to the mining project. I have included, at the end of this decision, observations about this and other matters to the relevant Ministers.

[213] The position is different in relation to the Court's ability to consider the impacts of the mining operations, in terms of any drawdown in the aquifers and variation in groundwater quality.

[214] Drawdown of water from the aquifers may be a consequence of the mining activities or the dewatering of the mine pits. Although the dewatering aspect will be regulated under the *Water Act*, I consider that I may make recommendations about the impacts of the "mining activities" authorized under the MRA and the EPA (subject to any relevant conditions in the Coordinator-General's report, discussed further below). Similarly, I have power to make recommendations about the water quality impacts of such mining activities.

[215] The Coordinator-General's report and the draft EA contain conditions dealing with the impacts of mining activities in terms of drawdown, at least in relation to the shallow coal seam aquifers, and any mine induced variation in groundwater quality. Thus condition W38 in each document requires that a groundwater monitoring program be designed and implemented as described in Table W9. That table reveals that one of the

purposes of the monitoring program is to measure the impact of the mine on water levels and quality.

***Groundwater monitoring***

[216] The objectors said that the applicants' assertion in the EIS, that the mining project will have negligible impact on groundwater users, had been reached without sufficient investigation because -

a. It relied on only one pump test and used that test to extrapolate to the entire (very large) site. The radius of influence from the mine pits was estimated from that one result.

b. It failed to state the formula by which the radius of influence was estimated and failed to estimate the parameters used to make that estimate.

c. The influence of multiple pits operating simultaneously was not considered.

d. The aquifer was assumed to be homogenous and isotropic.

e. A simple analytical model was used rather than a numerical model.

f. A significant number of bores, many located close to the MLA boundaries, were missed in the hydrocensus.

g. The reliability of estimates of impacts on private bores, in particular the radius of influence, is dependent upon the adequacy of the investigation.

h. Impacts of possible future mining of deeper coal were not considered.

i. Impacts of the applicant taking water from the Great Artesian Basin for construction or for mine operation were not considered.

j. No consideration was given to the potential adverse effects on aquifer chemistry once mining activity ceases, as an after-effect of the prolonged dewatering.

[217] The objectors also said that the inadequacy of the investigation was compounded by the applicants' unwarranted assumption that a large area of extra land not required for mining would be included in the mining leases as an environmental buffer and that groundwater impacts within that contrived boundary could therefore be ignored.

[218] The objectors say that the monitoring conditions (W38, W39 and W40) in the draft EA are only indirectly relevant to them because the conditions are intended to detect drawdown and any mine induced variation in groundwater quality in the shallow coal seam aquifers. Similarly, conditions 3 and 4 in Schedule 8 to the Coordinator-General's report, which contain recommendations to the Minister administering the *Water Act* as to the conditions to be attached to any water licence required by the applicants in association with the project, apply only to the alluvium and shallow coal seam aquifers.

[219] The proposed conditions ignore the deeper Precipice Sandstone and Hutton Sandstone Aquifers, the objectors said.

[220] Further, even in the shallow coal seam and alluvium aquifers, the proposed monitoring would not provide the evidence needed to prove there had been an adverse change in a private bore. The objectors had been advised that the onus of proof of damage rested on the bore owner. The draft EA did not require the applicant to test the base line capacity or conduct regular monitoring of the individual community bores and private bores, both of which were essential before a bore owner could hope to have proof of an adverse change and the cause thereof.

[221] The impact of mining on groundwater supply and landowners' bores was an issue that was not directly addressed by either the EPA or the MRA, the objectors submitted. To fill this jurisdictional vacuum, the Coordinator-General had recommended action by the Minister administering the *Water Act*.

[222] The objectors said that the need for adequate investigation of the groundwater impacts from the proposed mining could be addressed through the development permit (water licence) process under the *Water Act*. Therefore, consistently with the Coordinator-General's report, any recommendation by the Court should include a recommendation that the mining leases only be granted if the Chief Executive administering the *Water Act* takes action as follows -

a. The applicants be required, before the grant of any development permit (water licence), to investigate the impacts of mining on groundwater resources to the satisfaction of the Chief Executive.

b. Any development permit (water licence) for bores intended for mine dewatering and for supply water for either construction or operation must identify, to the Chief Executive's satisfaction, all aquifers and all private or community bores which may potentially be affected by the dewatering or the water extraction.

c. Provision be made for settlement of make-good agreements between the applicants and all potentially affected bore owners through a process of obligatory negotiation and if necessary mediation or alternative dispute resolution, using the system which applies in the Resource Acts in respect of conduct and compensation agreements.

d. That such development permits only be issued if the Chief Executive is satisfied that the applicant has entered into a make-good agreement with each owner of potentially affected bores.

*Potential impact of mining operations on the Hutton Sandstone and Precipice Sandstone Aquifers*

[223] As noted above, the objectors are concerned that the quality and supply of water in the Hutton Sandstone and Precipice Sandstone Aquifers may be adversely impacted by the mining operations, through the taking of water for construction purposes from the

Precipice Sandstone Aquifer, the potential for the release of contaminants into the deeper aquifers and blasting. Leaving aside the issue of taking water for construction purposes, which I cannot deal with as discussed above, two principal issues arise - whether there is any relevant connectivity between the deeper aquifers and the Juandah Coal Measures which will be mined, and whether adequate monitoring of the Hutton Sandstone and Precipice Sandstone Aquifers is proposed.

[224] The objectors represented by Mr Houen called Mr Paul Smith, a hydrogeologist and environmental scientist, to give evidence in this regard.

[225] Mr Smith came to the following conclusions -

1. Even though there were known areas within the MLAs where groundwater had been intersected in the coal measures in exploration holes, only one bore was successfully drilled and tested. More, and longer, pump tests in multiple locations will need to be carried out before categorical statements can be made on this matter. Of particular interest is the potential hydraulic inter-connectivity in or adjacent to fracture zones, which will have significant implications for the derogation of bores in the area. There has been insufficient testing undertaken to assess the impact of mining on surrounding groundwater users.

2. The analytical models used in this project are unable to assess adverse impact on groundwater levels within areas of higher permeability associated with structural features including fault zones even where the location of fault zones are known. The only reliable method of assessing this situation is by using a suitable numerical model.

3. The analytical equations used were not appropriate for this situation as many of the key assumptions were invalid. In addition, the fact that sensitivity testing was not undertaken meant that there was no understanding of how sensitive to change in these parameters the results were.

4. Xstrata has not estimated what the combined impact on groundwater levels would be when more than one pit was operating simultaneously. However, it is known that if the areas of water level depression from two separate pits intersect, the combined drawdown is significantly greater and will extend over a greater area than if a single pit is working.

5. The method of determining the critical aquifer parameters for the Precipice Aquifer was inappropriate and not industry standard.

6. Using the estimated parameters in the Theis equation, there is moderate additional drawdown estimated to occur in three deep neighbouring bores. However, as key parameters used in the equation were only estimated, sensitivity testing has shown that the actual drawdown values can be substantially different. Hence no reliance should be placed on drawdown values estimated by Evans (2011).

7. On the balance of probability, the Juandah Coal Measures and the Taroom Coal Measures will be hydraulically connected in zones close to faulted areas and where an extensive number of exploration bores have been sunk. It is also possible that there is restricted leakage of good quality groundwater upwards from the Hutton into

the overlying coal measures. If this is the case, removal of coal measures through mining, will cause increased Hutton leakage upwards, which will in turn cause adverse impacts on neighbouring community bores based in the Hutton Aquifer. This includes Peake's Bore and the Juandah Bore.

8. No work has been undertaken which will allow an assessment of whether there is a hydraulic connection between the Hutton and Precipice Aquifers in this area.

9. The groundwater monitoring requirements of the EA are insufficient to allow an assessment of whether the proposed development adversely impacts the groundwater levels within the many aquifers in this area.

[226] Mr Smith made the following recommendations -

- Before any mining activities occur, a comprehensive set of monitoring bores be established into all aquifers which may be impacted by mining or associated activities in MLA 50229, MLA 50230 and MLA 50231. These bores should be located between the proposed mine pits and existing groundwater facilities.

- These monitoring bores should be tested to obtain background water level and water quality data prior to any mining activities occurring.

- A specific investigation should be undertaken to assess whether a hydraulic connection exists between the Juandah Coal Measures and the underlying Hutton Aquifer.

- If this investigation shows that a connection potentially exists, a specific investigation should be undertaken to assess whether a hydraulic connection exists between the Hutton Aquifer and the underlying Precipice Aquifer.

- Pumping tests should be undertaken on a representative number of bores in the Precipice Aquifer to determine appropriate aquifer characteristics prior to assessing the potential impact on water levels of additional pumping of Wandoan town bores.

- Separate numerical models should then be constructed and calibrated to assess the impact on each potentially affected aquifer and to evaluate mitigation measures.

- Make-good agreements should be signed with those landholders/community bore groups who have groundwater resources identified as being potentially impacted by mining activities.

- All investigations should be undertaken with the full knowledge and cooperation of local landholders (and their nominated technical representatives) who may be adversely impacted with particular reference to the community bore groups.

[227] The applicants called two expert witnesses to give evidence on water issues, Mr Mark Stewart, a hydrogeologist, and Mr Peter Evans, a hydrogeologist and environmental scientist.

[228] Mr Stewart took the view that there was currently no field evidence of a hydraulic connection between the deeper aquifers and the coal seam measures. He said that

current groundwater monitoring allows for the evaluation of base line conditions and natural fluctuations within the Hutton Sandstone Aquifer and it is the applicants' commitment that the existing monitoring network will be augmented to allow for the monitoring of the Precipice Sandstone Aquifer.

[229] Mr Evans said that notwithstanding that some faulting may be present in the area, there is no existing significant vertical hydraulic connection between the Juandah Coal Measures, which are to be mined, and the Hutton Sandstone Aquifer. The presence of faulting is not a sufficient condition to confirm vertical hydraulic connection between the coal measures and any other formation impacted by the faulting. For a hydraulic connection to effectively be present, there must be both permeability in the fault zone and an hydraulic gradient between the formations.

[230] Mr Evans said that there was no significant hydraulic connection between the Hutton Sandstone and the Precipice Sandstone Aquifers in the project area. The Evergreen Formation which lies between the Hutton Sandstone and the Precipice Sandstone Aquifers is at least 185m thick in this area. He said that the Evergreen Formation would be of very low permeability and would behave as an aquiclude, preventing appreciable leakage of water from the Precipice Sandstone Aquifer to the Evergreen Formation.

[231] Mr Evans also said that there was no evidence of a significant vertical hydraulic connection between the Juandah Coal Measures and the Precipice Sandstone Aquifer for the following reasons -

- there is a significant hydraulic head difference between these formations which has not equilibrated over a very long period of time;
- there is a dramatic difference in groundwater quality between these two formations which has not equilibrated over a very long period of time;
- despite the fact that the pressure head in the Precipice Sandstone is above the ground surface over the many areas of the project, there are no identified artesian springs.

In addition, Mr Evans relied on the nature and the thickness of the strata (approximately 600m) between the base of the Juandah Coal Measures and the top of the Precipice Sandstone Aquifer to reinforce his opinion.

[232] Mr Evans said that the pressure heads in both the Precipice Sandstone and the Hutton Sandstone Aquifers are above that of the Juandah Coal Measures which means that there is an upward hydraulic gradient. Because of this, any theoretical surface contamination from the mining activities could not possibly migrate vertically down to

the Hutton Sandstone or Precipice Sandstone Aquifers and hence the deep bores could not be impacted.

[233] Mr Evans also said that the proposed dewatering of the Juandah Coal Measures would not impact on the Precipice Sandstone Aquifer because it is not hydraulically connected to it in the vicinity of the project. He acknowledged, however, that in theory some diffuse upwards leakage could occur from the Precipice Sandstone Aquifer as a result of the mine dewatering although, he said, this would be virtually nil or negligible.

[234] Mr Evans said that he doubted that blasting for mining purposes would significantly impact the confining beds that immediately overlie the Precipice Sandstone Aquifer which are at depths in the order of 1,000 to 1,200m below ground in the project area. He said that it was also unlikely that such blasting would significantly impact the confining beds immediately overlying the Hutton Sandstone Aquifer, the upper surface of which is more than 350m below ground in the project area.

[235] Mr Hair, a hydrogeologist called by Mr and Mrs Rich, also said that it was unlikely that the mining project will impact on the deeper aquifers. He admitted under cross-examination that it was not impossible that there might be a hydraulic connection, but he thought it was highly unlikely.

*Potential impact of mining operations on the shallow and alluvium aquifers*

[236] As set out above, a number of the owners have shallow bores in reserve for backup to their community water supply. Whilst the majority of those bores are not currently being used, I consider that their existence indicates that a backup is important to the landowners and that the shallow aquifers have some limited environmental value for stock and domestic use.

[237] The Richs also have bores which source water from the alluvium and the Walloon Coal Measures, the coal seams of which will be mined by the Wandoan Coal Project.

[238] The evidence showed that limited investigations have been carried out as to the impact of the proposed mining activities on the shallow aquifers. The applicant carried out a preliminary groundwater investigation as part of the EIS which focused on MLA 50230, that being the area the applicant proposes to mine during the first five years. MLA 50230 is approximately 11,000 ha in size and covers about one third of the project area.

[239] A groundwater monitoring network was established during the EIS process using bores drilled for geotechnical purposes on site. Initially, six bores (one production bore and five monitoring bores) were constructed within MLA 50230. An additional 14 bores were drilled post-EIS across other areas. However, Mr Stewart admitted under cross-examination that the areas of MLA 50229 and MLA 50231 did not have the same level

of detailed study as MLA 50230. The study did not include any assessment of the hydrogeological conditions of MLA 50229, even though ultimately, about one third of production is expected to come from the pits located in that area.

[240] Mr Rich said that he had not been approached by any representative of Xstrata asking what allocations they had or where the bores on their property were located during the EIS or SEIS process. No representative of Xstrata sought permission or conducted monitoring of any sort on Amber Downs or Paradise Downs.

[241] The 20 bores drilled as part of the EIS and SEIS intersected only the alluvium and shallow coal seam aquifers. In other words, the applicants only attempted to assess the impacts on shallow groundwater resources - there were no investigations in relation to the deeper aquifers for the reasons discussed above.

[242] Of the 20 bores, only one intersected sufficient groundwater such that a pump test could be carried out. The pump test results from that bore were then extrapolated across the entire area of the three mining leases to assess the impact on other bores that tap into the coal seam aquifer.

[243] The EIS acknowledged that the pump testing data was inadequate to determine properly the impacts of the proposed mining and anticipated that further testing would be carried out and a numerical model developed[34] -

> "The existing data obtained from the one successful pumping test is insufficient to calculate and extrapolate pit inflows across the MLA. Additional production bores would [be] required to provide additional test parameters. The additional pumping test parameters will be required to supply sufficient data to develop a numerical model to determine pit inflows and the cumulative effect drawdown effect on the regional groundwater …".

Post-EIS, the applicants did not develop a numerical model but continued to rely solely on an analytical model.

[244] Mr Hair was of the view that that type of modelling (ie analytical modelling) was inappropriate and inadequate because it was based on inadequate data from one pump test. Mr Stewart did say that further testing was warranted but instead the applicants changed the method of assessing the aquifer parameters.

[245] Mr Ambrose for the Richs said that the applicants were aware that there may be an environmental impact. They had not conducted any further investigations because the applicants have no intention of dealing with the drawdown of water due to the prior extraction (by others) of coal seam methane gas and the inherent dewatering which will occur during that process. He submitted that the Court could not be satisfied that the

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[34] "Wandoan Coal Project Preliminary Groundwater Assessment" prepared by Parsons Brinckerhoff Australia Pty Limited, p.37, which is the technical report accompanying Chapter 4 of the EIS.

environmental impact from the mining operations had been adequately investigated and accordingly the Court should recommend that the grant of the lease be placed on hold pending further investigation.

[246] Mr Jackson, Queen's Counsel for the applicants, responded by saying that the applicants had committed, in the EIS, SEIS and the Coordinator-General's report, to ensure ongoing evaluation and assessment as the mine progresses and more data is available. Even if there is an adverse impact on the shallower aquifers, that impact will be revealed by the further monitoring and appropriate make-good arrangements will need to contemplate that risk.

[247] Mr Jackson also submitted that all of the evidence indicated that the deeper bores are the primary source of water for the landowners and that the shallow aquifers are very much a backup. He said that the shallow aquifers contain much smaller quantities of poorer quality water and there is no evidence of any recent use of a shallow bore by a landowner.

[248] Mr Jackson submitted that the ongoing nature of the investigations into the shallower aquifers is not a reason against recommending the MLAs and the draft EA because make-good agreements will be entered into before any groundwater can be disturbed.

*Conclusions as to adequacy of groundwater monitoring*

Hutton Sandstone and Precipice Sandstone Aquifers

[249] The evidence showed a high level of dependence by all of the objectors, other than Mr and Mrs Peake, on the deep community bores, that is the Juandah, Bimbadeen, Yabba and Grosmont Bores. The evidence also showed that the grazing industry throughout the district is dependent upon these and other community bores. Thus the water in the deeper aquifers is of high environmental value.

[250] With the exception of the Trelinga Bore, which taps the Hutton Sandstone Aquifer, there has been no monitoring of the deeper aquifers and none is proposed. None of the experts carried out their own field investigations of any connectivity between the deeper aquifers and the coal seam measures. Mr Smith said that such investigations were not his role but he admitted under cross-examination that there was no anecdotal evidence from the landowners that the use of the Precipice Sandstone Aquifer bores had any adverse effect on the Hutton Sandstone Aquifer bores. Mr Evans said that it was unnecessary to investigate further. Mr Hair said that he did not see the need for further pump testing of bores in the deeper aquifers.

[251] Although the majority of experts agree that there is no significant hydraulic connection between the deeper aquifers and the coal seam measures, there was evidence (from Mr

Smith) that there could be some diffuse upwards leakage of groundwater from the Hutton Sandstone Aquifer to the coal seam measures as a result of the mine dewatering and mining of the coal seam measures. While the magnitude of the impact was said to be negligible, it does suggest that there is some limited connectivity between the Hutton Sandstone Aquifer and the coal seams.

[252] Mr Smith said there was no hard data one way or the other. He recommended a specific investigation to assess whether a hydraulic connection exists between the Walloon Coal Measures (made up of the upper Juandah Coal Measures and the lower Taroom Coal Measures) and the underlying Hutton Sandstone Aquifer. If it were shown that a connection potentially exists, then he said further investigations should be undertaken to assess whether a hydraulic connection exists between the Hutton Sandstone Aquifer and the underlying Precipice Sandstone Aquifer.

[253] In the circumstances, I consider that a precautionary approach is justified in relation to the deep aquifers. The precautionary principle is relevant to my decision under the EPA.

[254] Section 223(c) of the EPA provides that in making an objections decision for an application for an environmental authority, the Land Court must consider (amongst other things) the "standard criteria". The "standard criteria" is defined in Schedule 4 of the EPA to include "the principles of ecologically sustainable development as set out in the 'National Strategy for Ecologically Sustainable Development' ". Schedule 4 also defines the "National Strategy for Ecologically Sustainable Development" to mean the 'National Strategy for Ecologically Sustainable Development' endorsed by the Council of Australian Governments on 7 December 1992.

[255] The National Strategy for Ecologically Sustainable Development of December 1992 sets out the goal, core objectives and guiding principles of ecologically sustainable development (ESD) as follows:

> **The Goal is**:
>
> Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.
>
> **The Core Objectives are:**
>
> - to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
>
> - to provide for equity within and between generations;

- to protect biological diversity and maintain essential ecological processes and life-support systems.

**The Guiding Principles are**:

- decision making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations;

- where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;

- the global dimension of environmental impacts of actions and policies should be recognised and considered;

- the need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised;

- the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised;

- cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms;

- decisions and actions should provide for broad community involvement on issues which affect them.

These guiding principles and core objectives need to be considered as a package. No objective or principle should predominate over the others. A balanced approach is required that takes into account all these objectives and principles to pursue the goal of ESD.

[256] The precautionary principle is encapsulated in the second principle above. That is, where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

[257] In respect of the deep aquifers, the evidence was conflicting as to whether any damage might be caused by the proposed mining operations as discussed above. In the EIS and SEIS, the deep bores were "deemed" not to be impacted[35] due to significant depth of separation and presence of impermeable strata between the mine operations and those aquifers. On that basis, the applicants did not undertake any specific investigations in relation to the deep aquifers. The experts engaged for the objectors in the case also did not carry out any independent investigations.

[258] Whilst the weight of the expert evidence was that there was no relevant significant hydraulic connection, there was evidence to suggest that there was some possibility of a connection. Mr Evans for example acknowledged that some diffuse upwards leakage

[35] EIS, Chapter 10, section 10.5.1.

could occur from the Precipice Sandstone Aquifer although he said it would be "negligible". Mr Hair also conceded that it was not impossible, although "highly unlikely". Ultimately, however, as Mr Smith rightly pointed out, there was no field evidence upon which these experts based their opinions.

[259] I also consider it relevant that there was some evidence that the applicants would undertake monitoring of the deeper aquifers. Mr Stewart's report indicated that it was a commitment of the applicants that the existing monitoring network would be augmented to allow for monitoring of the Precipice Sandstone Aquifer. He said that current groundwater monitoring already allowed for monitoring on the Hutton Sandstone Aquifer - in fact, only one bore, the Trelinga bore, was monitored within the Hutton Sandstone Aquifer as part of the EIS. Mr Evans also noted in his report that an SEIS commitment was given that, if suitable, existing available deep bores would be used to distinguish between potential impacts from shallow surface mining from the project and deeper coal seam methane production projects in the vicinity of the project. I consider that the applicants would not be proposing such monitoring if there was certainty that no impacts would occur from their own mining activities.

[260] Accordingly, I cannot be satisfied that there will be no impacts on the deep aquifers. Although the weight of the evidence suggests that there is a low threat of environmental damage, I consider that the high environmental values associated with the groundwater in the deep aquifers, as demonstrated by the high level of dependence of the objectors and the Wandoan community on the deep aquifers as their primary source of water, justifies a precautionary approach to the issue.

[261] I do not consider that the evidence was such as to lead me to the conclusion that the mining leases or draft EA should not be granted based on this issue. However, I do consider that additional conditions should be included in the EA to establish a monitoring regime relating to the deep aquifers in order to detect any emerging adverse impacts and to require corrective action if necessary. I am not precluded from recommending such conditions since neither the Coordinator-General's report, nor the draft EA, imposed any conditions relating to the deep aquifers. Hence there can be no suggestion of any inconsistency. My recommended conditions are set out in the Orders made in this decision.

The shallow and alluvium aquifers

[262] In respect of the shallow and alluvium aquifers, the evidence has established that the mining activities will have an impact on those aquifers. The nature and extent of those impacts are uncertain because of the inadequacy of the methodology employed by the

applicants in the EIS and SEIS in terms of the insufficient and unrepresentative sampling of bores within and outside the MLA areas.

[263] Condition W38 of the draft EA provides that a groundwater monitoring program be designed and implemented as described in Table W9 at the locations shown in Figure W1. Figure W1 shows that ten monitoring bores are proposed – six within MLA 50230, two of which are close to the boundary of MLA 50231; two within MLA 50231; one within MLA 50229 and one outside the MLA areas, near MLA 50229. The proposed monitoring bores will monitor the shallow aquifers only and the alluvium aquifers for a minimum of 12 months.

[264] In my view, Condition W38 as imposed by the Coordinator-General and included in the draft EA will not establish a comprehensive monitoring program. No monitoring is proposed within MLA 50229, the area of which is more than half the size of the total lease areas, and the monitoring on MLA 50231 is limited. Outside the MLA areas, the monitoring is limited to one site only.

[265] Had it been open to me, I would have recommended that further monitoring take place before the mining operations commence. However, as discussed at [47] above, the effect of s.222(2) of the EPA is that the Court cannot recommend the inclusion of conditions in the draft EA which are inconsistent with a Coordinator-General's condition. The Coordinator-General has recommended a groundwater monitoring program for the shallow and alluvium aquifers in Condition W38. To recommend a more comprehensive program would be inconsistent with Condition W38 and would therefore be contrary to s.222(2) of the EPA. Nevertheless, I will draw this issue to the attention of the Minister administering the EPA.

[266] Similarly, for the reasons set out at [32], I do not consider that I can recommend further monitoring conditions be imposed on the proposed MLs.

***Water extraction and diversion***

*Potential impact of extraction of water for construction purposes from the Precipice Sandstone Aquifer*

[267] The evidence is that there may be an impact on the water levels in some deep bores if the project sources construction water from the Precipice Sandstone Aquifer. Both Mr Hair and Mr Smith indicated as much although Mr Hair did say that those bores would not be deleteriously impacted by the proposed additional pumping from the Wandoan town supply bores. Mr Evans also acknowledged that some temporary hydraulic impact was predicted affecting those bores which tap into the Precipice Sandstone Aquifer, as a result of the proposed drawing of groundwater from the Precipice Sandstone Aquifer to

support mine construction. However, he said, the magnitude of the drawdown in the groundwater head in those bores was predicted to be relatively minor and was not likely to cause adverse impacts on the utility of the bores.

[268] Mr Evans stated that there are no specific monitoring arrangements documented for the taking of construction water from the Precipice Sandstone Aquifer. However, as discussed above, he noted that an SEIS commitment was given that suitable, existing available deep bores (600m to 1,200m) will be used to distinguish between potential impacts from shallow surface mining carried out in the project and deeper CSM production projects proposed in the vicinity of the project.

*Woleebee Creek alluvium*

[269] Woleebee Creek runs through Paradise Downs and Amber Downs which are upstream of the proposed mine. Mr and Mrs Rich have licences to take water and bores associated with those licences from the Woleebee Creek alluvium being RN 123244, RN 123245, RN 123246 and RN 123247 permitting them to take 56 ML/a for stock intensive (feedlotting and stock watering) purposes. Mr and Mrs Rich intend to sink further bores into the Woleebee Creek alluvium particularly in the northern parts. They currently hold six development permits permitting them to sink up to six further production bores. Once the bores are sunk and tested, the Richs will receive an increased allocation from the alluvium to a maximum of 150 ML/a.

[270] Mr Hair said that -

> "The Woleebee Creek Pit and the Woleebee North Pit will completely remove the Woleebee Creek alluvial aquifer over a creek length of approximately 7.1 kms. Woleebee Creek will be diverted around these pits by constructing a diversion channel in the Walloon coal measures. As the alluvium will be cut off by these pits, groundwater will drain from the alluvium into the pits (particularly the Woleebee Creek Pit) and result in a reduction in saturated thickness of the alluvium upstream (up gradient) of the Woleebee Creek Pit. This is likely to result in a lowering of groundwater levels in bores RN123244, RN123245, RN123246 and RN123247, thereby reducing their productive capacity."

[271] Mr Hair also said that the extent of the impact on the groundwater resources will depend on the measures adopted by the applicants to control seepage from the alluvium into the Woleebee Creek Pit. In Mr Hair's opinion, the potential for impact from mining operations on the groundwater resources of the Woleebee Creek alluvium was inadequately assessed by the EIS, SEIS and supporting studies.

[272] Mr Rich said that if the proposed mining operation dewaters the Woleebee Creek alluvium where it passes through Paradise Downs and Amber Downs, the effect will be permanent as Xstrata do not plan to replace the alluvium as part of their rehabilitation of

the mine pit areas. Any reduction in the productivity of the alluvium at Amber Downs and Paradise Downs will impact on their expansion plans and reduce the drought proofing of their existing and future operations and the profitability of their proposed irrigated cropping operation. They have no make-good agreement with Xstrata. To date Xstrata have refused to either negotiate or offer such an agreement. Mr Rich said that he was concerned that the need to make-good in respect of the alluvium will far exceed the life of mining operations. He adopted the proposed amendments to the draft EA conditions set out in the report from Mr Hair.

[273] Mr Ambrose on behalf of Mr and Mrs Rich submitted that the evidence established that -

a. Insufficient investigations have been carried out to adequately assess the impact of proposed mining operations on groundwater;

b. The removal of a portion of the Woleebee Creek alluvium will have a deleterious effect on the groundwater from that alluvium such that it ought be protected by engineering works;

c. The extent of the environmental impact is uncontained.

[274] Mr Stewart's evidence was that dewatering was unlikely because of the distances between the proposed diversion, the pits and the bores and because of the results from drilling in the alluvium and shallow creek streams. Mr Stewart said that the diversion could be engineered to minimise any potential impact on the alluvium. Under cross-examination, Mr Hair accepted that the appropriate response was a matter of engineering assessment to be made by the people on the day having regard to the site conditions.

[275] The applicants say that the precise requirements which attach to any permission to divert the creek will be decided by DERM if and when an application is made under the *Water Act*. They also said that because there is another regulator who will have to consider matters if and when they arise it would be inappropriate for the Court to prescribe any particular measure now.

*Conclusions about water extraction and diversion*

[276] As discussed above at [210], the extraction and diversion of water are not activities which are authorized by the MRA and, by virtue of s.147 of the EPA, also fall outside the scope of the Court's jurisdiction under the EPA. The Court cannot therefore prescribe any particular measure in relation to the taking of water for construction purposes from the Precipice Sandstone Aquifer or the diversion of Woleebee Creek. However, the objectors will have the opportunity to seek the inclusion of appropriate

conditions when applications are made under the *Water Act* for the grant of water licences for these activities.

***Make-good agreements***

[277] The landowner objectors submitted that their groundwater rights could only be protected effectively by a make-good agreement between themselves and the applicants and that it was necessary that the settlement of a make-good agreement be made a pre-condition for the grant of both the mining leases and the EA.

[278] The objectors said that an effective, enforceable make-good agreement requires provision for fully transparent, independent base line testing of each individual private bore, the setting of trigger values for declining sustainable yield and declining water quality, the regular monitoring of each bore, procedures for identifying any adverse change and the cause thereof, and provisions for make-good action by the applicants, or alternatively for the payment of compensation. A practical and effective make-good scheme was best achieved through agreement between the bore users and the miner.

[279] The evidence was that the applicants had circulated a make-good agreement for consideration by the objectors some days before the hearing of these proceedings commenced in the Land Court. The objectors said that the terms of the proposed draft were not acceptable to them. Ms Lee, general counsel employed by Xstrata, gave evidence as to the preparation of the draft and her opinion as to the possibility of further negotiations concerning the draft.

[280] Mr Houen submitted that the make-good agreement about which Ms Lee gave evidence was inadequate as compared with the knowledge of those with first hand experience as to what is necessary to operate a make-good scheme effectively. Mr Houen said that his clients were not asking the Court to rule on whose make-good agreement should be used. Rather they had taken the opportunity to show that an effective make-good agreement is, in reality, a very challenging task and provisions to bring it to fruition must be very carefully designed. The provision for a make-good agreement must have a statutory base administered by the person with the relevant power, that is, not left as a matter of discretion for the miner, as Xstrata proposed.

[281] Accordingly, Mr Houen submitted that -

- Any recommendation for the grant of the mining leases be conditional upon the Chief Executive administering the *Water Act* agreeing that, as a prerequisite to granting the applicants any water licence, the applicants must show they have entered into groundwater make-good agreements with every landowner whose groundwater supplies the Chief Executive regards as potentially at risk due to the proposed mining.

- The Court recommend to the Minister administering the *Water Act* that the Act be amended to allow its provisions in Chapter 3, Division 4 "Disputes about make-good obligations" to also be available to parties to negotiations for make-good agreements related to Wandoan Coal water licence applications.

- In the event that the *Water Act*'s mediation and arbitration provisions cannot be made available for this purpose, that the Court recommend it be a condition of the mining leases that, in the absence of agreement on make-good terms, the parties must jointly engage a mutually agreed, suitably qualified independent person to decide the terms of the make-good agreement. Each party must be given the right to make submissions to the independent person and his or her decision shall be final and binding. If the parties are unable to agree on a suitably qualified person, they shall, within 10 business days, invite the President of the Institute of Arbitrators to appoint such a person who must make his or her decision within 30 business days of appointment. The cost of the independent person, however appointed, shall be borne by the applicant/mining lease holders.

[282] Mr Ambrose submitted that because there will be a permanent loss of the groundwater resource of the Woleebee Creek alluvium, that impact ought to be managed in this process and not later. Mr Ambrose said that a make-good agreement should be conditioned now and that it should be for a period longer than the life of the mine. Ms Lee's evidence as to the process for entering into a make-good agreement indicated that the negotiation of any such agreement would be a long, drawn out process and will be entirely unacceptable if the applicants have no true intention to negotiate, Mr Ambrose said.

[283] The applicants submitted that it is not appropriate that a condition be imposed with respect to make-good agreements because the question of make-good agreements can properly be resolved in the course of the processes under the *Water Act*. The applicants cannot disturb the groundwater without a water licence obtained under that Act (s.235(3) MRA). Water allocation is the province of the *Water Act* and although DERM is a single department administering both the *Water Act* and the EPA, it is divisionalized into specialist areas. Any water licence application will be considered with the benefit of expert input within the particular division of the department.

[284] Further the Court does not have an unfettered power to impose conditions. Conditions cannot be imposed for a purpose extraneous to the authorised activity.[36] Taking or disturbing groundwater is not authorised by the mining lease or the environmental authority. The applicants submitted therefore that imposing conditions in respect of make-good agreements would be extraneous to the Court's power to impose conditions in respect of the authorised activities.

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[36] Citing *Newbury District Council v Secretary of State for the Environment* [1981] AC 578.

[285] Mr Jackson also submitted that it is inappropriate for the Court to take any action with respect to make-good agreements or to use the provisions of the EPA to do so because the landowners are concerned about their commercial water security rather than any issue of impact on the environment. Moreover, it could be expected that an application under the *Water Act* would involve broader interests than those represented in the Land Court. While few of the mines' neighbours engaged in the process in this Court, more are likely to be concerned with water security issues and are likely to be involved in ensuring suitable arrangements are put in place. Moreover, any action by the Land Court at this stage involves the risk of conflicting with what might appropriately be done at the licensing stage.

*Conclusions about make-good agreements*

[286] To the extent that the purpose of the make-good agreements is to provide for the effects of any contamination and drawdown from the aquifers as a result of the proposed mining activities, I consider that I have power to make a recommendation to the relevant Ministers under s.269(1) of the MRA and s.222 of the EPA. I consider that such a recommendation should be made here because, as discussed above, the evidence showed the high level of dependence by the objectors on the deep community bores and, in the case of Mr and Mrs Rich, on private bores that tap the Hutton Sandstone Aquifer and the Woleebee Creek alluvium. A number of the objectors also have private bores accessing the shallow aquifers which are held in reserve should their principal water supply fail. Contamination of the water supply in the shallow aquifers will have a significant environmental impact. My recommendation is set out in the Orders made in this decision.

[287] As I do not have power to make recommendations about the extraction and diversion of water, I am unable to recommend that the make-good agreements should also deal with the impacts of extraction and diversion of water.

[288] In my opinion, this is an unsatisfactory outcome but it is one which is dictated by the terms of the relevant legislation. I shall draw the unsatisfactory nature of this outcome to the attention of the Ministers administering the MRA and the EPA.

[289] Mr Houen requested the Court to recommend that a condition be included in the mining leases to provide that the Chief Executive administering the *Water Act* require the applicants to show they have entered into make-good agreements with the landowners. He also asked the Court to recommend to the Minister administering the *Water Act* that the dispute resolution procedures in Chapter 3 of that Act be amended so as to be made available to the landowners.

[290] I do not consider that I have the jurisdiction to make the recommendations sought by Mr Houen. Section 269(1)(d) of the MRA requires the Land Court to forward to the Minister the Land Court's recommendation about the application for the grant of a mining lease. There is no provision in the MRA enabling the Court to make a recommendation that the Chief Executive administering the *Water Act* be required to do something.

[291] Similarly, I do not consider that I have power to make the requested recommendation to the Minister administering the *Water Act*. The Court is required to forward its recommendations about the grant of the mining lease to "the Minister". Section 33(2)(a) of the *Acts Interpretation Act 1954* provides that a reference to "the Minister" in an Act without specifying a particular Minister by title is a reference to the Minister administering the provision. While at any particular time the same Minister may administer both statutes, such a state of affairs does not extend the power of the Court to make a recommendation to any Minister other than the Minister administering s.269 of the MRA.

[292] Likewise, under the EPA, the Court's objection decision must be a recommendation to the "EPA Minister". The "EPA Minister" is defined in Schedule 4 of the EPA as "the Minister for the time being administering this Act". Although the same Minister may administer both the EPA and the *Water Act*, that Minister wears "different hats" when administering each statute so that the power of the Court under the EPA does not extend to making recommendations to the Minister responsible for the *Water Act*.

[293] Accordingly, I do not consider that I have the jurisdiction or power to recommend to the Minister administering the *Water Act* that that legislation be amended as suggested.

***Mr and Mrs Peake's Trelinga Bore***

[294] Mr and Mrs Peake's overriding concern is water security. They currently rely on Peake's Bore, a deep bore drawing from the Hutton Sandstone Aquifer. Mr Peake is extremely aggrieved by Xstrata's actions affecting his future water security. In pre-Xstrata times, Mr Peake transferred his uncompleted Trelinga Bore to other landowners, Mr and Mrs Fitzgerald, on the understanding that it would be completed and equipped in such a way that Mr Peake would have a right, long-term, to draw water from it. In acquiring land for its project, Xstrata acquired the Trelinga Bore along with Mr Fitzgerald's land. Mr Peake said that Xstrata had stated that it will not carry out Mr Fitzgerald's obligations to complete and equip the bore. Mr Peake is incensed. The alternative offered by Xstrata of short term supply, if needed, from another bore, Wards

Bore, is in Mr Peake's view, no substitute and fails to provide the water security he was entitled to until Xstrata stepped in.

[295] Accordingly, Mr Houen submitted that the Court should recommend that the applicants must complete and equip the Trelinga Bore and make supply from it available to Mr Peake.

[296] I do not consider that I have power to make any such recommendation in respect of the Trelinga Bore. The arrangements between Mr and Mrs Peake and Mr and Mrs Fitzgerald are private contractual arrangements and I have no jurisdiction concerning such contracts. Any dispute between Mr and Mrs Peake and the applicants concerning the terms or operation of that agreement is not a matter which can be dealt with in this Court.

**Floodwater management**

[297] Mr Anderson, Mr Bruggeman, Mr and Mrs Devlin, Mr and Mrs Edmonds and Mr Erbacher objected to the draft EA on the grounds that -

> *The applicants' mine water management plans should be revised in the light of vastly increased rainfall and exceptional flooding experienced in recent months.*

Mr Bruggemann and Mr and Mrs Edmonds added -

> *A no-release condition should apply so that water may only be released from the mine if its quality is consistent with the natural flow, through treatment if necessary.*

[298] The objectors said that the applicants' water management plan reflected the experience of a very long drought in the area. Since the EIS had been completed, high rainfall with major flooding had occurred in the 2010-11 summer which had exposed the inadequacy of floodwater management in open-cut coal mines in Queensland generally, with numerous mines seeking and obtaining permission to release vast amounts of contaminated water into watercourses.

[299] The objectors feared that the overland flow of contaminated water would affect their land as well as damage the ecology all the way to the Great Barrier Reef, including productive land downstream. They submitted that the draft EA should not be granted until a full assessment of the impact of flooding of coal mines had been conducted and a decision made as to whether any changes to coal mine water management were required.

[300] Mr Michael Batchelor, a civil engineer with expertise in mine site hydrology and water management, gave evidence on behalf of the applicants. Mr Batchelor provided an extensive written report explaining the methodology used to model the impact of flooding on the project, the components in that system for flood containment and the

design capacities of those structures. Mr Batchelor said that the environmental dam capacities set out in the draft EA are considerably larger than those proposed in the SEIS and EIS to ensure compliance with design storage allowance provisions. He concluded that the capacity of the proposed water management systems, if operated as intended, would have been sufficient to manage the runoff in the 2010-11 summer rainfall without causing environmental harm.

*Conclusions about flood water management*

[301] No expert evidence was called by the objectors in relation to this objection. Although the experience of other coal mines in the 2010-11 summer was a legitimate concern to the objectors, in the absence of any evidence to the contrary, I consider that Mr Batchelor's opinion should be accepted. I do not consider therefore that the applicants' mine water management plan should be revised in the light of the experience last summer nor do I consider that the draft EA should not be granted until a full assessment of the impact of flooding of coal mines has been conducted.

[302] Mr Bruggemann and Mr Edmonds submitted that a no-release condition should apply so that water may only be released from the mine if its quality is consistent with the natural flow, through treatment if necessary. No evidence was led to challenge the regime established in the draft EA with respect to the control of the release of water from the site. In those circumstances, I make no recommendation in relation to this issue.

**Use of coal seam gas water on roads**

[303] Mr Anderson, Mr Bruggemann, Mr and Mrs Devlin, Mr and Mrs Edmonds, Mr Erbacher, the Juandah Water Board, Mr and Mrs Keys and Mr and Mrs Peake included the following objection -

> *The draft EA does not contain any conditions stipulating that water used for dust suppression on haul roads, and other sites where water is applied to the soil, must be of such quality that it will not damage soil or soil structure.*

[304] The objectors said that associated water from coal seam gas projects in the Surat Basin is one of the potential sources for supply of the mine's construction and operation requirements. The associated water from the Surat Basin coal seam gas fields is damaging to soil structure because it is highly sodic, with high to extreme sodium absorption ratios. Even when the water is treated by reverse osmosis to reduce overall salinity, the high sodicity will remain unless further addressed through chemical treatment or mixing with other water. Application of such highly sodic water to roads or other sites would permanently damage the soil structure on the roads and adjoining land affected by runoff. The applicants' commitments regarding contamination from road watering (SEIS 28-10) are only in the EM plan and therefore unenforceable. In

any case they are inadequate because the proposed monitoring for salinity and sodicity of watered areas and the runoff extensions would only prove irreversible damage after the event. Deterioration of soil structure happens slowly but irreversibly.

[305] Mr Spalding's evidence was that coal seam gas water is a "regulated waste" under the EPA and *Environmental Protection Regulation 2008* because of its salt content. Regulated waste cannot be treated or disposed of without a development permit, except where a beneficial re-use approval has been issued which, under s.13(4) of the EPA, makes it no longer a waste provided it is dealt with in accordance with the conditions of the beneficial use approval.[37] Mr Spalding said that the approvals that have been issued for the use of coal seam gas water require the water to be treated so that it is unlikely to cause environmental harm. Other conditions relate to the way the water is to be used, for example, if it is used for dust suppression. He said that the main purpose of the beneficial use approval is to ensure that the use is of benefit and that there are no negative effects. Further, there are rehabilitation conditions for the mining activities imposed in the draft EA such that the land is required to be restored to its productive state. Mr Spalding's opinion was that it would not be necessary to impose additional conditions about the use of coal seam gas water as all the relevant controls will be in place, either by the operation of the beneficial use approval or the conditions that apply in the draft EA for the mining activities.

[306] Mr Houen submitted that a quality standard should be included in the draft EA for dust suppression water because water from sources other than coal seam gas wells - for example, from the mine's dirty water dams - may be considered for dust suppression and a standard is required in order to protect the soil in and around the watered areas.

[307] My conclusion is that it is not necessary to include an additional condition controlling the use of coal seam gas water for dust suppression on the roads. I have accepted Mr Spalding's evidence that appropriate conditions will be imposed by DERM on a beneficial use approval, which will regulate the use of any waste product,[38] including coal seam gas water or dirty mine water. Further, Condition F1 of the draft EA requires the applicants to rehabilitate land used for roads so that it is suitable for beef cattle grazing.

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[37] As at the date of the application for the EA and at the date of the hearing, s.13(4) of the *Environmental Protection Act 1994* said:

"(4) The administering authority may approve a resource, or a stated type of resource, for subsection (1) if it considers the resource, or type of resource, has a beneficial use other than disposal."

The section was amended in November 2011 so that it now reads:

"(4) For subsection (1), if the approval of a resource under the Waste Reduction Act, chapter 8, is a specific approval, the resource stops being waste only in relation to the holder of the approval."

For the purposes of the issues in this case, the amendment makes no material difference.

[38] See Chapter 8 of the *Waste Reduction and Recycling Act 2011*.

**Deprivation of beneficial flooding**

[308] Mr Bruggemann objected to the draft EA on the ground that "*the project will deprive our property of beneficial flooding"*. He said that Mud Creek will be blocked upstream of his property by the project and will no longer provide beneficial flooding for the property.

[309] Mr Batchelor gave the only evidence in relation to this ground of objection. His evidence was that Mud Creek will not be blocked by the mine operations although it is proposed to divert the creek around the proposed mine. Mr Batchelor said that there will be some reduction in flow due to the capture of runoff from the disturbed mine areas in the pit-process and overburden runoff management system. The reduction in flow will increase as the mine develops, from about 1.5% of mean annual catchment runoff in Year 5 to 13.4% in Year 30. However, Mr Batchelor said, the impact on beneficial flooding will be much less significant. The results presented in the SEIS suggest that at Alcheringa there would be no change to the seasonality of low flows and there would be a 2% increase in the duration of dry spells with flow less than 200 ML/d. Mr Batchelor's conclusion was that the impact of the project on beneficial flooding of Mud Creek is therefore likely to be minimal.

[310] In the absence of any evidence to the contrary, I have accepted Mr Batchelor's evidence in this regard. I do not consider therefore that the likely impact of the project on the beneficial flooding of Mud Creek is such as to warrant further conditioning of the EA.

**Dust**

***The EIS and SEIS***

[311] The EIS identified legislation and guidelines that establish the criteria for acceptable levels of ambient air quality. The EIS was prepared under the *Environmental Protection (Air) Policy 1997* (*EPP (Air) 1997*), which was revised in 2008. The revised policy was used for the SEIS. The *EPP (Air) 1997* identified upper limits for air particulate (dust) pollutants based on exposures that may potentially impact on human health. $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than 2.5 micrometres (µm) and $PM_{10}$ refers to particulate matters less than 10µm in diameter. The revised *Environmental Protection (Air) Policy 2008* (*EPP (Air))* introduced finer particulate size ($PM_{2.5}$) objectives and implemented revised $PM_{10}$ objectives. Finer particulates are of greater concern to human health. The $PM_{2.5}$ objective for 24 hours is 25µg/m³ with an annual objective of 8µg/m³. Five exceedances are allowed per annum taking into consideration background $PM_{10}$ concentration of airborne particulate matter with a diameter less than 10µm.

***The Coordinator-General's report***

[312] A key element of the air quality management applied to the Wandoan Coal Project is the aim of achieving air quality within the allowable limits of the revised *EPP (Air)* policy. The EIS identified Wandoan and 138 rural residences in the vicinity of the MLA areas as sensitive receptors. Residences purchased by the proponent and the proposed site for the mine workers accommodation village were not considered as sensitive places. The EIS and SEIS set out the findings of background air quality monitoring at selected sites.[39] The Coordinator-General's report says that for this project DERM had recommended a dust deposition goal of 120 mg/m²/day based on the annoyance threshold applied in the coal mining areas of the NSW Hunter Valley.

[313] The Coordinator-General determined that a range of conditions should be included in the EA including -

> B1 The release of noxious or offensive odours, or any other noxious or offensive airborne contaminants resulting from the activities to which this environmental authority relates, must not cause a nuisance at any sensitive place.
>
> B2 The holder must implement and maintain best practice dust control procedures that incorporates a program for continuous improvement for the management of dust resulting from the mining activities.
>
> B3 Dust generated by the mining activities must not cause any of the following air quality objectives to be exceeded at a sensitive place:
>
> a. A level of deposited dust of 120 milligrams per square metre per day based on a monthly average; and
> b. A concentration of total particulate matter suspended in the atmosphere of 90 micrograms per cubic metre over a 1 year averaging time.
>
> B4 The holder must take all reasonable and practicable measures to limit the concentration of particulate matter generated by the mining activities with an aerodynamic diameter of less than 10 micrometres, to 50 micrograms per cubic metre suspended in the atmosphere over a 24 hour averaging time with not more than 5 exceedances recorded over 12 months at any sensitive place.

Conditions B5, B6, B7 and B8 required the development and implementation of a dust and particulate matter monitoring control program that provides for management actions in response to periods of elevated $PM_{10,}$ the reporting of those conditions to DERM and the approval of the plan.

[314] These conditions were included in the draft EA.

***Impact of corrosive fallout***

[315] Mr Anderson, Mr Bruggemann, Mr and Mrs Devlin, Mr and Mrs Edmonds, Mr Erbacher, Mr and Mrs Keys and Mr and Mrs Peake objected to the draft EA on the basis that -

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[39] Coordinator-General's report, pp.53 - 57.

*Neither the EIS nor the draft EA addressed the problems of the effect on structures and machinery of corrosive fallout.*

[316] These objectors asked the Court to recommend conditions which protect them in respect of shelter for their farm machinery, repair of corroded structures, loss of grazing and breach of food safety obligations due to coal dust or pollution.

[317] Mr Bruggemann said that he travels widely in the beef producing areas of his region and has talked to many producers in closely settled districts similar to the subject district, where coal mines have been established near properties. He had been told and believed that it was common for outdoor living areas and the roofs of buildings and vehicles or machinery parked out in the open to be covered in dust night after night. He believed that such dust nuisances are occurring at many locations where, in their respective EIS processes, the miners' experts reported that according to their modelling there would be no dust nuisance. Mr Bruggemann said that coal dust is known to be corrosive in coal treatment plants and must also be corrosive on farm improvements. He noted that the applicants' experts had not tried to substantiate the accuracy of their emissions estimation methods with evidence of actual emissions at other comparable sites compared with the estimates that were tendered in the respective approvals processes.

[318] Mr Devlin said that coal and coal dust are corrosive and quoted from a report by Bartosiewicz and Curcio[40] to the effect that -

- The primary objective of this work was to contribute to a reduction in the maintenance costs and production problems found at coal handling and preparation plants;

- The project investigation established corrosion maintenance costs for key equipment/infrastructures at two Bowen Basin and two Hunter Valley mines;

- The maintenance costs analysis for the four selected sites revealed the average costs due to corrosion from three of the plants was approximately $2,000,000 per annum and about $700,000 per annum for the fourth plant.

[319] Mr Devlin also said that he was aware from contacts with other landowners that the Acland mine has provided nearby landowners with at least one shed to shelter machinery and vehicles and that it washes down nearby houses regularly.

[320] Mr Devlin said that fallout of the mine's dust emissions could collect on his roof and gutterings and then contaminate his rainwater tanks. Even if first flush systems were fitted to dispose of the initial flow from the roof, the heavier coal and other dust

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40 *Coal Handling and Preparation Plant (CHPP) Corrosion Control and Management*, May 05, MTI Monash University.

particles would resist flushing and build up, especially in gutters and pipes. Metals such as arsenic and lead would be contained in that fallout.

[321] Mr Simon Welchman, an environmental engineer, gave evidence for the applicants in relation to air quality issues including the issue of corrosive fallout.

[322] Mr Welchman examined the predictions of dust deposition rates for the project presented in the EIS and SEIS for sensitive places outside the MLAs and noted that they were well below the DERM recommended objective of 120 mg/m²/day. Mr Welchman then said[41] -

> "Given that the levels of dust deposition that have been predicted [to occur in sensitive places surrounding the Wandoan Coal Project] are well below those found to cause impacts on residential amenity, such levels are also not expected to cause corrosion of structures regardless of the characteristics of those structures".

*Conclusions about corrosive fallout*

[323] The objectors relied mainly on conversations with landowners in other districts who have apparently experienced problems caused by corrosion from coal dust. The objectors did not lead any expert evidence to demonstrate that coal dust from the project would have a corrosive effect on farm equipment and other structures. The report which Mr Devlin cited was concerned with corrosive maintenance costs at coal handling and preparation plants. It did not deal with the impacts of corrosive fallout in the vicinity of a coal mine. In the absence of any contrary expert evidence from the objectors, I have accepted Mr Welchman's evidence that the estimated levels of dust deposition are not expected to cause corrosion of structures. I do not consider, therefore, that there is sufficient evidence to persuade me to recommend the imposition of conditions concerning corrosive fallout as sought by the objectors.

***Impact of dust on grazing and feedlot***

[324] Mr Anderson, Mr Bruggemann, Mr and Mrs Devlin, Mr and Mrs Edmonds, Mr Erbacher, Mr and Mrs Keys and Mr and Mrs Peake objected to the draft EA on the ground that[42] -

> *Neither the EIS nor the draft EA address the problem of the loss of grazing on pastures where coal dust fallout renders grass unpalatable and is potentially a threat to the food safety certification of our grazing business.*

They have asked the Court to recommend that any grant of the mining leases be subject to a condition that the applicants indemnify them against suspension or loss of their

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41 Expert Report to the Land Court, Exhibit 82, p.24.

42 Mr and Mrs Peake's objection in this regard was in slightly different terms, but the meaning was the same.

Livestock Production Assurance (LPA) certification due to emissions from the mine. They have also asked that the EA be subject to a similar condition.

[325] Mr Bruggemann said that he had grown oats in a paddock on a property near Dalby for about six years. The paddock fronted on to about 1.5 kms of dusty gravel road and dust from passing traffic visibly affected the oats for at least 100m in from the road. He had repeatedly observed that cattle grazing the oats stayed away from the dusted zone. Other than immediately after rain, the cattle fed on the dusted area only as a last resort.

[326] The objectors said that it is generally acknowledged that coal dust (or ordinary dust) deposited on grass makes it unpalatable so that cattle will graze elsewhere and carrying capacity will be lost. It is becoming apparent that grazing cattle on pasture contaminated by coal dust or other coal mining pollutants may in future be treated as non-compliance which puts their food safety certification under the LPA scheme at risk. Under the LPA scheme, cattle producers are required to identify and manage all risks, such as exposure of grazing cattle to unacceptable substances. The objectors said that they cannot manage the risk of exposure to mine emissions other than by permanently removing all stock from the affected areas.

[327] Mr Neil Nelson, an agricultural consultant with qualifications in agricultural science, gave evidence for the applicants. Mr Nelson said that the Upper Hunter Valley has a large concentration of coal mines, with 23 mines in total, 19 of which are operative, covering a disturbance area of 23,700 ha in a total lease area of 69,605 ha. A large number of cattle graze on land adjoining coal mining activities. To his knowledge there have been no meat contamination issues or non-compliance issues in relation to LPA schemes due to contamination by ingested dust.

[328] Mr Bruggemann challenged Mr Nelson's statement concerning the impact of coal mines in the Upper Hunter Valley. Mr Bruggemann noted that the 23 coal mines in the Upper Hunter Valley are spread over a total area of 65,605 ha. By contrast, he said, the Wandoan Coal Project will have a compact lease area of 30,000 ha and will produce 30,000,000 tonnes of coal a year from a single concentrated block immediately adjoining the southern side of his property. The mine's pits and infrastructure extended many kilometres over a 180º arc both west and east from the point where it joins Mr Bruggemann's property and most prevailing winds will pick up mine dust as it comes across his property from the mine. Mr Bruggemann believed that there was no other single concentrated coal mine of this magnitude in Australia, nor anything remotely close to it. He considered that there is no experience, therefore, held by Mr Nelson or

anyone else, from which to judge the cumulative dust generation from the mine or the likely fallout on his farm.

[329] Mr Bruggemann said that the fact that Mr Nelson knew of no meat contamination or LPA non-compliance issues around the Hunter Valley mines due to ingested dust was not a reliable indicator of the future risk which he (Mr Bruggemann) faces from the proposed mine. Risk management is now an everyday obligation on beef producers and in order to obtain LPA quality assurance accreditation, a property risk assessment is necessary. There is no way Mr Bruggemann can risk manage the mine's dust emissions because he will not know their chemical composition. Dust from a diverse range of sources may carry harmful toxins or contaminants making obligatory risk management virtually impossible.

[330] Mr Bruggemann said that one of the reasons his family had purchased Alcheringa was because of its suitability for organic beef production. He could not proceed with the considerable work and cost necessary to achieve organic certification because there would be a serious risk that the mine in such close proximity and its emissions would result in loss of organic certification.

[331] Mr and Mrs Rich objected to the draft EA on the ground that -

> *The impact of the emissions will be such that the environmental authority should not be granted, or alternatively should only be granted if the applicants have an agreement with them which makes provision for the impacts of mine emissions at their sensitive places MLA-505, MLA-531, MLA-548 and MLA-554.*

[332] Mr and Mrs Rich said that the Amber Downs feedlot and residence constitute sensitive places under the draft EA. No noise or dust monitoring was conducted at those sites in preparation for the EIS.

[333] Mr and Mrs Rich are concerned about the impact of the mine on their feedlot operations in terms of the deposition of coal dust on their crops, cattle feed and water supplies affecting cattle health. In particular they are concerned that the exposure to coal dust and heavy metals will cause cattle to become contaminated and cause the feedlot to lose its accreditation. The Richs are also concerned that the increased levels of dust will result in an increase in the incidence of bovine respiratory disease (BRD) at the feedlot which will affect the profitability of the feedlot.

[334] Mr Rich said that the feedlot is accredited under the National Feedlot Accreditation Scheme (NFAS) which means that he must comply with his quality assurance manual and various codes of practice as well as relevant statutory and regulatory requirements.

[335] Mr and Mrs Rich are also concerned about the impact of dust emissions from the proposed mining operations in terms of potential health impacts on themselves. Mr

Rich is particularly concerned that the mine emissions will increase his respiratory problems.

[336] Mr Paul King, an engineer, gave evidence on behalf of Mr and Mrs Rich as to both dust and noise issues. In Mr King's opinion there is no doubt that the proposed open cut mining operations will generate dust which will have an adverse impact upon the continued operations of Amber Downs in terms of grazing operations. Dragline operations, wheel generated dust from haul roads and overburden dumps are significant sources of dust from the proposed mining activities. He said the dust will impact to some extent upon the respiratory systems of cattle and may cause some impact upon vegetation including grasslands, although it was not within his ability to quantify those impacts.

[337] Dr Paul Cusack, a consultant veterinarian and ruminant nutritionist, also gave evidence for the Richs in relation to the potential effect of dust on cattle health. In his report, Dr Cusack relied upon a number of studies to contend that the proposed mining activities are likely to expose the feedlot cattle to dust concentrations that may be harmful to their long-term welfare and increase the incidence of BRD at the Richs' feedlot. Dr Cusack's report also noted that heavy metals occur in coal dust and the drift of coal dust onto the feedlot would result in the deposition of these heavy metals on cattle feed. He said that the risk of contamination by heavy metals would potentially adversely affect market access for the cattle producer.

[338] Under cross-examination, Dr Cusack admitted that none of the research he relied upon concerned the effects of coal dust on cattle. He had no previous experience, nor had he carried out any academic research into the effect of coal mining dust on cattle feedlot health.

[339] Mr Welchman, for the applicants, said that the potential impacts of dust on cattle and cattle feed from operational mining activities would be negligible given that the dust deposition rate outside the MLA areas is predicted to average less than 60 mg/m$^2$/day which is half the recommended daily average of 120 mg/m$^2$/day.

[340] Further, Mr Welchman and Dr Roger Drew (a toxicologist called by the applicants) relied upon a 1992 study by the University of Western Sydney which showed no impact on the behaviour of dairy cattle when coal mine dust was deposited on cattle feed at the rate of 8,000 mg/m$^2$/day, which is 60,000 times higher than the predicted deposition rate for this project.

[341] Mr Welchman also said that the possibility of meat contamination due to the ingestion of particulates from a coal mining operation was "extremely remote". He relied upon a

US study where it was found that steers fed a diet of heavy metal and sewerage sludge did not experience any different weight gain and no heavy metals were absorbed into the muscle tissue. The heavy metal content of the sewerage sludge was more than 1,000 times higher than that normally found in crustal matter from a coal mine.

[342] Dr Drew conducted a literature review on the role of coal dust in causing BRD. He concluded that there was no evidence that general ambient dust such as may arise from far field sources outside feedlots is associated with BRD. On the other hand, he said there is evidence that dust arising from dried faeces within a feedlot area, to which the feedlot cattle are exposed, is associated with BRD.

*Conclusions about the impact of dust on grazing and feedlot*

[343] The objectors are experienced cattle producers who are engaged in open range grazing of beef cattle and/or intensive feedlotting. They have raised serious concerns about the potentially adverse impacts of coal dust on their cattle as a result of the proposed mining activities. To date they have had no direct experience of such activity in the district and therefore have relied on anecdotal evidence and in the case of the Richs, some expert evidence, to support their submissions.

[344] I do not consider that the expert evidence from either the applicants or the objectors was persuasive. The objectors represented by Mr Houen adduced no expert evidence on the issue. The Richs engaged both Dr Cusack and Mr King; however, Mr King admitted he had no specific expertise on the issue. Dr Cusack appeared to hold the most relevant qualifications, but he had done no research of his own and the studies he relied upon did not relate to the effects of coal dust on cattle.

[345] Nor did Mr Welchman or Dr Drew for the applicants carry out their own research, and the studies they relied upon were also not directly on point. The most relevant study they could identify was the 1992 study in NSW which looked at the effect of coal mine dust on dairy cattle. Although that study supports the view that a much heavier dust deposit than is predicted from this mine would not adversely affect cattle health, it does not carry much weight, in my opinion, as the study is almost 20 years old and did not specifically examine coal mine dust impacts on open range beef cattle or feedlot cattle.

[346] It seems to me that this is an area where the scientific knowledge is incomplete or inadequate because of a lack of research. I find this surprising given the number of mines operating in rural areas across Queensland and in other areas of Australia. The objectors' concern is that coal dust containing heavy metals has the potential to contaminate the cattle that ingest it and I am not satisfied that the current state of

scientific evidence is such as to eliminate those concerns. The fact that the cattle are destined for human consumption is an additional concern.

[347] The situation raises issues of scientific uncertainty which brings the precautionary principle into play. However, the question arises as to what precautionary measures are appropriate. I am not prepared to recommend that a condition be imposed requiring the applicants to either indemnify the objectors against loss of LPA or NFAS certification or to enter into agreements with the objectors about the impact of mine emissions, as those are not responses which address the threat of environmental damage.[43] In any event, there would be difficulties associated with proof of a causal relationship between coal dust emissions and the contamination of particular cattle.

[348] None of the objectors sought any other condition which would appropriately address the possible threats to cattle health. Moreover it is not possible, based on the evidence before me, to identify an appropriate precautionary remedy.

[349] Mr Welchman said, and I have accepted, that outside the MLAs, dust deposition is predicted to average less than 60 mg/m²/day which is well below the draft EA limit of 120 mg/m²/day at sensitive places. Condition B2 of the draft EA also requires the applicant to implement and maintain best practice dust control measures that incorporate a program for continuous improvement.

[350] In those circumstances, I am not persuaded that the threat is such as to warrant a recommendation that the MLAs or the application for an EA be refused. The need to take a precautionary approach does not outweigh all other issues. Given the controls that are required by the draft EA, I do not consider that any further recommendation is open to me concerning the effects of coal dust on cattle.

***Compliance with the limits set by the draft EA***

[351] Mr and Mrs Rich said that the applicants had not shown that they are capable of complying with the dust or noise emission limits prescribed in the draft EA.

[352] Mr King pointed out that the draft EA limit of 50 mg/m³ for $PM_{10}$ over a 24 hour averaging time was not to be exceeded on more than five days per year. He said that the draft EA limit was more stringent than that adopted by the consultant report for the project and imposed greater constraints upon air quality control for the project.[44] However it had not been demonstrated in the EIS or SEIS whether it is possible to

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43 As set out at [256] above, the precautionary principle provides that where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

44 The SEIS air quality report promoted adoption of a $PM_{10}$ 24 hour average limit of 50µm/m³ not be exceeded on more than 35 days per year.

comply with the draft EA limits and, Mr King said, this introduces considerable uncertainty as to whether environmental amenity can be preserved at Amber Downs.

[353] Mr King said that the SEIS predictions at receptor locations identified as being part of the Rich landholding demonstrate that the draft EA $PM_{10}$ 24 hour average criteria would be exceeded for up to 12 days per year once mining operations were under way. He said that to achieve the limits in the draft EA there would have to be changes to the mining operation which may include -

- increasing the distance from mining operations to sensitive receptors;
- modification to mining activities in terms of extraction rates and avoiding concurrent mining of pits; and
- increasing dust control measures, noting however that the modelling assumed best practice dust control measures were in place - thus better than best practice would be required.

[354] Mr King said that the applicants' means of preventing exceedances is to monitor dust levels at nominated receptors surrounding the MLA areas and, using this data together with weather data, to determine appropriate mining operations and the need for high level dust controls. The trouble with this, he said, is that it would typically be reactive, that is, after exceedances or near exceedances occur.

[355] Mr King noted that Mr Welchman had suggested that continuous monitoring stations be established to record $PM_{10}$ including at MLA-505 for Years 5 to 30, to ensure that the risk of exceedances is avoided. Mr King's comment was that while monitoring is a tool to understand what has happened, it is nowhere near as effective as at source dust control and increased separation between the source and the receiver. If the modelling does not demonstrate compliance with high level dust controls, how can monitoring be successfully used to ensure exceedances do not result, he asked.

[356] Mr King recommended that the Woleebee South Pit and the Glen Haven Pit be excised from the MLA areas. Such an excision should be for a distance of at least 4 km from the Amber Downs property and would assist in preserving the air quality amenity at Amber Downs.

[357] Mr Welchman said that the SEIS and draft EA conditions envisage a dust management strategy that has proactive and reactive elements that will ensure compliance with the *EPP (Air)* objectives and draft EA limits. Proactive controls include -

- Implementation of best practice design principles to ensure that dust emissions and potential impacts from the project can be minimised;

- Normal operational controls that are consistent with good practice or best practice depending on the circumstances;

- Implementation of a weather and dispersion forecasting system to identify adverse meteorological conditions that are likely to produce elevated levels of dust due to natural events (ie dust storms) and/or the project.

Reactive controls include -

- Meteorological and continuous $PM_{10}$ monitoring and trigger levels based on the rolling 24-hour average measurements of $PM_{10}$;

- High management controls that are consistent with best practice that will be implemented on critical emission sources in the event of measured levels approaching the trigger levels;

- Further option of modification, relocation or cessation of potentially dusty activities in the event that best practice controls are not able to achieve an appropriate reduction in ambient dust levels.

It is feasible to manage dust emissions using the above proactive and reactive techniques to ensure that the mine does not cause the *EPP (Air)* objectives and draft EA limits to be exceeded, he said.

[358] Mr Ambrose submitted that the Court could not be satisfied that the environmental impact of the project on air quality can or will be adequately managed, because both the Coordinator-General and DERM have misapplied the *EPP (Air).* The air quality at the residence on Amber Downs will be deleteriously affected and this will occur even if the Woleebee South and Glen Haven Pits are not mined, he said. The purpose of the *EPP (Air)* is to achieve the objectives (set out in Schedule 1 to the *EPP (Air)*) of the EPA in relation to the air environment. Both the Coordinator-General and DERM had misapplied the *EPP (Air)* because they had not considered the environmental impact of the project on the receiving environment - instead, the administering authority had approved and conditioned what the project can accommodate. Further, the present conditions regarding air quality have been set to cover the entire 30,000 ha area of the MLAs despite the fact that DERM has sufficient information to condition appropriately taking account of the prevailing winds and season.

[359] Mr Ambrose also submitted that a critical condition in the draft EA is Condition B4 which requires the holder to "take all reasonable and practicable measures" to limit the concentration of particulate matter generated by the mining activities with an aerodynamic diameter of less than 10µm, to 50 $mg/m^3$ over a 24 hour averaging time. Mr Spalding's evidence was that there is no measure of what reasonable and practical measures need to be taken and that such assessment is undertaken by DERM at the time

of the breach particularly when deciding what has caused the breach. The effect of Condition B4, Mr Ambrose said, is that the mine will not be penalised for exceeding the prescribed dust concentration limits in Condition B3 so long as the applicants have taken all reasonable and practicable measures to meet that limit. If the mine proves to be inherently incapable of complying, despite the applicants' reasonable and practicable actions, Mr and Mrs Rich will have no recourse, and non-compliance will continue no matter how bad the emissions become.

[360] Mr and Mrs Rich have presented good reason for the making of an unfavourable recommendation to grant the mining leases, Mr Ambrose submitted, because the operations on the mining leases will cause environmental impacts on the Richs' land which will exceed the draft EA conditions. If the conditions imposed by the Coordinator-General cannot be challenged but are nevertheless inadequate for the purpose required, then the Court ought to recommend unfavourably against the grant of the MLAs due to the unacceptable impact on environmental values.

[361] Mr Welchman's evidence was that the air quality at MLA-505 will deteriorate due to the mine operations. However he also stated that it is common practice for mining assessments to allow a development to go ahead on the basis of demonstrating compliance with the *EPP (Air)* objectives, which would allow any proportional contribution to the air environment below the specified objectives in that policy. Accordingly, compliance with the *EPP (Air)* objectives did not require that a development have no impact on the surrounding air environment.

[362] The applicants submitted that the draft EA limits should remain unchanged for the following reasons -

- The applicants will be obliged by law to comply with the EA conditions. A breach of the conditions would be an offence under the EPA.
- Relying on Mr Welchman's evidence, it is feasible to manage dust emissions using the proactive and reactive techniques set out above.
- Mr King's recommended 4 km buffer has no basis and was not arrived at by any expert analysis.
- Mr King relied upon an incorrect view of the data from the SEIS in forming his opinion that the SEIS underestimated the predicted emissions from the mining operations.
- Condition B4, when read in conjunction with the other dust conditions in the draft EA, was not inadequate.

- In any event, no objection can be made to the Coordinator-General's conditions nor can the Court recommend conditions for the draft EA that are inconsistent with the Coordinator-General's conditions.

*Conclusions about compliance with the draft EA limits*

[363] In my opinion, the evidence has not established that the applicants are incapable of complying with the dust emission limits prescribed in the draft EA. I have accepted Mr Welchman's evidence that the dust emissions can be managed. In any event, as the applicants say, they will be obliged by law to comply with the EA conditions.

[364] Nor do I accept that the environmental impact of the project on air quality cannot be adequately managed.

[365] The evidence is that the air quality at Amber Downs will be adversely affected by the proposed mining operations. However, I have accepted Mr Welchman's evidence that the project will comply with the *EPP (Air)* objectives. Further, as stated above, Mr Welchman said, and I have accepted, that outside the MLAs, dust deposition is predicted to average less than 60 $mg/m^2$/day which is well below the draft EA limit of 120 $mg/m^2$/day at sensitive places.

[366] The air quality objectives in the *EPP (Air)* set the maximum level that an indicator (air contaminant) should be in the air environment of an area or place. As Mr Ambrose points out, the explanatory notes to the *EPP (Air)* indicate that, in achieving the air quality objectives, it is not intended that any part of the existing air environment be allowed to deteriorate. I do not consider this means that no development which produces air emissions can ever be approved. Section 8(4) of the *EPP (Air)* provides that the air quality objectives are to be progressively achieved as part of achieving the purpose of the policy over the long term. Accordingly I do not consider that the Coordinator-General or DERM has misapplied the policy in setting the draft EA limits.

[367] The draft EA limits for $PM_{10}$ are consistent with the air quality objectives prescribed for this contaminant in Schedule 1 of the *EPP (Air)*. These limits were imposed by the Coordinator-General pursuant to s.49 of the *State Development Act*. As concluded above at [47], the effect of s.222(2) of the EPA is that I have no power to contradict or change a condition imposed by the Coordinator-General. Hence I am unable to change the proposed limits in the draft EA.

[368] Further, I am not satisfied, in light of the applicants' evidence that it is feasible to manage the dust emissions, that the proposed MLs should be refused on the basis of the dust objections. Although Condition B4 provides that the applicants must take all reasonable and practicable measures to achieve same, this does not mean that the draft

EA limits are discretionary – rather, it allows the applicants some flexibility as to how they achieve those limits.

[369] Finally, there is no need for me to deal with Mr King's suggestion that the Woleebee South Pit and the Glen Haven Pit be excised from the MLA areas so as to increase the distance between the mining operations and Amber Downs. As discussed at [131], I will recommend that the purpose of the lease over these areas be limited to infrastructure purposes associated with the mining activities.

***$PM_{2.5}$ Monitoring at Amber Downs***

[370] Mr King said that $PM_{2.5}$[45] should be monitored as it is an air pollutant legislated under the *EPP (Air)* and was considered in the EIS and the SEIS predictions. He said that dust monitoring planned as part of the EIS/SEIS and draft EA should include Amber Downs as a location for all mining stages, and should include installation of a weather station for assessing the wind direction at the time of elevated concentrations measured for complaint and compliance assessment.

[371] Mr Ambrose submitted that it would not be an excessive imposition on the applicants to be conditioned to monitor both $PM_{10}$ and $PM_{2.5}$ as both of these are able to be monitored using the same machinery, albeit at some cost.

[372] The evidence is that the smaller particulates are most relevant to assessing the impact of mining on health because the smaller the particulate matter, the deeper it will penetrate the lungs, and the more likelihood there is of harm. The *EPP (Air)* provides that the $PM_{2.5}$ objective for 24 hours is 25µg/m³ with an annual objective of 8µg/m³. Condition B4 of the draft EA provides for a limit of 50 mg/m³ for 24 hours.

[373] While Mr Welchman agreed that the same machinery could be used to measure $PM_{10}$ and $PM_{2.5,}$ although at some cost, he said that it was unusual for a condition to be imposed requiring $PM_{2.5}$ to be monitored where $PM_{10}$ is also to be monitored. This is because $PM_{10}$ includes $PM_{2.5}$. $PM_{10}$ is a range of particle sizes that goes from 10µm down to much finer than 2.5µm, so to measure $PM_{10,}$ $PM_{2.5}$ is covered. A measure of $PM_{10}$ would give the same certainty as to any predictions as to health problems as would be achieved by measuring $PM_{2.5}$, he said.

[374] Mr Welchman also said that the draft EA limit for $PM_{10}$ was defined taking into account the potential that 50% of the $PM_{10}$ will be $PM_{2.5}$. The SEIS showed that around 10% of the $PM_{10}$ emissions from the project will be $PM_{2.5}$. Hence, compliance with the $PM_{10}$ objective will ensure that compliance with the $PM_{2.5}$ objective will be achieved by a relatively greater margin.

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[45] As noted above, $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than 2.5µm.

[375] Mr Spalding also agreed that $PM_{2.5}$ monitoring was not necessary, saying that $PM_{10}$ monitoring was appropriate for a mining operation of this type.

[376] I have accepted the evidence of Mr Welchman and Mr Spalding and, therefore, do not consider that an additional condition should be imposed requiring particulate matter of $PM_{2.5}$ to be monitored.

[377] As a further issue, Mr Ambrose submitted that the administering authority should have devised conditions for the draft EA which take account of the wind direction and the seasons. No evidence was led as to what those conditions might be. It is possible that the weather station proposed by Mr King might assist in this regard but the evidence was such that I am not satisfied as to the utility of a weather station or what other response might be appropriate in this regard.

**Noise**

[378] Mr and Mrs Rich objected to the draft EA on the grounds that -

- *noise from the mine is expected to exceed the limits specified in Condition D2 of the draft EA at the Amber Downs feedlot and residence;*
- *the background noise level of 30 dB(A) for night-time is artificially high and unreasonable in circumstances where the background level has been measured at around 20 dB(A);*
- *the feedlot would suffer adverse impacts from the noise generated by the mining activities.*

***The EIS***

[379] A noise assessment was carried out as part of the EIS by Connell Wagner (now Aurecon) to assess the potential noise impacts of the project on the surrounding environment. The assessment was undertaken in accordance with the *Environmental Protection (Noise) Policy 1997 (EPP (Noise) 1997)* and the EcoAccess Planning for Noise Control Guideline (PFNCG).[46] The assessment included noise monitoring at the following locations[47] in order to establish the existing environmental noise values -

- N1- Nathan Road;
- N2- Wodonga; and
- N3- Town.

These three locations were considered representative of the different types of noise environments in the area. None of the sites were located to the south of the MLA areas on or near Amber Downs.

[380] Noise limits for the project were derived using the methodology contained in the PFNCG, since the *EPP (Noise) 1997* did not contain any specific limits or guidelines

[46] Issued by the Queensland Government, Environmental Protection Agency, July 2004. It appears that the Guideline was issued under the *Environmental Protection (Noise) Policy 1997*.

[47] It appears that the monitoring was directed to measuring noise outside any buildings.

relating to construction activities except for a broad acoustic quality objective of $L_{Aeq}$ 55 dB(A).

[381] Under the PFNCG, a threshold background level of 25 dB(A) is used if the measured rating background level (RBL)[48] is below this value. The ambient noise levels measured at N2- Wodonga, which were applied to the Amber Downs Homestead, were -

| | | |
|---|---|---|
| Day | 45 dB(A) $L_{eq}$ | 25 RBL |
| Evening | 47 dB(A) $L_{eq}$ | 35 RBL |
| **Night** | **38 dB(A) $L_{eq}$** | **19 RBL** |

[382] Proposed noise criteria based on the noise monitoring results at N2- Wodonga were then calculated as follows -

| | |
|---|---|
| Day | 33 dB(A) $L_{eq\ (1\ hour)}$ |
| Evening | 28 dB(A) $L_{eq\ (1\ hour)}$ |
| **Night** | **28 dB(A) $L_{eq\ (1\ hour)}$** |

[383] Sound modelling was undertaken to predict the noise levels from the mining operations under six different scenarios. It was identified that the night-time noise criteria of 28 dB(A) would be exceeded at the homestead (MLA-505) in scenarios 4 and 6 with unattenuated equipment. With attenuated equipment, an exceedance remained for scenario 6 due to the operation of the Woleebee South Pit. The feedlot was not identified as a sensitive receptor in the EIS and therefore noise impacts on the feedlot were not assessed.

***The SEIS***

[384] A further noise assessment was prepared by Aurecon for the SEIS. The assessment adopted different noise criteria from the EIS as the regulatory requirements had changed. Additional modelling was also required as a result of proposed changes to the MLA boundaries.

[385] In the SEIS, noise criteria were calculated using the *Environmental Protection (Noise) Policy 2008 (EPP (Noise))* which had repealed the 1997 Policy. The *EPP (Noise)* provides noise criteria in terms of both "acoustic quality objectives" and the prevention of background creep. An "acoustic quality objective", for an area or place, is defined in Schedule 2 of the *EPP (Noise)* as the maximum level of noise that should be experienced in the acoustic environment of the area or place.

[386] Section 8(1) of the *EPP (Noise)* prescribes the acoustic quality objectives stated in Schedule 1. Relevantly, Schedule 1 provides as follows:

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[48] The RBL is the lowest 10th percentile of the background noise levels for each of the time periods and is derived using the methodology prescribed in the EcoAccess Planning for Noise Control Guideline.

| **Column 1** | **Column 2** | **Column 3** | | | **Column 4** |
|---|---|---|---|---|---|
| **Sensitive receptor** | **Time of day** | **Acoustic quality objectives (measured at the receptor) *dB(A)*** | | | **Environmental value** |
| | | **$L_{Aeq,adj,1hr}$** | **$L_{A10,adj,1hr}$** | **$L_{A1,adj,1hr}$** | |
| dwelling (for outdoors) | daytime and evening | 50 | 55 | 65 | health and wellbeing |
| dwelling (for indoors) | daytime and evening | 35 | 40 | 45 | health and wellbeing |
| | **night-time** | **30** | **35** | **40** | **health and wellbeing, in relation to the ability to sleep** |

[387] As Mr King said in his report -

- $L_{eq}$ = An "average" measurement, and as per AS1055.1-1997 is defined as the value of the sound pressure level of a continuous steady sound state, that within a measurement period has the same mean square sound pressure as a sound under consideration whose level varies with time.

- $L_{10}$ = Noise level exceeded for 10% of the measurement period, referred to as the average maximum sound pressure level.

- $L_1$ = Noise level exceeded for 1% of the measurement period, referred to as the adjusted maximum sound pressure level.

[388] Section 10 of the *EPP (Noise)* provides as follows -

> "**10 Controlling background creep**
>
> (1) This section states the management intent for an activity involving noise.
>
> (2) To the extent that it is reasonable to do so, noise from an activity must not be –
>
> (a) for noise that is continuous noise measured by $L_{A90,T}$ – more than nil dB(A) greater than the existing acoustic environment measured by $L_{A90,T}$; or
> (b) for noise that varies over time measured by $L_{Aeq,adj,T}$ – more than 5 dB(A) greater than the existing acoustic environment measured by $L_{A90,T}$."

[389] Noise generated in carrying out the project will vary over time. Accordingly, the SEIS calculated the following noise criteria based on the ambient noise levels measured in the EIS for N2- Wodonga using the controlling background creep procedure for noise that varies over time -

| Location | Time of Day | RBL (dB(A)) | Controlling Background Creep (dB(A)) $L_{Aeq, 1 hour}$ | Acoustic Quality Objectives (dB(A)) $L_{Aeq, 1 hour}$ |
|---|---|---|---|---|
| N2-Wodonga | Day | 25 | 30 | 50 |
| | Evening | 35 | 40 | 50 |
| | **Night** | **19** | **24** | **30 (indoor)** |

[390] The SEIS then went on to dismiss the background creep criteria of 24 dB(A) for night-time as -

> "… impractical to apply given limitations in the accuracy of noise measuring equipment at such low noise levels. The limitation in accuracy relates to the internal electrical noise levels of current sound monitoring equipment. Use of a minimum background noise level can provide reasonable "Controlling background creep" criteria for this Project to protect the amenity of the community."[49]

[391] The *EPP (Noise)* does not identify any threshold background noise level. However, as discussed above, the PFNCG does – it identifies a threshold background level of 25 dB(A) for low noise environments, resulting in a night-time criterion of 28 dB(A) $L_{eq}$ (outside).[50]

[392] Aurecon determined that a threshold background level of 30 dB(A) would be more appropriate and further, that it could be increased to 35 dB(A) using the background creep criteria in the *EPP (Noise)*.

[393] The following passage from the SEIS explains:[51]

> "It is proposed that a threshold background noise level of RBL 30 dB(A) be set leading to minimum background creep criteria of $L_{Aeq,1 hour}$ 35 dB(A) (based on the EPP (Noise) Background + 5 dB procedure). This approach is consistent with what is considered reasonable generated noise levels for developments in very rural environments such as wind farm developments around Australia assessed against *EPA(SA) Environmental Guidelines: Wind Farms*, as well as industrial developments in NSW (based on the *NSW Industrial Noise Policy*) and Victoria (based on *SEPP N-1*). Each of these assessment methods provides a base noise limit of $L_{Aeq}$ 35 dB(A). The proposed $L_{Aeq,1 hour}$ 35 dB(A) external noise criterion outside a dwelling will also satisfy the EPP (Noise) Acoustic quality objective for indoor night time level of $L_{Aeq,1 hour}$ 30 dB(A) which assumes a conservative 5 dB(A) noise reduction across a bedroom façade with a large open window."

[394] The table below summarizes the proposed night-time criteria identified in the SEIS -

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49 SEIS, Chapter 15, section 15.3.1, p.15-3.

50 Based on the methodology in the PFNCG of background noise level plus 3 dB(A) during the night-time period.

51 SEIS, Chapter 15, section 15.3.1, pp.15-3, 15-4.

| Location | Time of Day | RBL (dBA) | Controlling Background Creep (dBA) $L_{Aeq,1\ hour}$ | Acoustic Quality Objective (dBA) $L_{Aeq,1\ hour}$ |
|---|---|---|---|---|
| N2-Wodonga | Night | 30 | 35 | 35 * |

* Assumes a 5 dB(A) noise reduction across a bedroom façade with a large open window to satisfy the *EPP (Noise)* acoustic quality objective for indoor noise levels for dwellings at night time of $L_{Aeq}$ 30 dB(A).

[395] The EIS noise prediction modelling was also revised in the SEIS following proposed changes to the MLA boundaries (and the subsequent removal of some sensitive receptors), the removal of the Woleebee South Pit and the addition of the new Wubagul Pit. The Amber Downs feedlot was also included as a sensitive receptor (MLA-531).

[396] The SEIS noise predictions demonstrated that the previous exceedances at the Amber Downs Homestead (MLA-505) would now comply with the revised noise assessment criterion of 35 dB(A) for all operating scenarios following the removal of the Woleebee South Pit. Noise levels at the feedlot (MLA-531) were also shown to comply with the criterion.

***The Coordinator-General's report***

[397] Relevantly, the noise conditions in Schedule 3 to the Coordinator-General's report state -

> **D1 Noise Nuisance**
> Noise from the mining activity must not cause a noise nuisance at any sensitive place.
>
> D2 All noise from the mining activity must not exceed the levels specified in Table D1 at any sensitive place.
>
> D3 Noise is not considered to be a nuisance under condition D1, if monitoring shows that noise from the mining activity does not exceed the following levels in the time periods specified in Table D1.
>
> **Table D1: Noise limits for mining activity (sensitive place)**

| Noise Level [dB(A)] (outside) at a 'Sensitive Place' expressed as | Monday to Sunday | | |
|---|---|---|---|
| | 7am – 6pm | 6pm – 10pm | 10pm – 7am |
| $L_{Aeq,adj,15\ mins}$ | 42 | 35 | 35 |
| $L_{A1,adj,15\ mins}$ | 55 | 50 | 40 |

> **Noise Monitoring**
> D4 Monitoring of the receiving acoustic environment shall be conducted at the locations described in Table D2 [not reproduced here] and shown on Figure

D1 [not reproduced here] for the duration shown in Table D2, or alternative locations as agreed with the administering authority.

…

D8 If monitoring indicates exceedance of the relevant limits in Table D1, then the environmental authority holder must:

(a) if the monitoring is relevant to a complaint, the holder must address the complaint including the use of appropriate dispute resolution if required; and

(b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.

…

[398] These conditions were included in the draft EA. The definition of "sensitive place" in the draft EA includes a dwelling and a work place used for business or commercial purposes.

***Whether the background noise level of 30 dB(A) is artificially high and unreasonable***

[399] Mr King gave evidence for the Richs and Dr Neil Mackenzie gave evidence for the applicants. Dr Mackenzie is an engineer with broad expertise in noise and vibration engineering.

[400] Mr King conducted his own noise monitoring outside the Amber Downs homestead over a period of 4 days/nights and at the feedlot over a period of 2 days/nights. He determined the rating background levels as follows (for comparison's sake, the RBL data for N2 from the EIS are also shown) -

| | **RBL (dB(A))** | | |
|---|---|---|---|
| | **Homestead** | **Feedlot** | **N2- Wodonga (EIS)** |
| Day | 19 | 27 | 25 |
| Evening | 18 | 18 | 35 |
| **Night** | **17** | **18** | **19** |

[401] Mr King expressed concerns about the validity of the N2 data being used as representative of Amber Downs given that the relative separation of Amber Downs from the Leichhardt Highway is significantly larger than that of N2- Wodonga. In Mr King's opinion, actual noise monitoring at or nearer to Amber Downs should have been used in the calculation of noise criteria for the project. In his view, his site specific data provides better data for the purpose of impact assessment. That data shows that the background acoustic amenity of Amber Downs is much quieter than the applicants suggest.

[402] Dr Mackenzie said that the N2- Wodonga site is representative of the Amber Downs homestead site given its open rural setting with negligible traffic noise contribution and

given its distance 4 km west of the Leichhardt Highway. He said that the noise monitoring conducted by Mr King was inadequate in duration to provide a proper representation of long term ambient environmental conditions as required by the relevant Australian Standard AS1055 (1997) *"Acoustics – Description and Measurement of Environmental Noise"*.

[403] Dr Mackenzie further noted that the measured noise levels determined by Mr King and Aurecon are consistent, other than for evening which has a noticeable variation. Mr King says insect noise was probably a contributor to the higher evening noise levels measured by Aurecon and suggested that the insect noise should have been removed. Dr Mackenzie disagreed on the basis that it is usual for insects in a rural setting to contribute to the background noise in the environment. He attributed the variation to the inadequacy of Mr King's monitoring. It appears that Mr King had removed insect noise in his calculations whereas Dr Mackenzie did not.

[404] Mr King relied on the PFNCG methodology to calculate a night-time noise limit for Amber Downs of 28 dB(A), which is consistent with the EIS despite his criticisms of such. However, it appears he placed no weight on the *EPP (Noise).* In Mr King's view, the noise assessment should be based upon an intrusiveness criterion such as background plus excess as is provided for in the PFNCG. He contended that the acoustic quality objectives of the *EPP (Noise*) are not intended to be used as noise criteria for development assessment but are a goal to be achieved for noise reductions in higher noise environments. He relied upon s.8(3) of the *EPP (Noise)* which states -

> "**8 Acoustic quality objectives for sensitive receptors**
>
> (3) It is intended that the acoustic quality objectives be progressively achieved as part of achieving the purpose of this policy over the long term."

[405] The SEIS noise report proposed a night-time criteria of 35 dB(A) (outside) based on the *EPP (Noise).* Mr King says about this:[52]

> "Adoption of 35 dB(A) as a nighttime noise limit in an area where nighttime ambient background noise levels are significantly less than 20 dB(A) does not provide for appropriate protection of acoustic amenity on the basis of 24 hour / 7 day mining activity. There would [be] significant disturbance to noise sensitive receptors (ie. Amber Downs MLA-505) if criteria of 35 dB(A) are adopted during the nighttime period."

[406] Dr Mackenzie acknowledged under cross-examination that to jump from a background noise level of 19 dB(A) (which was the RBL for night-time identified in the SEIS for N2) to 35 dB(A) is "certainly a significant increase".

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[52] "Noise, Air Quality and Light Amenity" Report, Exhibit 100, p.16.

[407] Dr Mackenzie explained in his expert report that the limit of $L_{Aeq}$ 35 dB(A) was determined to be reasonable and consistent with industrial developments within rural settings in Australia. He referred to the Department of Environment and Conservation (1993) *Environmental Guideline E3 Noise from Extractive Industries* which states that a minimum of 30 dB(A) for evening and night-time be applied as a lower limit for background noise levels. Using a minimum background noise level of 30 dB(A) results in a noise limit of 35 dB(A) as per the background creep criteria in the *EPP (Noise).*

[408] Dr Mackenzie's supplementary report shed some further light on the derivation of the 30 dB(A) background noise level proposed in the SEIS. He set out the minimum background noise limits prescribed in the Australian Standard and other guidelines as follows -

| **RBL (dB(A))** | **AS 1055 (1997)** | **Wind Farm Guidelines (2009)** | **E3 Guideline (1993)** |
|---|---|---|---|
| Day | 40 | 30 | 40 |
| Evening | 35 | 30 | 35 |
| **Night** | **30** | **30** | **30** |

This demonstrates the basis of the 30 dB(A) background noise level adopted in the SEIS.

[409] Dr Mackenzie further relies on the World Health Organisation (WHO) Guidelines (1999) to support the proposed night-time criterion of 35 dB(A). The WHO Guidelines note that a reduction of 15 dB(A) is achieved in a bedroom with a window partially open. Therefore, he says, based on an indoor limit of 30 dB(A), a noise limit of 45 dB(A) external to a bedroom would have been reasonable in this case.

[410] Mr King says the PFNCG is used in the assessment of noise from extractive industries including quarries and that is the document he used to set a limit of 28 dB(A).

[411] Dr Mackenzie challenged Mr King's preferred noise limit of 28 dB(A) on the basis that if the reduction of 15 dB(A) is applied through a partially open bedroom window, this would result in a noise level of 13 dB(A) within the bedroom. Dr Mackenzie says a noise level of 13 dB(A) is less than that within a world-class concert hall and would be an unreasonable limit.

[412] Dr Mackenzie says that a night-time criterion of 35 dB(A) external to a bedroom results in a noise level of 20 dB(A) within the bedroom with a partially open window. He notes that a noise level of 20 dB(A) within the bedroom is significantly less than the acoustic quality objective of 30 dB(A) within the bedroom. Noise from the mine will be practically inaudible inside a bedroom at night-time and on a worst case scenario,

noise levels might reach 25 dB(A) inside based on predicted noise levels from the mine of 27 to 30 dB(A).

[413] Mr Spalding also says that in his experience in measuring noise, 35 dB(A) is a very low, very stringent level to achieve and that noise at those levels is not going to disturb the Richs' sleep. A 15 minute $L_{Aeq}$ of 35 dB(A) outside the residence would, with sound transmission loss from the building, be likely to be experienced at a level inside the house, in a bedroom, at least 5 and possibly 10 dB(A) less than that. Mr Spalding disagreed with Mr King's proposed noise criterion of 28 dB(A) and maintained that the level set by DERM at 35 dB(A) was appropriate.

[414] Mr Spalding said that in his personal view, with 29 years' experience in dealing with noise issues, a background plus approach is a poor alternative to setting an actual limit. He indicated that the noise limits in the draft EA are consistent with or the same as commonly set by DERM for other mining activities.

[415] It is to be noted that the draft EA noise limit for the night-time period is set at 35 dB(A) $L_{Aeq}$ (15 mins). The SEIS recommended the same noise limit but over a longer averaging period of 1 hour. Mr King acknowledged that "the Draft EA limits are significantly more restrictive than those promoted in the SEIS".[53] Mr Spalding indicated that the shorter averaging period takes into account more effectively short-term noise which is likely to cause sleep disturbance. He went on to say that if an $L_{90}$ limit were set on this operation, the set level would have been lower. Further, he said -

> "… probably the one hour $L_{eq}$ is easier for the EA holder to comply with than the 15 minute $L_{eq}$, because the 15 minute $L_{eq}$ takes into account short-duration events; gives greater weighting to short-duration events than the one hour $L_{eq}$ would."[54]

[416] Despite the EA limits being more restrictive, Mr King says it remains his opinion that 35 dB(A) during the night-time period will not adequately protect the amenity of Mr and Mrs Rich. In his view, the more appropriate limit is the 28 dB(A) criterion derived from the PFNCG as a 1 hour average $L_{Aeq}$.

[417] Mr Ambrose submitted that the Court could not be satisfied that the ambient or background noise on the Richs' property had been adequately measured. Consequently the impact of the project on the environment could not be assessed. An acoustic assessment ought to be carried out at Amber Downs to determine the current acoustic environment at the residence and the feedlot to determine the values to be protected.

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53 Exhibit 100, p.19.

54 T5-63.12-19.

[418] Mr Ambrose also submitted that the conditions proposed by the draft EA were inadequate to assess that impact. To permit noise at the Amber Downs residence at night to rise from 19 dB(A) to 35 dB(A) is unreasonable. Either or both the Coordinator-General and DERM had misapplied the *EPP (Noise)* in setting the permitted conditions for evening and night-time limits for the project. The whole of the *EPP (Noise)* should be taken into account when considering the adequacy of the draft EA conditions. The explanatory notes to the *EPP (Noise)* provide that it is not intended, as part of achieving the acoustic quality objectives, that any part of the existing acoustic environment be allowed to deteriorate. The acoustic quality objectives are the maximum noise levels that should be experienced in the acoustic environment for an area. The objectives are to inform the decision-making process including any conditions relating to noise levels in relation to the decision. Further, if the conditions proposed in the draft EA cannot be challenged because they are set by the Coordinator-General, the MLAs ought to be refused while such conditions remain.

*Conclusions about the background noise level*

[419] The draft EA establishes an outside noise limit of 35 dB(A) $L_{Aeq,adj,15\ mins}$ at sensitive places for evening and night-time. The Richs say that this is unreasonable. It is higher than the existing noise level of 17 dB(A) at the Amber Downs residence as measured by Mr King and 19 dB(A) at N2- Wodonga. Mr King relied on the PFNCG methodology to propose the level of 28 dB(A) for outside at night-time and did not take into account the *EPP (Noise)*, although it appears the PFNCG was overtaken by the revised *EPP (Noise) 2008*.

[420] There was inconsistent evidence as to the appropriate adjustment to be made for measuring the noise levels inside a dwelling. In the SEIS, the applicants assumed a conservative 5 dB(A) noise reduction across a bedroom façade with a large open window. Dr Mackenzie relied on the WHO Guidelines to deduct 15 dB(A) in his evidence. Mr Spalding said that the reduction for sound transmission loss through buildings would be between 5 and 10 dB(A). Adopting a conservative approach by assuming a reduction in the noise level of 5 dB(A), the level inside a bedroom at a sensitive place at night-time would be 30 dB(A) based on the draft EA limit of 35 dB(A) for outside.

[421] The relevant acoustic quality objective in the *EPP (Noise)* for a dwelling indoors at night-time is 30 dB(A) $L_{Aeq,adj,1\ hour}$ which is consistent with the limit of 35 dB(A) set in the draft EA for outdoors after allowing for sound transmission loss through buildings.

[422] Further, the 35 dB(A) limit in the draft EA is to be measured on a 15 minute averaging period. The 15 minute averaging period is a stricter limit than that proposed by the applicants in the EIS/SEIS and also by Mr King (whose proposed limit of 28 dB(A) was based on a 1 hour average $L_{Aeq}$) and it will more effectively take into account short-term noise which is likely to cause sleep disturbance. The evidence of both Mr Spalding and Dr Mackenzie was that the Richs' sleep would not be adversely impacted by a 35dB(A) outdoors limit.

[423] For the reasons discussed above in relation to the *EPP (Air)*, I do not accept that the effect of the *EPP (Noise)* is to prevent the approval of a project that contributes noise to the existing acoustic environment. Although the explanatory notes to the *EPP (Noise)* say that it is not intended that the existing acoustic environment be allowed to deteriorate, there is nothing in the terms of the *EPP (Noise)* reflecting that intention. The *EPP (Noise)* defines an acoustic quality objective as the maximum level of noise that should be experienced in the acoustic environment of an area or place. Those words are clear and effect should be given to them. Accordingly, I do not consider that the Coordinator-General or DERM has misapplied the policy in setting the draft EA limits.

[424] I also do not consider that the failure to measure the existing noise levels at the Amber Downs homestead and feedlot means that the applicants' approach has been flawed. It is sufficient that the draft EA limits have been set consistently with the acoustic quality objectives in the *EPP (Noise)*.

[425] In any event, the limits set in the draft EA cannot be altered because they were imposed by the Coordinator-General.

[426] On that basis, I am not persuaded that the proposed MLs should be refused because of noise considerations.

***Whether noise from mine will exceed the limits in Condition D2***

[427] Mr King also carried out a desktop assessment of noise levels from the proposed mining activities using the EIS and SEIS data. He looked at three scenarios:

1. Mining includes the Woleebee South Pit;
2. Mining includes the Glen Haven Pit;
3. Mining does not include the Woleebee South or Glen Haven Pits but includes the Woleebee Pit.

[428] On the basis that I have recommended that the Woleebee South and Glen Haven Pit areas be granted for infrastructure purposes only, it is only relevant to consider Mr King's predicted noise levels (outside) for his scenario 3, which were at Amber Downs -

| | |
|---|---|
| Residence | 32.5 dB(A) $L_{Aeq}$,1 hr |
| Feedlot | 32.6 dB(A) $L_{Aeq}$,1 hr |

[429] I do not consider it has been established that noise from the proposed mining operations will exceed the limits specified in Condition D2 of the draft EA. Mr King's predicted noise levels of 32.5 dB(A) $L_{Aeq,1\ hr}$ at the Amber Downs homestead and 32.6 dB(A) $L_{Aeq,1hr}$ at the feedlot are within the draft EA limit of 35 dB(A) based on unattenuated noise data. It may therefore be expected that the noise levels will in fact be less than predicted by Mr King.

***Feedlot Impacts***

[430] Evidence was given on behalf of the Richs as to the impact of blasting on the feedlot cattle. As the Richs' objections relating to the impacts of blasting on their cattle were withdrawn by Mr Ambrose at the commencement of the hearing, I have not considered this evidence.

[431] Dr Cusack said that the animal welfare effects of extraneous dust and noise would make it very difficult for the feedlot to meet its obligations under the NFAS. He referred to a report from the US Air Force, which indicated that feedlot cattle were at risk of rushing and injuring themselves when exposed to the noise of low flying aircraft. The period of greatest risk is the adaptation period, the first three weeks in the feedlot. If the cattle panic and rush there could be a significant number of deaths and injuries. The cattle were also at risk of reduced weight gain.

[432] Mr Rich said it is important that the feedlot cattle are subjected to as little stress as possible as excessive noise could spook cattle, cause them to go off their feed and cause elevated PH levels which result in darker meat which is heavily discounted in the market place. The cattle were spooked for an unknown reason some three or four years ago, resulting in fences and cables being destroyed, the death of two cattle and injury to a number of others. He and his wife believe the stampede may have been caused by an Air Force jet breaking the sound barrier.

[433] Mr King said that the predicted mining noise will have an adverse impact on cattle grazing and the feedlot. However, he acknowledged under cross-examination that he does not have any expertise as to the impact of noise on cattle.

[434] The applicants' evidence is that feedlots have considerable background noise from, for example, trucks, mixers, tractors and other cattle. That is consistent with Mr King's measurements at the feedlot which demonstrate an average noise level of 43 dB(A) some 350m away from the feedlot, including some noises exceeding 67 dB(A).

[435] In light of the evidence discussed above concerning compliance with the draft EA limits and the evidence as to the existing noise levels at the feedlot, I do not consider that the evidence concerning the noise emissions from the mining operations was such as to persuade me that they will have an adverse effect on the feedlot cattle.

**Section 269(4)(l) MRA - Other good reason - The Richs' submissions**

[436] Mr Ambrose submitted that under s.269(4)(l) of the MRA there were other good reasons why the mining lease should not be granted. The applicants have created uncertainty in relation to the extent of and use of exclusion zones with regard to fly-rock.

[437] Further Mr and Mrs Rich are concerned about the unreliability of the applicants' modelling such that they continue to have genuine concerns about the impact on cattle health from air quality and will continue to do so until they experience the mine in operation and accurate testing is undertaken. Indeed this may be the first time cattle health is assessed in detail and this may well be the evidence required as to the effect of coal mines on feedlot cattle. Mr and Mrs Rich are not satisfied that Dr Cusack's concerns are not warranted.

[438] The feedlot operations are NFAS accredited which requires the Richs to comply with their quality assurance manual. The cattle are grain fed cattle and as such are more valuable than grass fed cattle. To be classified and sold as grain fed cattle, the feedlot must be NFAS accredited. Mr and Mrs Rich are concerned that the impact of dust, while presently untested, will have an adverse effect on cattle and could cause them to lose their NFAS accreditation.

[439] I do not consider that any of the matters identified above provide good reason for the refusal of the MLAs. The evidence is that a blasting exclusion zone of 600m will apply at this mine where feasible.[55] I have previously dealt with the impacts of the dust and noise emissions from the mine, including the possible loss of accreditation. My conclusions in that regard need not be repeated.

***Additional objection - 'At Risk' agreement***

[440] Mr and Mrs Rich lodged a separate additional ground of objection to the MLAs, which is also relevant to a consideration of s.269(4)(l) of the MRA -

> *That unless the micro social impacts identified in the facts and circumstances hereafter can be adequately addressed by appropriate conditions or otherwise, the application should be refused as being against the public right and interest and/or being a good reason to so refuse.*

[55] See [95].

[441] Mr and Mrs Rich say that neither the Coordinator-General's report nor the draft EA have had sufficient regard to the extensive social impact of the project on landholders such as themselves. They will be on the edge of one of the world's largest coal mines with an uncertain future. The effect of the process has been extremely distressing and upsetting and the uncertainty has forced them to abandon their expansion plans. As a result they are prone to depression. They are concerned about their quality of life and the adverse impact of the mine on the value of their property. They believe that a provision akin to the "at risk" provisions of the MRA should apply to them because of their proximity to the mine and the uncertainty created by the Woleebee South Pit. Under the "at risk" principles they could have the option of forcing the acquisition of their property at market value plus a premium to recognize what would effectively be a constructive compulsory acquisition.

[442] No further submissions were made nor any evidence led about this ground of objection.

[443] Section 276(7) of the MRA provides -

> "**276 General conditions of mining lease**
>
> (7) A mining lease granted after the commencement of the *Mineral Resources Amendment Act 1998* is subject to a condition that the holder comply with the At Risk agreement."

[444] The 'At Risk' agreement was not before the Court. If the agreement applies, then Mr and Mrs Rich will have the rights generated by the agreement. If it does not, the Court does not have power to extend the operation of the agreement, the terms of which are as endorsed by Cabinet.[56]

**Blasting**

[445] Mr Anderson said that there was undoubtedly a risk from blasting to the groundwater resources on which he depended and no provision has been made to deal with the risk. Mr Edmonds was also concerned about the impacts of blasting on the Grosmont Bore and his private bores.

[446] No evidence was adduced on behalf of Mr Anderson or Mr Edmonds in support of these objections.

[447] Mr Andrew Scott, a mining engineer who practises in the area of blast engineering for coal and metalliferous mines, said that the nearest pit to Mr Anderson's property was the Turkey Hill Pit, the edge of the pit being about 2,260m from the nearest bore on Mr Anderson's property. Blasting in the area will be quite shallow, Mr Scott said, and the resulting ground vibration and airblast pressure experienced at the site of the bore will

[56] See the definition of At Risk agreement in Schedule 2 of the *Mineral Resources Act 1989*.

be very low compared with the levels required to cause any damage. It appears that Mr Edmonds' objection was overlooked in Mr Scott's report.

[448] In any event, my conclusion is that these grounds of objection have not been established.

**Loss of or restricted access to property by closure of bridge and roads**

[449] A number of objectors whose properties lie within and outside the MLA areas, have objected to the MLAs on the ground that it is proposed that various roads will be closed and/or realigned.

***Inside MLA areas***

*Road closures to the Edmonds and Erbacher properties*

[450] Mr and Mrs Edmonds and Mr Erbacher's ground of objection was -

> *The mining plan would restrict road access to our property and others.*

[451] Mr Edmonds and Mr Erbacher believed that their properties will be deprived of access due to road closures after Year 4 of the project. No alternative access was offered. So long as they retained ownership of their properties, they said, they were entitled to retain public road access. In particular, Mr Edmonds said he was entitled to access to, and the use of, the areas of restricted land and that part of the property (which he estimated was about 600 ha) which was not required for mining pits.

[452] Evidence was given by Mr John Greenwood who is employed by Xstrata as a project manager of mining infrastructure for the project. Mr Greenwood's evidence was that under the current mine plan, the Edmonds' properties will not be accessible by public road following the end of operational Year 4 of the project when Booral Road between Kabunga Road and Grosmont Road is closed. Similarly, Mr Erbacher's property will not be accessible by public road following the end of operational Year 4 when Grosmont Road is closed between the Government Bore on Lot 56 on Crown Plan FT987 and Woleebee Creek. Mr Greenwood said that the reason the applicant had not planned public access roads to the properties of Mr and Mrs Edmonds and Mr Erbacher after operational Year 4 is that these properties are situated within the MLA areas. In oral evidence he said that, should those properties still be owned by the Erbachers after Year 4, plans will be developed to provide them with access.

[453] Mr and Mrs Edmonds and Mr Erbacher also said that the applicants did not intend to widen the Woleebee Creek bridge leaving their area without a wide vehicle crossing which is vital for moving farm machinery especially combine harvesters. Extreme wet weather access would be lost unless the applicants built a high level bridge over

Woleebee Creek for access to its accommodation camp and that bridge was made available to the public and connected by an all-weather road to Booral Road.

[454] Mr Greenwood said that when Grosmont Road is closed at the commencement of construction of the mine it will not be possible to transport a combine harvester from the objectors' properties to the Leichhardt Highway along that road. Mr Greenwood said that the applicants expected a new mine access road to be completed within 9 to 12 months of the commencement of the construction of the project. During the period when the new road is under construction the applicants will make available to local landholders alternative means of controlled access across the MLA areas to and from the highway for wide vehicles, on application and with reasonable notice.

*Conclusions about access to the Edmonds and Erbacher properties*

[455] The evidence has established that no access is proposed for any loads, wide or otherwise, to these objectors' properties after the end of operational Year 4 of the mine. Further, from the commencement of mine construction, access for wide vehicles such as combine harvesters will be closed. During the period from the commencement of construction until the end of operational Year 4, controlled access will be available for wide loads, on reasonable notice from the landowners.

[456] Although parts of the Edmonds and Erbacher properties will be used for mining purposes, the owners are entitled to retain the use of the restricted land on these properties and, as discussed above, my recommendation will be that they retain use of their water pipelines and associated land. Therefore, I consider that while these properties remain in the ownership of persons or entities other than the applicants, public access should be maintained, as it is not in the public interest that properties be landlocked and landowners be deprived of access to their properties. Accordingly, my recommendation is that the grants of the mining leases be conditional on the applicants providing continuing access via public roads to the same standard as currently exists to the Edmonds and Erbacher properties as set out above.

***Outside MLA areas***

[457] Mr Anderson, Mr Bruggeman, Mr and Mrs Devlin and Mr and Mrs Peake also objected to the restrictions imposed by the mining plan on road access to their properties. Their objections are largely in the same terms as Mr Erbacher and Mr and Mrs Edmonds although there are specific variations for particular properties.

*Mr and Mrs Devlin*

[458] Mr Devlin's complaints about access relate to heavy load access, wide load access and the additional travel time caused by the diversions of roads, which will adversely impact his fuel contracting business.

[459] The evidence established, and this was accepted by Mr Devlin, that it is proposed that heavy load access to Mr Devlin's property will be available via Grosmont Road from the commencement of construction until the end of Year 1 operations and via L Road from Year 2 operations onwards.

[460] With respect to wide loads, Mr Devlin accepted that vehicles will be able to use Bundi Two Road but, if that is unsuitable in wet weather, an alternative route is available via Bundi Road. Mr Devlin also accepted that access would be available for vehicles up to 5.5m wide which would accommodate tractors etc. However, that is less than the current access across the Woleebee Creek bridge where a cutting of 17.5m currently exists. Mr Devlin's complaint was that the applicants had promised at a public meeting that there would be no downgrade to the existing facilities available to landowners yet this cutting would be reduced considerably.

[461] Mr Devlin's third issue related to the extra time involved in using the proposed diversions. He explained that the driver who brings bulk fuel to Mr Devlin's property from Brisbane as supply for his fuel contracting business is limited by safety regulations to driving for a 14 hour period at any one time. Mr Devlin said that, using the diversionary routes, the return trip to Brisbane cannot be completed in 14 hours and therefore there will be extra expense for his business.

[462] The evidence showed that One Arm Man Creek bridge will be upgraded at the end of the first year of operation of the mine (that is allowing for two or three years of construction plus one year of operation) which will end the need to take the diversionary route.

*Conclusions about access to Mr and Mrs Devlin's property*

[463] The evidence has established that heavy load access will be available at all times to the Devlins' property. It was also established that for a period of three or four years from the commencement of construction, Mr Devlin will face additional expense in operating his fuel contracting business. The Devlins are not entitled to compensation for that monetary loss as their property is outside the MLA areas. However the disruption to their access is a matter I may take into account, under s.269(4)(l) of the MRA, in considering whether any good reason has been shown for a refusal to grant the mining lease.

[464] From a practical point of view it seems that the reduction in the cutting will impact only on wide loads such as the removal of houses but that otherwise the day to day operations of the landowners will not be impacted. I therefore make no recommendation in this regard.

*Mr Anderson*

[465] Mr Anderson's evidence was that in Year 7 the applicants will close both Ryals Road and Cecils Road eliminating road access from his property to Wandoan and the Leichhardt Highway (Booral Road having closed in Year 4 and Kabunga Road also closed in Year 7).

[466] The plan annexed to Mr Greenwood's affidavit (Exhibit 4) shows a new road from the north-east corner of Mr Anderson's property running south-east to a junction with Cecils Road. That would give access from the Anderson property to Wandoan and the highway via Bundi Road and the realigned Jackson-Wandoan Road. However, Mr Anderson said that Mr Greenwood's affidavit revealed nothing about the new road - whether it will be bitumen surfaced and provided with adequate all weather creek crossings. Mr Anderson requested that the Court impose a condition requiring that the road be bitumen all weather standard.

[467] Mr Greenwood's evidence was that the new road from Kabunga Road round the western end of MLA 50229 to intersect Cecils Road would be bitumen surfaced and built to a standard acceptable to the Shire Council.

[468] In the light of that evidence I do not consider it is necessary to impose the requested condition.

*Mr Bruggemann*

[469] Mr Bruggemann's evidence was that he needs to travel by road to Alcheringa regularly, around twice a week, and to truck cattle frequently between Alcheringa and the other family property, Killara, to the south west. The cost of the transport is significant. He said that his travel and trucking costs will be significantly increased by the closure of the roads currently used because he will have to take longer routes.

[470] Mr Bruggemann said that, having listened to Mr Greenwood's evidence as to the upgrading of Cecils Road and the alternative route, he believed that would be acceptable. However he would need some compensation to address the extra distance.

[471] Mr Bruggemann will not be entitled to compensation under the MRA because the Bruggemann property is outside the MLA areas. I will, however, take his objection into account in considering 269(4)(l) of the MRA.

*Mr and Mrs Peake*

[472] Mr and Mrs Peake said that Peake's Road, which is their main and most important means of access to their property, would be permanently closed as it will be intersected by a haul road. Mr Peake believed that he and his wife were entitled to arrangements which maintain access via Peake's Road. Ideally that would be via an overpass across the haul road. If an overpass were genuinely not feasible then access could be via a level crossing controlled by traffic lights. He was aware of a similar crossing in a coal mining lease west of Nebo. Alternatively, boom gates could be installed to control the crossing with the haul road.

[473] A further acceptable alternative would be the construction of a new all weather road north-east from his property entrance to join the Leichhardt Highway thus providing alternative access to Wandoan which would substantially lessen the extra travel distance compared to Burunga Lane.

[474] Mr Greenwood's evidence was that part of Peake's Road will be closed with alternative access to be provided by Burunga Lane which will be upgraded to provide good quality alternative access to the Peake's property.

[475] Mr Peake said that this proposal was totally unacceptable as the result would be that the trip to Wandoan from his property would be 13 km longer each way. He estimated the resultant additional distance to be travelled per year would be 5,500 km and said that he and his wife would need to be compensated for that extra cost. Their present access to services, especially emergency and health services, would be significantly diminished by the extra distance. The value of their property would also be reduced by the longer distance because of the added inconvenience. Mr Peake said that Burunga Lane is not all weather and not comparable with their existing access via Peake's Road. Substantial works would be required to make Burunga Lane an all weather bitumen sealed road.

[476] Mr Houen asked that the Court recommend that any lease be conditional upon Peake's Road remaining open with a level crossing over the haul road controlled either by traffic lights or boom gates.

[477] The applicants submitted -

- That an overpass bridge is a significant piece of infrastructure that would benefit only Mr and Mrs Peake;

- That a level crossing is unacceptable from a health and safety perspective because Mr Greenwood's evidence was that mixing light vehicles and heavy haul trucks at the same elevation is not a safe practice;

- That the alternative road proposed by Mr and Mrs Peake from the north-east of their property would appear to cross the proposed Woleebee Pit or a proposed haul road.

Mr and Mrs Peake had not identified the precise route of such a road. In any event it is a road intended only for Mr and Mrs Peake's benefit on the area of the proposed mining lease.

- The applicants have committed to upgrading Burunga Lane which currently is not an all weather road.

- There was no evidence that the extra distance to Wandoan would diminish the Peakes' access to emergency and health services and reduce the value of their property.

- It is inappropriate for the Court to impose conditions requiring the applicants to construct public roads or upgrade existing roads to specific standards. The applicants do not have unilateral power to construct or upgrade public roads which are the province of the Department of Transport and Main Roads or the relevant local council. The Coordinator-General has already imposed conditions with respect to transport and the required arrangements between the applicants, the Department of Transport and Main Roads and the relevant councils.[57]

[478] I consider that access to Mr and Mrs Peake's property will be diminished by the project, despite the proposed upgrade of Burunga Lane. However I have accepted that the options proposed by Mr and Mrs Peake (construction of an overpass bridge, a level crossing or a new road) are inappropriate and/or too costly for the benefits that would flow. I therefore decline to make a recommendation that Peake's Road remain open with a controlled level crossing over the haul road.

[479] As Mr and Mrs Peake's property is outside the MLA areas they will not be entitled to compensation under the MRA if the leases are granted. However the disruption to their access is a matter that I may take into account in considering whether any good reason has been shown for a refusal to grant the mining leases pursuant to s.269(4)(l) of the MRA.

**Failure to agree on compensation for loss of business and property devaluation**

[480] Mr and Mrs Devlin included an additional ground in their objection to the MLAs as follows:

> *The applicant has not reached agreement with us on compensation for -*
>
> - *Loss of a major part of our fuel distribution business when a large number of farm businesses within the mining leases cease to exist; and*
> - *Loss of value and loss of marketability of our farm due to its close proximity to mining.*

[481] The objectors said that while the applicants had been willing to discuss compensation for these matters, no agreement had been reached. They therefore asked the Court to ensure in its recommendations that they are compensated for these losses.

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[57] See Conditions 4 and 9 in Schedule 1 to the Coordinator-General's report.

[482] It appears that negotiations were commenced between the applicants and Mr Devlin but as at the time of the hearing, these negotiations had stalled. Mr Devlin said that he was awaiting further information from the applicants. The applicants say that they are awaiting financial information from Mr Devlin to enable them to assess his loss. Both parties have said that they are prepared to resume negotiations.

[483] Mr and Mrs Devlin are not entitled to compensation under the MRA for these losses as their property is outside the MLA areas. I will take this matter into consideration under s.269(4)(l) of the MRA.

**Weed management plan**

[484] Mr Bruggemann included a ground of objection to the draft EA that -

> *The EIS does not contain a weed management plan.*

Mr Bruggemann said that the applicants had failed to put forward a weed management program. The three MLAs cover a total area of about 30,000 ha and the applicants are proposing that there will be a large area of land within the mining lease areas, under the use and control of the miners, that would not be used for mining but would be available for continued grazing and cropping use by non residents.

[485] Mr Bruggemann requested that a condition be imposed on any grant of the mining leases, that there be a weed management plan for the MLAs.

[486] The applicants submit that they did commit to prepare and implement such a plan in the SEIS.[58]

[487] I am satisfied the applicants have committed, in the SEIS, to develop a weed and feral animal management plan and that it is their intention to do so. On that basis, I do not consider that it is necessary that a condition to that effect be imposed on any grant of the proposed MLs.

**Climate Change**

***The EIS***

[488] The Greenhouse Gas (GHG) emissions associated with the project were assessed in the EIS. The EIS presented a GHG inventory for the project showing projected future annual emissions for each greenhouse gas[59] and the total emissions expressed as carbon equivalents for a two year construction phase and a 30 year operations phase covering the life of the mine.

[489] The GHG inventory was based on the methodology detailed in -

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[58] SEIS, Chapter 17A, section 17A.5.2.

[59] There are several greenhouse gases including carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O) relevant to the project (EIS, Chapter 14, section 14.3.4, p.14-6).

- the *Greenhouse Gas Protocol*, which contains internationally accepted accounting and reporting standards for GHG emissions for companies;

- relevant emission factors in the National Greenhouse Accounts (NGA) Factors from the Commonwealth Department of Climate Change (2008);

- the Estimation of Greenhouse Gas Emissions and Sinks 2005 – Energy (Fugitive Emissions) from the Australian Greenhouse Office (2006); and

- the International Panel on Climate Change (IPCC) Good Practice Guidance.[60]

[490] The *Greenhouse Gas Protocol* defines direct and indirect emissions through the concept of emission "scopes" which are explained as -

- Scope 1 emissions: direct greenhouse gas emissions from sources that are owned or controlled by a company.

- Scope 2 emissions: indirect greenhouse gas emissions from the generation of purchased electricity consumed by the company.

- Scope 3 emissions: all other indirect greenhouse gas emissions resulting from a company's activities, but occurring from sources not owned or controlled by the company. Examples include extraction and production of purchased materials, transportation of purchased fuels and use of sold products and services.

[491] The applicants say that the significance of these categories is that neither under Commonwealth or international law is a company responsible for scope 3 emissions. Scope 3 emissions are the legal responsibility of others, who will account for them as scope 1 or scope 2 emissions.

[492] The reporting of scope 3 emissions is treated as optional under the *Greenhouse Gas Protocol* on the basis that a company's scope 3 emissions will be reported elsewhere by a second company as their scope 1 emissions.

[493] Likewise, the Commonwealth *National Greenhouse and Energy Reporting Act 2007* (NGER Act) only requires a company to provide a report in relation to GHG emissions "from the operation of facilities under the operational control of the corporation and entities that are members of the corporation's group…." (s.19).

[494] The objective of the NGER Act is to introduce a single national reporting framework for the reporting and dissemination of information related to GHG emissions, GHG projects, energy consumption and energy production of companies to -

- underpin the introduction of the carbon pollution reduction scheme;
- inform government policy formulation and the Australian public;
- meet Australia's international reporting obligations;

[60] EIS, Chapter 14, section 14.3.4, p.14-6.

- assist state and territory government programs and activities; and
- avoid duplication of similar reporting requirements in the states and territories.

The NGER Act mandates that companies with GHG emissions or energy consumption or production above specified thresholds, must report GHG emissions and energy consumption and production data to the Australian government.

[495] The EIS states that the project will be required to report under the NGER Act given that the project's scope 1 and 2 emissions will exceed the relevant threshold from the first year of operation.[61]

[496] The GHG inventory assessed the following scope 1 and scope 2 emissions from construction and operation of the mine and related infrastructure -

- construction power requirements from onsite diesel generators during the construction phase (including construction and operation of accommodation facilities, dragline construction, construction of mine infrastructure area, water supply, waste management, construction of crushing plant, wash plant, conveyors and dump station, stackers and reclaimers);
- fugitive emissions from coal seam gas from open cut mining of coal;
- fuel consumption in vehicles;
- use of explosives;
- power supply options for the operation of the mine;
- electricity consumption (including operations and accommodation facilities).

[497] Scope 3 emissions associated with the project include transportation of the coal product to the ports, shipping and the end-use of the coal in electricity production. It is expected that all product coal will be exported to Asia and South America. Emissions from coal sold to a power station for electricity generation will be reported by the power station as part of their scope 1 emissions.

[498] The results of the GHG assessment for the project were summarised in the applicants' submissions as follows:

(a) Scope 1 and 2 emissions were calculated in section 14.4 of the EIS report. These included fugitive emissions of coal seam gas from the open cut mining of coal, fuel consumption in vehicles and plant, the use of explosives, onsite power and electricity used. The assessment occurred on the basis of various scenarios, depending principally on the source of the electricity. Assuming that all electricity was purchased from the grid, the life of mine scope 1 and scope 2 emissions were assessed to be 17.7 Mt of $CO_{2\text{-}e}$.[62]

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61 EIS, Chapter 14, section 14.4.6, p.14-12.

62 $CO_{2\text{-}e}$ means carbon dioxide equivalent.

(b) Scope 3 emissions were calculated in section 14.6 of the EIS report. These included the transport of coal (by rail to port and then by ship to Asia and South America) and the combustion of the coal for end-use electricity production. The life of mine scope 3 emissions were assessed to be 1.32 Gt of $CO_{2\text{-}e}$. Over 99% of scope 3 emissions will be from the combustion of the coal.

[499] Chapter 14, section 14.7 of the EIS calculated the full fuel cycle emissions by adding the scope 1, 2 and 3 emissions together. They totalled 1.33 Gt of $CO_{2\text{-}e}$. Approximately 99% of this total will be from the combustion of coal.

[500] Chapter 14, section 14.8 of the EIS compared GHG emissions with Australian and world emissions. In respect of Australian emissions, the comparison was with scope 1 and 2 emissions only, recognising that scope 3 emissions would not be to Australia's account. It was calculated that peak annual emissions (scope 1 and 2) would constitute 0.11% of annual Australian emissions and that average annual emissions (scope 1 and 2) would constitute 0.1% of annual Australian emissions. Annual Australian emissions (scope 1 and 2) are approximately 1% of annual global emissions.

[501] In respect of global emissions, the scope 1, 2 and 3 emissions from the project are expected to represent 0.17% of annual global emissions.

[502] The EIS indicated that a GHG Management Plan will be developed for the project with the aim of reducing the project's scope 1 and 2 emissions as they will be the only emissions over which the applicants will have control.

[503] The conclusion in Chapter 14, section 14.11 of the EIS was that the scope 1 and 2 emissions from the project were not materially relevant in the Australian or global context. Approximately 99% of the project's emissions will be attributable to end-use of the coal for electricity production which will occur totally or predominantly overseas. Further, the demand for coal for electricity production would exist regardless of the location of the source. In other words, according to the applicants' submissions, "stopping the project will not affect the amount of coal actually burned globally".

***The SEIS***

[504] The SEIS updated the GHG assessment in the EIS for the project using more recent emissions data.

[505] It was calculated that peak annual emissions (scope 1 and 2) would constitute 0.08% of annual Australian emissions and that average annual emissions would constitute 0.07% of annual Australian emissions. The comparison figure for global emissions (scope 1, 2 and 3) remained the same at 0.17% of annual global emissions.

***The Coordinator-General's report and the draft EA***

[506] The Coordinator-General's report states[63] -

> "It would not be reasonable to impose a definitive offset requirement on the construction and operational phases of a high-volume commodity production project such as this project…".

[507] To mitigate the carbon footprint for both the construction and operational phases of the project, the Coordinator-General imposed the following condition on the project[64] -

**Condition 7 Greenhouse gas emissions**

> (a) The proponent must develop and implement a Greenhouse Gas Reduction Management Plan in relation to the Scope 1 and Scope 2 emissions of the project.
>
> (b) The plan in (a) must include, but not be limited to:
>
> (i) the proponent's policy on greenhouse gas emissions;
>
> (ii) annual monitoring of emissions from the construction and operation phases of the project, as also required by the National Greenhouse and Energy Report System;
>
> (iii) an Energy Management Plan, incorporating the identification and evaluation of opportunities for continuous improvement in energy efficiency and emissions control, as is also required as part of the Energy Efficiencies Opportunities Program;
>
> (iv) a Fugitive Gas Management Plan, incorporating the identification and evaluation of reasonable and practical opportunities to reduce fugitive emissions of methane gas.
>
> (c) The plan in (a) must be initially submitted to the authority administering the Environmental Authority for the mining activities prior to commencement of construction activities. This plan is to be reviewed annually for the construction and operations phases of the project and be submitted annually to the authority administering the Environmental Authority for the mining activities. The plan is to be made publicly available upon request.

[508] The terms of Condition 7 were not challenged in these proceedings. The condition was imposed by the Coordinator-General pursuant to s.54B of the *State Development Act*. The condition was not included in the draft environmental authority for the project and there are no conditions in the draft EA dealing with GHG emissions or climate change.

***The Objection***

[509] The Friends of the Earth - Brisbane Co-op Ltd (FoE) lodged objections to the project under both the MRA and the EPA on climate change grounds.

[510] The grounds of objection are lengthy and are not set out in full here. They are based on the considerations listed in s.269(4)(j)-(l) of the MRA and ss.5 and 223 of the EPA. As

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63 Coordinator-General's report, p.124.

64 Coordinator-General's report, Schedule 1.

the FoE point out, there has been no judicial consideration of these particular provisions in relation to emissions from a coal mine contributing to climate change and ocean acidification.

[511] In general terms, the FoE contend that the Court ought to recommend refusal of the project because the GHG emissions which will result from the project, particularly from the burning of coal produced by the project, will contribute to anthropogenic climate change and ocean acidification. More specifically, the FoE submit that the Court should hold that -

- Scope 3 emissions from the mine must be considered when assessing its impact under the MRA and the EPA;
- The public right and interest is prejudiced due to the contribution the mine will make to climate change and ocean acidification;
- The mine is not consistent with the principles of ecologically sustainable development set out in the *National Strategy for Ecologically Sustainable Development*.

[512] The FoE also say that while the supply of coal from elsewhere in the world is a relevant consideration, the Court is primarily concerned with assessing the impacts of this individual mine, not other mines that are not the subject of this application and are not subject to the jurisdiction of the Court. Further, when assessing the impacts of a mine in the context of coal production globally, the Court should assume that other governments and courts around the world will act responsibly in approving mines subject to their control without considering their cumulative impacts on climate change and ocean acidification.

[513] The FoE do not dispute the conditions proposed to be imposed on the mining leases and the environmental authority as the FoE appear to have taken the view that the Court does not have the power to recommend new or varied conditions relating to climate change which are inconsistent with the Coordinator-General's condition. The Court is bound to consider the submissions as put before it.

[514] The issue for the Court is therefore to determine whether the FoE's objections on climate change grounds justify the conclusion that the project should be refused. The applicants submit that the evidence does not justify that conclusion.

***The Applicants' Submissions***

[515] The applicants' position in relation to the climate change issues raised by the FoE is summarised in their submissions as follows -

- Stopping the project will not affect the amount of GHGs in the atmosphere. If the project is stopped, the coal that it would have produced will be replaced by coal

produced elsewhere which will produce the same or a higher amount of GHG emissions when burned.

- The mining and burning of coal from the project will have negligible or no separate impact on climate change and ocean acidification and, balancing any impacts against the benefits of the project, it should be permitted to proceed.

- Even if it is considered appropriate to embark upon a consideration of matters of policy, it is not the policy of the State or Commonwealth Governments to act as the FoE suggests. That would be contrary to the policy agenda in this country.

[516] The science of climate change is not disputed by the applicants. It is not disputed that the project will generate GHG emissions which will contribute to climate change. Further, it is not disputed that climate change will result in increased global temperatures and increased ocean acidification. What the applicants say is that the GHG emissions from the project are not significant in the context of Australian and global emissions, and that the FoE have not identified any precise or separate environmental harm which is causally linked to the particular application before the Court.

***The Statutory Context***

[517] The FoE argue that the MRA and the EPA are two very different Acts with very different objects and that "it would be wrong to assume that the consideration [of the] mining lease application under the MRA and the consideration of the application for the environmental authority under the EPA are the same". It is submitted that different recommendations may be appropriate regarding them.

[518] The applicants submit that it would be erroneous as a matter of law for the Court to approach the decision under either the MRA or the EPA on the footing that the statutes are to be considered in separate compartments. The correct approach, they say, is spelt out in *Project Blue Sky Inc v Australian Broadcasting Authority*[65] which identifies the need to give an harmonious interpretation to statutory provisions that operate alongside one another in a way that may even lead to, on a literal view, some inconsistency. The applicants submit that although there are three parts to the hearing before the Court – the hearing of the ML applications, the hearing of the objections to the ML applications and the hearing under the EPA – they are three parts of a process that, ultimately, is integrated. It is contended that it would be inconsistent, at an integrated hearing, to say, on the one hand, that an authority should be granted under a statute to carry out mining activities but on the other hand, the authority should be refused under a coordinate statute.

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65 (1998) 194 CLR 355.

[519] As will be seen from my discussion of the relevant provisions in the MRA and the EPA below, it is clear that the two statutes are interconnected. For example, "environment" in the MRA has the meaning given by the EPA[66] and, relevantly, an environmental authority is issued under the EPA for a "mining activity" which is defined in s.147 of the EPA to mean an activity that, under the MRA, is authorized to take place on land to which a mining tenement relates. However the Acts do have different objects. The objects of the MRA (s.2) include the encouragement and facilitation of prospecting and exploration for and mining of minerals. Environmental responsibility is also encouraged. The object of the EPA (s.3) is to protect Queensland's environment while allowing for ecologically sustainable development. In the end, however, because of the recommendations I have proposed in relation to the applications and objections before the Court, it is unnecessary for me to resolve this issue.

***Mineral Resources Act 1989***

[520] As noted above, the function of the Land Court pursuant to ss.268 and 269 of the MRA is to hear the application for the grant of a mining lease and any objections lodged in relation thereto, and to make a recommendation to the relevant Minister about whether the application should be granted or rejected in whole or in part.

[521] The matters that the Court must take into account and consider when making a recommendation to the Minister are set out in s.269(4) of the MRA. Particularly relevant to the climate change objections are ss.269(4)(i),(j)(k) and (l), which provide that -

> "**269 Land Court's recommendation on hearing**
>
> …
>
> (4) The Land Court, when making a recommendation to the Minister that an application for a mining lease be granted in whole or in part, shall take into account and consider whether –
>
> …
>
> (i) the operations to be carried on under the authority of the proposed mining lease will conform with sound land use management; and
> (j) there will be any adverse environmental impact caused by those operations and, if so, the extent thereof; and
> (k) the public right and interest will be prejudiced; and
> (l) any good reason has been shown for a refusal to grant the mining lease."

*Section 269(4)(j): Any adverse environmental impact caused by those operations and the extent thereof*

[522] The FoE submit that the statutory context of s.269(4)(j) requires a construction which permits the Court to consider the indirect downstream impacts of the project extending

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[66] Schedule 2 of the *Mineral Resources Act 1989*.

to the actions of others. It is contended that a consideration of the "adverse environmental impact caused by those operations", in GHG terms, is not restricted to a consideration of the effects of the GHGs emitted by activities such as driving vehicles on the mine site or using electricity to power mine site activity (i.e. scope 1 and scope 2 emissions) but extends to the impacts of transporting and using the coal (i.e scope 3 emissions).

[523] As indicated in the GHG Inventory in the EIS and SEIS, approximately 99% of the project's GHG emissions will be attributable to scope 3 emissions from the end-use of the coal for electricity production.

[524] In my opinion, the meaning of the phrase "those operations" in s.269(4)(j) is informed by the preceding subparagraph (i) which refers to "the operations to be carried on under the authority of the proposed mining lease…". The consideration required by s.269(4)(j) is therefore a consideration of whether there will be any adverse environmental impact caused by the operations to be carried on under the authority of the proposed mining lease.

[525] Section 234 of the MRA indicates what operations may be carried on under the authority of a mining lease -

> "**234 Governor in Council may grant mining lease**
>
> (1) The Governor in Council may grant to an eligible person or persons, a mining lease for all or any of the following purposes -
>
> (a) to mine the mineral or minerals specified in the lease and for all purposes necessary to effectually carry on that mining;
> (b) such purposes, other than mining, as are specified in the mining lease and that are associated with, arising from or promoting the activity of mining.
>
> …
> (3) However, coal seam gas can not be specified in a mining lease.
> …"

[526] The word "mine", as a verb, is defined in s.6A of the MRA as follows -

> "**6A Meaning of *mine***
>
> (1) ***Mine*** means to carry on an operation with a view to, or for the purpose of -
> (a) winning mineral from a place where it occurs; or
> (b) extracting mineral from its natural state; or
> (c) disposing of mineral in connection with, or waste substances resulting from, the winning or extraction.
>
> (2) For subsection (1), extracting includes the physical, chemical, electrical, magnetic or other way of separation of a mineral.
>
> (3) Extracting includes, for example, crushing, grinding, concentrating, screening, washing, jigging, tabling, electrowinning, solvent extraction

electrowinning (SX–EW), heap leaching, flotation, fluidised bedding, carbon-in-leach (CIL) and carbon-in-pulp (CIP) processing.

(4) However, extracting does not include -
(a) a process in a smelter, refinery or anywhere else by which mineral is changed to another substance; or
(b) testing or assaying small quantities of mineral in teaching institutions or laboratories, other than laboratories situated on a mining lease; or
(c) an activity, prescribed under a regulation, that is not directly associated with winning mineral from a place where it occurs.

(5) For subsection (1), disposing includes, for example, the disposal of tailings and waste rock.

(6) A regulation under subsection (4)(c) may prescribe an activity by reference to the quantities of minerals extracted or to any other specified circumstances."

[527] No activities are prescribed for s.6A(4)(c).

[528] It is apparent from these statutory provisions that "the operations to be carried on under the authority of the proposed mining lease" are confined to the physical activities associated with winning and extracting the coal from the place where it occurs or from its natural state. It is these activities which will be carried on under the authority of the proposed mining leases. The "operations" referred to in s.269(4)(i) and (j) do not, on a proper reading of the legislation, extend to the transportation of the coal to ports and to the burning of the coal in power stations overseas. Section 6A(1)(c) refers to "disposing of mineral in connection with, or waste substances resulting from, the winning or extraction". However, s.6A(5) sets out examples which make it clear that the word "disposal" in this context refers to the disposal of waste products associated with the mining and not disposal of the product itself. Further, by virtue of s.6A(4)(a), "extracting" is expressly stated not to include "a process in a smelter, refinery or anywhere else by which mineral is changed to another substance". Accordingly, the activity of burning the coal at a power station (and the emissions therefrom) are not part of the "operations" referred to in s.269(4)(i) or (j).

[529] Although it is possible for mining leases to be granted for associated purposes under s.234(1)(b), those purposes must be associated with, arise from or promote the activity of mining. In my opinion, activities such as transporting the coal away from the site and burning it are not within that category. Moreover, the applicants have not sought the proposed MLs for transporting and burning the coal.

[530] It follows that the transportation and use of the coal fall outside the scope of the "operations" referred to in s.269(4)(j). The Court's task in relation to subparagraph (j) is therefore limited to considering the adverse environmental impact caused by the

physical activities associated with winning and extracting the coal. In my opinion, this does not extend to a consideration of the GHG emissions from the burning of coal by end-users. It would be beyond the Court's jurisdiction to take into account and consider the impact of activities which will not be carried on under the authority of the proposed mining leases and will not be the subject of the Court's recommendation under s.269 of the MRA. The Court is therefore required only to consider the impact of the scope 1 and scope 2 emissions generated by the physical activities associated with winning and extracting the coal.

[531] Although this conclusion is sufficient to dispose of the FoE's submissions insofar as they relate to scope 3 emissions, I have decided to deal more fully with those submissions in case I am wrong in my construction of s.269(4)(j).

[532] The FoE concede that in its "most narrow and direct sense", the word "operations" in subparagraph (j) means the physical activities associated with winning and extracting the coal. However, the FoE rely on broad interpretations of the words "impact" and "environmental" in subparagraph (j) to argue that the Court should consider the impacts of transporting and burning the coal.

[533] The word "impact" is not defined in the MRA (or the EPA) and its meaning in this context appears not to have been considered by this Court or any appellate court. The word should be given its ordinary meaning. The FoE put forward the following definition of "impact" from the Macquarie Dictionary: "*influence or effect [exerted by a new idea, concept, ideology, etc.]*". I accept this definition.[67] I also accept that the word "impact" may encompass indirect as well as direct impacts.[68]

[534] The FoE rely on authorities from other jurisdictions to provide some further guidance to the Court about the meaning of the word "impact", most notably the *Nathan Dam case*.[69]

[535] In the *Nathan Dam* case, the Full Court of the Federal Court considered the meaning of the phrase "all adverse impacts … the action … is likely to have" in s.75(2) of the EPBCA -

> "(2) If, when the Minister makes a decision under subsection (1), it is relevant for the Minister to consider the impacts of an action:
>
> (a) the Minister must consider all adverse impacts (if any) the action:
> i. has or will have; or
> ii. is likely to have;
> on the matter protected by each provision of Part 3; and

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67 *Minister for the Environment and Heritage v Queensland Conservation Council Inc* (2004) 139 FCR 24 at [53].

68 Scope 2 emissions include indirect GHG emissions from the generation of purchased electricity consumed by the company (EIS, Chapter 14, section 14.3.2, p.14-4). See also Dr Taylor's report, Exhibit 81, p.6.

69 *Minister for the Environment and Heritage v Queensland Conservation Council (Inc)* (2004) 139 FCR 24.

(b) must not consider any beneficial impacts the action:
i. has or will have; or
ii. is likely to have;
on the matter protected by each provision of Part 3."

[536] The word "impact" was then undefined in the EPBCA.[70] The matters protected by Part 3 are the matters of national environmental significance which were identified in my discussion above at [77], namely, world heritage properties, national heritage places, wetlands of international importance, listed threatened species and ecological communities, etc.

[537] In relation to the phrase "all adverse impacts", the Full Court said[71] -

> "Impact" in the relevant sense means the influence or effect of an action: *Oxford English Dictionary*, 2nd ed, vol VII, 694-695. As the respondents submitted, the word "impact" is often used with regard to ideas, concepts and ideologies: "impact" in its ordinary meaning can readily include the "indirect" consequences of an action and may include the results of acts done by persons other than the principal actor. Expressions such as "the impact of science on society" or "the impact of drought on the economy" serve to illustrate the point. Accordingly, we take s 75(2) to require the Minister to consider each way in which a proposed action will, or is likely to, adversely influence or effect the world heritage values of a declared World Heritage property or listed migratory species. As a matter of ordinary usage that influence or effect may be direct or indirect. "Impact" in this sense is not confined to direct physical effects of the action on the matter protected by the relevant provision of Pt 3 of Ch 2 of the EPBC Act. It includes effects which are sufficiently close to the action to allow it to be said, without straining the language, that they are, or would be, the consequences of the action on the protected matter.
>
> …
>
> The Minister's approach, on a fair reading of his reasons, was not to find, as a matter of fact, that downstream pollution by irrigators was not likely to occur as a consequence of the construction and operation of the dam. Rather, the Minister seems to have considered that such downstream pollution, whether likely or not, was incapable, on a proper interpretation of the EPBC Act, of constituting an adverse impact of the proposed action being the construction and operation of the dam. We agree with the learned primary Judge that this view was erroneous.
>
> As mentioned previously, it is undesirable in the circumstances for this Full Court to attempt to paraphrase the expression in s 75(2) to which we have just drawn attention. Nor is it appropriate to essay an exhaustive definition of "adverse impacts" which an "action" within the meaning ascribed by s 523 may be likely to have. It is sufficient in this case to indicate that "all adverse impacts" includes each consequence which can reasonably be imputed as within the contemplation of the proponent of the action, whether those consequences are within the control of the proponent or not."

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70 Since the decision in the *Nathan Dam* case, a definition of "impact" has been inserted into the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). It is not relevant or necessary for me to consider that definition here since my task is to consider the word "impact" as it appears in the *Mineral Resources Act 1989.*

71 At [53]-[57].

[538] This reasoning may be contrasted with the judgment of Dowsett J in the Federal Court in *Wildlife Preservation Society of Queensland Proserpine / Whitsunday Branch Inc v Minister for the Environment & Heritage & Ors*[72] where the learned judge was considering a judicial review application in relation to two decisions concerning proposals to develop two new coal mines in Queensland. In each case the Minister's delegate had decided under s.75(2) of the EPBCA that the referred proposal was not a "controlled action" under the EPBCA.

[539] The applicant's grounds for review were that the Minister's delegate did not take into account or had misapplied s.75(2) of the EPBCA by not considering the adverse impacts the projects were likely to have on certain protected matters as a result of the mining, transport and use of the coal from the mines including the emissions of a large volume of GHGs contributing to global warming.

[540] Dowsett J accepted that the delegate had considered the possible impact of GHGs generated in the extraction, transportation and burning of coal won from each proposed mine and dismissed all of the applicant's grounds for review. The following comments are relevant:[73]

> "Finally, the applicant sought to make much of the fact that the threats posed by the emission of greenhouse gases are cumulative. It was argued that it was inappropriate to seek to identify the actual effect attributable to the action in question, as opposed to the general threat posed by greenhouse gas emission and climate change. However the EPBC Act required [the delegate] to address the impact of the proposed action, not the impact of the world-wide burning of coal. Secondly it was said that the impact of each action ought not be assessed having regard to the whole history of greenhouse gas emissions, but rather in comparison only to other contemporary emissions. Thus small coal mines might be preferred to larger mines. I see no merit in this argument. The relevant impact must be the difference between the position if the action occurs and the position if it does not…..
>
> I am not sure that the purpose of Part 3 is to attribute legal responsibility for the causation of adverse impacts. To my mind the purpose of the Act is to prevent or minimize such adverse impact. Be that as it may, there is no reason to believe that [the delegate] adopted other than a '*common sense approach*' to the issue of causation. Causation is, of course, not mentioned in s 12 or the other analogous sections in Part 3. However it was submitted that there is necessarily a causal relationship between an action and any relevant impact. That is probably so, but I see no reason to introduce notions of causation into the process prescribed by s 75. It is not necessary to go beyond the language of the relevant sections. In any event [the delegate] accepted the possibility that the coal might be burnt, thereby producing additional greenhouse gases which might cause climate change. The point at which he disagreed with the applicant was as to the likelihood of any adverse impact upon a protected matter and the extent thereof. …

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72 (2006) 232 ALR 510; [2006] FCA 736.

73 At [55], [57], [72].

*Connection between action and impact*

> I have proceeded upon the basis that greenhouse gas emissions consequent upon the burning of coal mined in one of these projects might arguably cause an impact upon a protected matter, which impact could be said to be an impact of the proposed action. I have adopted this approach because it appears to have been the approach adopted by [the delegate]. However I am far from satisfied that the burning of coal at some unidentified place in the world, the production of greenhouse gases from such combustion, its contribution towards global warming and the impact of global warming upon a protected matter, can be so described. The applicant's concern is the possibility that at some unspecified future time, protected matters in Australia will be adversely and significantly affected by climate change of unidentified magnitude, such climate change having been caused by levels of greenhouse gases (derived from all sources) in the atmosphere. There has been no suggestion that the mining, transportation or burning of coal from either proposed mine would directly affect any such protected matter, nor was there any attempt to identify the extent (if any) to which emissions from such mining, transportation and burning might aggravate the greenhouse gas problem. The applicant's case is really based upon the assertion that greenhouse gas emission is bad, and that the Australian government should do whatever it can to stop it including, one assumes, banning new coal mines in Australia. This case is far removed from the factual situation in *Minister for Environment and Heritage v Queensland Conservation Council Inc* (2004) 139 FCR 24."

[541] The FoE submit that the reasoning of the Full Court in the *Nathan Dam* case should be applied in construing the word "impact" in the phrase "adverse environmental impact caused by those operations" in s.269(4)(j) of the MRA so as to permit the Court to consider the impacts of transporting and burning the coal, which are the actions of others and not the applicants in this case.

[542] The applicants say that the *Nathan Dam* case is irrelevant on the basis that it does not deal with the same question as the subject case, and they rely on Dowsett J's decision in the *Wildlife Preservation Society* case. The applicants submit that there must be a causal link between the impacts and the application which is before the Court, and that the FoE did not lead any evidence as to the specific environmental impacts that will be caused by the project.

[543] For obvious reasons, I consider that decisions from jurisdictions other than Queensland, where the statutes construed are in different terms from the MRA, should be treated with extreme caution for the purposes of this case. Further, the word "impact" in s.269(4)(j) of the MRA should not be construed in isolation but in the context of the paragraph and the statute as a whole.

[544] Section 75(2) of the EPBCA provides that, if it is relevant for the Minister to consider the impacts of an action, the Minister must consider all adverse impacts (if any) that the action has or will have or is likely to have on the matters protected by Part 3. Section 269(4)(j) of the MRA provides that the Land Court shall take into account and consider

whether there will be any adverse environmental impact caused by the operations to be carried on under the authority of the proposed mining lease.

[545] At first glance, it appears that the task is similar under each piece of legislation. Under the MRA, the Court considers the impacts of the "operations" and under the EPBCA, the Minister considers the impacts of the "action".

[546] However, there is, I consider, a significant difference in the meaning of the words "operations" and "actions" as defined in each statute. The meaning of the word "operations" in s.269(4)(j) of the MRA and its limitation by the statutory context to the physical activities associated with winning and extracting the coal were discussed above. Under the EPBCA, the word "action" is not limited in a similar way. "Action" is defined in that Act to include "a project, a development, an undertaking, an activity or series of activities" and any alteration of those things.[74] In the *Nathan Dam* case, the "action" being considered was described as follows -

> "To construct and operate the Nathan Dam on the Dawson River in Central Queensland. The dam will have a capacity of 880,000ML. Once in operation it will make controlled discharges of water for agricultural, industrial, urban and environmental uses."

[547] As is evident from the passage quoted previously,[75] the Full Court of the Federal Court in the *Nathan Dam* case considered that the Minister's assessment under s.75(2) of the EPBCA should have included a consideration of the impacts of the activities of third parties, regardless of the fact that such activities are not within the control of the project proponent, so long as those impacts may be imputed as within the contemplation of the proponent for the action.

[548] I do not consider that the reasoning in the *Nathan Dam* case can be applied in this case because of the differences in the definitions of the words "action" and "operations". The word "operations" is limited to the activities of mining and extracting coal. The word "action" is not so constrained.

[549] Further, in contrast to s.75(2) of the EPBCA, the phrase "caused by" in s.269(4)(j) of the MRA does impose a test of causation such that the Court is to consider those adverse environmental impacts that are caused by the relevant operations. The FoE have been unable to point to any specific environmental impact caused by those operations.

[550] Professor Ian Lowe was called by the FoE. Professor Lowe is emeritus professor of science, technology and society at Griffith University with particular expertise in the

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74 Section 523 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

75 See [537] of this decision.

environmental aspects of energy supply and use. He says in his report, in respect of the GHG emissions from the project[76] -

> "It is not possible to link these emissions to any particular impact on a specific part of the environment in Queensland, Australia or globally, other than to contribute to greenhouse gases in the atmosphere and thereby contribute to global warming and climate change. The impacts of greenhouse gas emissions from this mine should, therefore, be understood as contributing to the cumulative impacts of global warming and climate change."

[551] During cross-examination, Professor Lowe conceded that he could not attribute any environmental consequence to any specific project and agreed that it would be speculative and unscientific to do so.

[552] Dr Malte Meinshausen, who was also called by the FoE, is a senior research fellow with expertise in climate change at the Potsdam Institute for Climate Impact Research. Dr Meinshausen purported to calculate the effect of the project's GHG emissions by calculating the temperature increase attributable to burning the amount of coal from the project and estimated that 23,000 people would be inundated by the consequent rise in sea levels. In the light of Professor Lowe's evidence, Dr Meinshausen's attempted quantification of the specific impacts of this project was unconvincing. I have not accepted his evidence.

[553] The FoE also submit that the broad definition of "environment" in s.8 of the EPA, (which by virtue of Schedule 2 (Dictionary) of the MRA applies to the MRA) contextually favours a broad construction of "adverse environmental impact caused by those operations".

[554] Section 8 of the EPA provides -

> "**8 Environment**
> ***Environment*** includes-
> (a) ecosystems and their constituent parts, including people and communities; and
> (b) all natural and physical resources; and
> (c) the qualities and characteristics of locations, places and areas, however large or small, that contribute to their biological diversity and integrity, intrinsic or attributed scientific value or interest, amenity, harmony and sense of community; and
> (d) the social, economic, aesthetic and cultural conditions that affect, or are affected by, things mentioned in paragraphs (a) to (c)."

[555] Taken in its widest sense, the "environment" as defined would extend to the global environment and include people and communities and all natural and physical resources

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[76] Expert Report by Professor Lowe, Exhibit 102, p.13.

all over the world. Legislation must, however, be read in context and an interpretation which best achieves the purpose of the Act must be preferred.[77]

[556] The purpose or objectives of the MRA are set out in s.2 of the MRA as follows -

> "**2 Objectives of Act**
>
> The principal objectives of this Act are to –
>
> (a) encourage and facilitate prospecting and exploring for and mining of minerals;
> (b) enhance knowledge of the mineral resources of the State;
> (c) minimise land use conflict with respect to prospecting, exploring and mining;
> (d) encourage environmental responsibility in prospecting, exploring and mining;
> (e) ensure an appropriate financial return to the State from mining;
> (f) provide an administrative framework to expedite and regulate prospecting and exploring for and mining of minerals;
> (g) encourage responsible land care management in prospecting, exploring and mining."

[557] The use of the words "prospecting, exploring and mining" in ss.2 (a), (c), (d), (f) and (g) suggest that these are the activities which the MRA is intended to regulate and supports the view discussed above that any consideration of environmental impacts under the MRA must be confined to activities which are authorised and regulated by the MRA. There is no reference to the transportation and processing of minerals in the objectives of the MRA.

[558] If I am wrong in the above analysis, and it is the case that "any impact caused by the operations" extends to the impacts of activities such as the transportation and the burning of the coal, and it is the case that "environment" should be given a broad meaning so as to encompass the global environment, then I am still not persuaded that the GHG impacts justify refusal of the proposal.

[559] In the first place, it is difficult to see from the evidence that this project will cause any relevant impact on the environment. In the *Wildlife Preservation Society* case, Dowsett J said that "[t]he relevant impact must be the difference between the position if the action occurs and the position if it does not".[78] In this case, the applicants say that stopping the project will have a negligible impact on climate change because other coal will be mined elsewhere which will in turn produce the same or higher amounts of emissions when burned. They rely on the evidence of Mr Simes and Mr Stanford, who are experts on the economics of coal markets. In general terms, their opinion was that if the project does not proceed, there will be no impact on global demand for coal because

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77 Section 14A of the *Acts Interpretation Act 1954*.

78 (2006) 232 ALR 510 at [55].

that demand will be satisfied from another source. In other words, stopping the project will have no impact on climate change because it will have no impact on the global demand for coal and therefore no impact on global GHG emissions. Professor Lowe also accepted that the coal could be sourced from elsewhere.

[560] The FoE sought to respond to Mr Simes' evidence through the report of Mr Hans Hoegh-Guldberg, but the substance of his report was discredited in Mr Simes' response report and the FoE ultimately abandoned his evidence.[79] There was also an attempt by Dr Meinhausen to challenge the conclusions of Mr Simes and Mr Stanford. Nothing he said, however, was particularly persuasive or helpful in my opinion, as Dr Meinshausen is not an expert in coal market economics.

[561] Dr Chris Taylor, an environmental scientist specialising in atmospheric emissions and climate change, gave evidence on behalf of the applicants with respect to the estimated GHG emissions from the proposed mine. As set out above, the GHG Inventory, conducted as part of the EIS and SEIS, compared the predicted GHG emissions from the project with Australian and world emissions. In respect of Australian emissions, the comparison was with scope 1 and 2 emissions only, recognising that scope 3 emissions would not be included in Australia's emissions. It was calculated that peak annual emissions would constitute 0.08% of annual Australian emissions and that average annual emissions would constitute 0.07% of annual Australian emissions. Even at a global level and taking into account the scope 3 emissions, the total emissions from the project are expected to represent 0.17% of annual global emissions.

[562] Professor Lowe provided some comparisons in his report between emissions resulting from the project and other emissions calculations. The applicants contend that his comparisons are unhelpful as they do not compare like with like. For example, Professor Lowe compares the project's annual average scope 1, 2 and 3 emissions with annual Australian emissions. As the applicants point out, the comparison is not like with like because the calculation of Australia's emissions does not include scope 3 emissions. Further, Dr Taylor's evidence was that it was not appropriate to consider scope 3 emissions in a calculation of Australia's emissions as they will be allocated to the inventory of the country where the coal is burned. Professor Lowe's comparisons with the emissions of other countries, and his comparison of life of mine full fuel cycle emissions with annual Australian and global emissions, are attacked for the same reasons.

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[79] T6-45.9-40.

[563] I accept that it is necessary to compare like with like and that it is appropriate to compare average annual scope 1 and 2 emissions from the project with annual Australian scope 1 and 2 emissions and to compare average annual full fuel cycle (ie. scope 1, scope 2 and scope 3) emissions with global emissions. As to the latter, Professor Lowe nominates a figure of 0.085%[80] whereas the EIS and the SEIS calculated 0.17%. This indicates that the applicants' figures are generally conservative. Accordingly, I adopt the applicants' comparison figures as set out in the EIS and the SEIS.

*Conclusions about s.269(4)(j) of the MRA*

[564] Section 269(4)(j) of the MRA requires me to take into account and consider whether there will be any adverse environmental impact caused by the operations and, if so, the extent thereof.

[565] For the reasons set out above, I consider that the effect of s.269(4)(j), s.234 and s.6A of the MRA is that the Court is required to consider the extent of the adverse environmental impact caused by the activities of winning and extracting the coal, that is, the scope 1 and 2 emissions generated by this project. The SEIS sets out that the scope 1 and 2 peak annual emissions will constitute 0.08% of annual Australian emissions and the average scope 1 and 2 annual emissions will constitute 0.07% of annual Australian emissions. Annual Australian emissions (scope 1 and 2) are approximately 1% of annual global emissions.

[566] It is noted that the quantum of these emissions will be such that the project will be required to report under the NGER Act because the relevant reporting threshold under that Act will be exceeded from the first year of the mine's operation. It is also noted that the Coordinator-General has imposed a condition (Condition 7) on the project to mitigate its carbon footprint.[81] Thus it may be inferred that the relevant regulatory authorities have formed the view that the scope 1 and 2 emissions will be of some significance.

[567] Further, the applicants do not contest that the GHG emissions generated by the project will contribute to global warming and that climate change will result in increased global temperatures and increased ocean acidification. Those are, in my opinion, adverse environmental impacts.

[568] However, the FoE were unable to point to any specific adverse environmental impacts caused by the scope 1, 2 and 3 emissions, let alone any such impacts caused by the

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80 Expert Report by Professor Lowe, Exhibit 102, p.14, paragraph 36(a).

81 Coordinator-General's report, Schedule 1.

scope 1 and 2 emissions in Queensland. This raises the question of whether it is necessary for specific adverse impacts to be identified in order to trigger the operation of s.269(4)(j).

[569] This issue does not appear to have been examined authoritatively in Queensland.[82] While it is clear that s.269(4)(j) requires that there be a causal link between the operations and the adverse environmental impact, the words used in s.269(4)(j) do not on their face require that an impact on specific matters, such as particular flora or fauna for example, be established. In this regard, s.269(4)(j) is to be contrasted with s.75(2) of the EPBCA where the Minister is required to consider the adverse impacts of the action on particular protected matters.

[570] I do not consider that it is necessary to decide this issue now because, even on the most favourable interpretation of the FoE's submissions, that is, if it is assumed that it is sufficient to establish a general adverse environmental impact, such as a contribution to increased global warming, the evidence indicates a comparatively minor impact on the environment in terms of its GHG emissions. I do not consider therefore that the extent of the impact of the scope 1 and 2 emissions of the operations has been proved to be such as to warrant refusal of the proposed MLs.

*Section 269(4)(k): The public right and interest will be prejudiced*

[571] The FoE submit that the removal and use of the coal pursuant to this project prejudices the public right and interest by contributing to the problem of climate change and ocean acidification while, at the same time, delivering other benefits.

[572] The applicants submit that the relevant public interest is the public interest of the State of Queensland, or in the State of Queensland, under its legislation, and that the onus lies with the party contending that there should be a refusal to satisfy the Court that there is prejudice to that interest.

[573] The decision of the High Court of Australia in *Sinclair v Maryborough Mining Warden*[83] appears to be the most relevant authority dealing with "public interest" considerations. *Sinclair* was a case dealing with an earlier Queensland statutory mining regime, but to some extent the statements are relevant to the operation of s.269 of the MRA.

[574] The provision under consideration by the Court in that case was Regulation 39(2)(a) of the *Mining Regulations of 1971* which provided that: "if the Warden is of opinion that

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82 The issue was raised by the Land and Resources Tribunal in *Re Xstrata Coal Queensland Pty Ltd* [2007] QLRT 33 and was referred to by the Court of Appeal in *Queensland Conservation Council Inc v Xstrata Coal Queensland Pty Ltd* (2007) 155 LGERA 322; [2007] QCA 338 in particular at [41]; see also [54].

83 (1975) 132 CLR 473.

the public interest or right will be prejudicially affected by the granting of an application for a mining lease, he shall . . . recommend to the Minister that such application be rejected".

[575] Stephen J said in relation to the Court's task[84] -

> "Any consideration of the public interest for the purposes of reg. 39(2)(a) should, I think, involve the weighing of benefits and detriments. In this task a warden will not be required to pursue his own inquiries; he may confine himself to the material placed before him by the parties… In some special contexts questions of the public interest may not involve this process of weighing against each other conflicting merits and demerits; where however the concept of the public interest occurs as a factor in the grant or refusal by the Crown of a mining lease it can, I think, have only this meaning."

[576] The issue of climate change is clearly a matter of general public interest and a matter which may militate against the grant of the proposed leases. However, it is only one of a number of matters that the Court must weigh up in considering whether the public right and interest will be prejudiced by the project. The Court must balance all of the relevant considerations, including the economic and associated benefits of the project proceeding.

[577] Mr Thatcher's affidavit of 8 July 2011 addresses the public interest aspect.[85] He refers to the following statement in the Coordinator-General's report[86] -

> "It is considered that, on balance, the proposed project would provide a net social and economic benefit to the Wandoan region and the State of Queensland. This is evidenced by job creation opportunities and economic development associated with related projects, including the Surat Basin Rail project as well as the future expansion of the Wiggins Island Coal Terminal at Gladstone."

[578] Mr Thatcher asserts that the project is in the public interest in light of the -

(a) financial returns, employment opportunities and regional economic development the project will facilitate, as acknowledged in the overall conclusion of the Coordinator-General's report; and

(b) range of commitments (conditioned or otherwise) the applicants have committed to carry out, to mitigate or minimise any adverse impact.

[579] Chapter 2 of the EIS describes the need for the Wandoan Coal Project, including the current market demands that the project will fulfil, as well as the economic and social benefits that the project will provide to the local, state and national economies. The economic assessment for the project contained in Chapter 22 estimates that the project

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84 At 485.

85 Affidavit of RC Thatcher affirmed 8 July 2011, Exhibit 63, paragraphs 55-58.

86 At p.194.

will provide significant economic net benefits to the region and the rest of Australia, during both construction and mine operations.

[580] Mr Stanford's supplementary report discusses the economic consequences of prohibiting a project such as the Wandoan mine and suggests that it would impose significant costs on the Australian community that would not be matched by any offsetting benefits.[87] He mentions loss of royalty revenues to the State, loss of jobs and the transfer of investment dollars overseas as potential costs to the community.

[581] The evidence has established that the project will make significant economic contributions on a local, State and Commonwealth level. Although it is not disputed that the project will generate GHG emissions that will contribute to climate change, the evidence was that stopping the project will not result in any, or any substantial difference, in the levels of GHGs in the atmosphere. As previously mentioned, if the project proceeds, the evidence indicated that it will have a comparatively minor impact on the environment in terms of its GHG emissions. Balancing all these factors, I am not persuaded that the FoE's climate change objections justify a refusal of the proposed mining leases on public interest grounds.

*Section 269(4)(l): Any good reason has been shown for a refusal*

[582] As the FoE point out in their submissions, s.269(4)(l) of the MRA is an extremely wide provision that is limited only by the structure and objects of the Act. Clearly, there must be a good reason, as opposed to a reason that is extraneous to the purposes of the Act.[88]

[583] The applicants submit that "any good reason" means a reason that would emerge under the MRA or in the context of the decision that is to be made under s.269, not some kind of general policy inquiry. It is also submitted that the Court must approach the question by considering whether any good reason has been shown for a refusal.

[584] For the reasons I have already given, I am not persuaded that the FoE's climate change objections, on their own, are a "good reason" to justify a recommendation that the proposed mining leases should be refused.

[585] There were additional issues raised by other objections to be considered under s.269(4)(l). All of these issues will be summarized later in this decision.[89]

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87 Supplementary Expert Report by Mr Stanford, Exhibit 78, p.2.

88 The FoE rely on a number of authorities including *Parramatta City Council v Hale* (1982) 47 LGERA 319; *Woollahra Municipal Council v Minister for the Environment* (1991) 23 NSWLR 710; *Packham v Minister for the Environment* (1993) 31 NSWLR 65; and *Water Conservation and Irrigation Commission (NSW) v Browning* (1947) 74 CLR 492.

89 At [633] - [637].

***Environmental Protection Act 1994***

[586] The reasons relied upon by the FoE in support of their contention that the Court ought to recommend refusal of the environmental authority under the EPA may be summarised as follows -

- the project will cause environmental harm;
- the project is not in the public interest;
- the project is not consistent with the objects of the EPA; and
- the project does not conform to the principles of ecologically sustainable development (ESD).

[587] Before considering the FoE's objections, it is useful to reiterate the Court's jurisdiction and functions under the EPA in relation to the grant of environmental authorities.

[588] The function of the Land Court under s.222 of the EPA is to make an "objections decision", being a recommendation to the relevant Minister about the grant of an application for an environmental authority and the conditions to be attached to same.

[589] The criteria to be considered by the Court in making an "objections decision" are set out in s.223 of the EPA as follows:

> "**223 Matters to be considered for objections decision**
>
> In making the objections decision for the application, the Land Court must consider the following -
>
> (a) the application documents for the application;
> (b) any relevant regulatory requirement;
> (c) the standard criteria;
> (d) to the extent the application relates to mining activities in a wild river area—the wild river declaration for the area;
> (e) each current objection;
> (f) any suitability report obtained for the application;
> (g) the status of any application under the Mineral Resources Act for each relevant mining tenement.

[590] The "standard criteria" are defined in Schedule 4 of the EPA to mean:

> "(a) the principles of ecologically sustainable development as set out in the 'National Strategy for Ecologically Sustainable Development'; and
> (b) any applicable environmental protection policy; and
> (c) any applicable Commonwealth, State or local government plans, standards, agreements or requirements; and
> (d) any applicable environmental impact study, assessment or report; and
> (e) the character, resilience and values of the receiving environment; and
> (f) all submissions made by the applicant and submitters; and
> (g) the best practice environmental management for activities under any relevant instrument, or proposed instrument, as follows—
> (i) an environmental authority;
> (ii) a transitional environmental program;
> (iii) an environmental protection order;
> (iv) a disposal permit;

(v) a development approval; and

(h) the financial implications of the requirements under an instrument, or proposed instrument, mentioned in paragraph (g) as they would relate to the type of activity or industry carried out, or proposed to be carried out, under the instrument; and

(i) the public interest; and

(j) any applicable site management plan; and

(k) any relevant integrated environmental management system or proposed integrated environmental management system; and

(l) any other matter prescribed under a regulation."

[591] There are no other matters prescribed for the purposes of paragraph (l).

[592] Relevantly, the "National Strategy for Ecologically Sustainable Development" referred to in paragraph (a) of the standard criteria is defined in Schedule 4 of the EPA to mean the "National Strategy for Ecologically Sustainable Development" endorsed by the Council of Australian Governments on 7 December 1992.

[593] The "National Strategy for Ecologically Sustainable Development" defines ESD as "using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased".

[594] Although already reproduced in full in the context of my discussion at [255] above, it is useful to set out again the following extract from the "National Strategy for Ecologically Sustainable Development" with the goal, core objectives and guiding principles of ESD:

**The Goal is:**

Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.

**The Core Objectives are:**

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;
- to provide for equity within and between generations;
- to protect biological diversity and maintain essential ecological processes and life-support systems.

**The Guiding Principles are:**

- decision making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations;
- where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- the global dimension of environmental impacts of actions and policies should be recognised and considered;
- the need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised;

- the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised;
- cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms;
- decisions and actions should provide for broad community involvement on issues with affect them.

These guiding principles and core objectives need to be considered as a package. No objective or principle should predominate over the others. A balanced approach is required that takes into account all these objectives and principles to pursue the goal of ESD.

[595] The functions and powers conferred on the Court by the EPA must be performed or exercised in the way that best achieves the objects of the Act.[90] The object of the EPA is stated in s.3 as follows -

"**3 Object**
The object of this Act is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (***ecologically sustainable development***)."

[596] The Court's function under the EPA is to make recommendations about the grant of environmental authorities. Environmental authorities under the EPA are issued for "mining activities".[91] Section 147 defines a "mining activity" as an activity that is authorised under the MRA to take place on land to which the mining tenement relates.

[597] In applying the criteria in s.223 of the EPA, it is my opinion - consistent with the conclusion I reached in relation to the MRA - that the Court's jurisdiction does not extend to a consideration of activities which do not fall within the scope of an "environmental authority". In other words, in applying the statutory criteria under the EPA, the Court is limited to considering the activities which may be authorised by the environmental authority.

[598] DERM's submissions support this approach. DERM submits that the objection and evidence adduced by the FoE about adverse climate change effects from the burning of the coal sourced from the proposed coal mine is "completely irrelevant" to the Court's consideration of the application before it. The application before the Court was made under the EPA for a "mining activity" which is defined by s.147 to include only, in effect, the digging of the coal out of the ground and directly related activities, such as coal processing on the relevant mining tenement. Accordingly, in DERM's submission, there is no scope for consideration of GHGs emitted from, or potential environmental impacts arising from, the activities of transporting and using the coal.

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90 Section 5 of the *Environmental Protection Act 1994*.
91 Section 146 of the *Environmental Protection Act 1994*.

[599] I agree with DERM's submissions. The Court can only be concerned with the activities which are the subject of the environmental authority application. The FoE concede that the application under consideration by the Court does not include the transportation and use of the coal.

[600] I also point out that in performing its function under the EPA, the object of the Act in s.3 makes it clear that the Court must exercise its powers in a way that best protects Queensland's environment. In my view, the concept of "environment" in the EPA is therefore limited to Queensland's environment.

[601] The principles of ESD form part of the "standard criteria" defined in Schedule 4 of the EPA, which the Court must consider under s.223 of the EPA. The reference in the ESD principles to "the global dimensions of environmental impacts of actions and policies" appears to allow the Court to take into account the global impacts of the project. But whilst the FoE argue that limiting the consideration of GHG emissions to the extraction of the coal would be inconsistent with this principle of ESD, it is my view that the Court can only be concerned with the global impacts of the "mining activities" which are the subject of the environmental authority application before the Court - that is, the physical activities of winning and extracting the coal that may be authorised under the MRA. As discussed above, activities which may be carried on under the authority of a mining lease under the MRA do not extend to the transportation and burning of the coal in power stations.

[602] Similarly, the references in the standard criteria to "the character, resilience and values of the receiving environment" and "the public interest" must be read to refer only to the impacts of the "mining activities" on the receiving environment and the public interest.

[603] Most of the evidence led by the FoE centred on GHG emissions from the use of the coal in power stations, ie. scope 3 emissions. In my view, this evidence is irrelevant to the Court's task under the EPA.

[604] The evidence establishes that the project's scope 1 and 2 emissions will contribute to climate change. The FoE contend that this issue should outweigh all other factors to be taken into account in the assessment of the project and that this should lead to a recommendation that the environmental authority be refused. I do not accept this submission. It also follows from what I have said above that I do not consider that the project is unsustainable within the meaning of s.3 of the EPA.

[605] As discussed above in the context of the MRA, the project will make significant economic contributions on a local, State and Commonwealth level which is relevant to a consideration of the public interest under paragraph (i) of the standard criteria.

Stopping the project will not result in any, or any substantial, difference in the levels of GHGs in the atmosphere. If the project proceeds, the evidence indicates that it will have a comparatively minor adverse impact on the environment in terms of its GHG emissions. In the circumstances, I do not consider that the climate change issue outweighs all other issues so as to justify a recommendation under the EPA that the EA be refused.

**Observations to the Honourable the Minister administering the *Mineral Resources Act 1989* and the Honourable the Minister administering the *Environmental Protection Act 1994***

[606] As can be seen from the discussion above at [205] – [215], the Land Court's jurisdiction under the MRA and the EPA to make recommendations for the project is effectively confined to the "mining activities" or activities authorised under the MRA. As a consequence of s.235(3) of the MRA, the Court has no jurisdiction or power to make recommendations in relation to activities involving the extraction or diversion of water. These activities will be authorised under another Act, namely, the *Water Act*.

[607] It appears to me that this is an undesirable dichotomy in the Land Court's jurisdiction and powers. The effect of the legislation is that two separate assessment and objection processes are established, one under the MRA/EPA and the other under the *Water Act*. Ultimately the Land Court hears any objections under the *Water Act* so there is a duplication of process. Further, those objectors who wish to protect their relevant interests under all three statutes are required to participate in two potentially extensive and expensive processes. It is possible, also, that inconsistent decisions may result. This is obviously undesirable for the effective administration of justice and the public interest generally.

[608] The Land Court's function under the MRA and the EPA is to make recommendations to the relevant Ministers about whether to grant or refuse the proposed MLs and environmental authority. The statutory criteria prescribed under the MRA and the EPA requires the Land Court to take into account and consider the environmental impacts of the project. The impacts of water diversions and extractions associated with the project seem to me to be highly relevant to any consideration of whether the project should be approved or refused. In my opinion, it is unsatisfactory that the impacts of water extractions and diversions are not properly assessed and considered under the *Water Act* until after the project has been approved under the MRA and the EPA.

[609] My recommendations with regard to the establishment of a monitoring program for the Hutton and Precipice Sandstone Aquifers and make-good agreements are confined to the potential adverse impacts of the mining operations on the yield and quality of water

supplies since I am unable, in these proceedings, to deal with the impacts of the proposed mine pit dewatering, the taking of water for construction purposes and the diversion of Woleebee Creek. I draw these issues to the attention of the Honourable the Minister administering the *Mineral Resources Act 1989* and the Honourable the Minister administering the *Environmental Protection Act 1994*.

[610] I also draw to the attention of the Honourable the Ministers administering the *Mineral Resources Act 1989* and the *Environmental Protection Act 1994* that at [262] – [266] I have found that the groundwater monitoring program for the shallow and alluvium aquifers as set out in Condition W38 in the Coordinator-General's report and the draft EA is inadequate in relation to the areas covered by MLAs 50229 and 50231. For the reasons set out there, I have no power to make any recommendations in this regard.

**MRA Section 269(4) criteria**

[611] Section 269(4) of the MRA requires the Land Court, when making a recommendation to the Minister that a mining lease be granted in whole or in part, shall take into account and consider the criteria set out below. I have considered the relevant evidence and set out my conclusions thereto throughout this decision. The relevant conclusions are summarized below in relation to each of the criteria in s.269(4).

***Section 269(4)(a) - Whether the provisions of the MRA have been complied with***

[612] The following breaches of the MRA by the applicants were established[92] -

- The applicants have failed to comply with the requirements of s.245(1)(g) of the MRA in that they have not identified the improvements referred to in s.238(2) of that Act as required. I do not consider that the non-compliance provides a sufficient reason to recommend against the grant of the leases.
- The applicants were in breach of their obligations under s.307(3) of the MRA to serve Mr Bruggemann and Mr and Mrs Devlin with notices of abandonment in relation to part of the land the subject of the MLAs. I have found that there was no prejudice suffered by the objectors.
- The applicants also failed to serve the notices of abandonment "forthwith" on Mr Erbacher, Mr and Mrs Keys and Mr and Mrs Edmonds as required by s.307(3) of the MRA. I have found that no prejudice was suffered by the relevant objectors and that there was substantial compliance with s.307(3).
- The applicants failed to serve a copy of the certificate of application on Mr J and Ms K Bruggemann as required by s.252(4). The failure was caused by a mistake by the

[92] See [135] - [159] and [170] - [180] of this decision.

applicants who sent the document to Mr Allan Bruggemann. Mr J and Ms K Bruggemann do not appear to have suffered any prejudice.

***Section 269(4)(b) - Whether the areas of land applied for are mineralised or the other purposes for which the leases are sought are appropriate***

[613] The evidence has established that there are extensive deposits of coal located within the MLA areas.[93] The revised MLA areas comprise approximately 30,000 ha with approximately 11,000 ha to be used for mining operations. The remaining area is to be used for infrastructure and as a buffer between the mining operations and sensitive places.

[614] Although the areas of the proposed Woleebee South Pit and the Glen Haven Pit are mineralised, I am satisfied that the applicants do not intend to mine those areas during the term of the lease. Accordingly I have recommended that those parts of the MLA areas be granted for infrastructure purposes only.

[615] Otherwise I am satisfied that the purposes for which the leases are sought are appropriate.[94]

***Section 269(4)(c) - Whether there will be an acceptable level of development and utilisation of the mineral resources within the areas applied for***

[616] Subject to my conclusions above as to the Woleebee South and Glen Haven Pits, I am satisfied that there will be an acceptable level of development and utilisation of the mineral resources within the areas applied for.

***Section 269(4)(d) - Whether the land and the surface area of the land in respect of which the mining leases are sought are of an appropriate size and shape in relation to -***

***(i) the matters mentioned in paragraphs (b) and (c); and***

***(ii) the type and location of the activities proposed to be carried out under the leases and their likely impact on the surface of the land***

[617] As discussed at [135] - [139] and [147] - [157] above, there are areas of restricted land within the MLA areas. I have concluded that those areas should be excised from the grant of the mining leases in accordance with the requirements of the MRA.[95] I have also concluded that the areas occupied by the water pipelines providing the water supply to the tanks, troughs and other water storage facilities and within 50m laterally of those pipelines should also be excluded from the grants.[96]

[618] Otherwise I am satisfied that the land and the surface area of the land sought is of an appropriate size and shape in relation to the matters specified in s.269(4)(d)(i) and (ii).

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93 See Chapters 2, 6 and 9 of the EIS and SEIS and the Coordinator General's report, p.33.

94 See [81] - [134] of this decision.

95 At [155].

96 At [157].

***Section 269(4)(e) - Whether the term sought is appropriate***

[619] The evidence is that the applicants have sought a term of 35 years for the mining leases in order to accommodate the construction and operating schedule described in detail in Chapters 5 and 6 of the EIS and SEIS and to ensure that there is a sufficient mine life to provide reasonable assurance of financial return on the applicants' investment in the project and related significant infrastructure.

[620] There was no evidence to indicate that the term sought was inappropriate.

***Section 269(4)(f) - Whether the applicants have the necessary financial and technical capabilities to carry on mining operations under the proposed mining leases***

[621] Chapter 1 of the EIS describes the financial and technical capabilities of the applicants to carry on the mining operations. A summary about the applicants is provided in the Coordinator-General's report.[97]

[622] I am satisfied that the applicants have the financial and technical capabilities to carry on the proposed mining operations.

***Section 269(4)(g) - Whether the past performance of the applicants has been satisfactory***

[623] In addition to the evidence referred to in relation to s.269(4)(f), the applicants' evidence is that one of the applicants, Xstrata Coal Queensland Pty Ltd (XCQ), is the current holder of 50 mining leases and 55 other mining tenements in Queensland. XCQ has not been issued with a show cause notice nor has any relevant tenure been cancelled under the Act. Accordingly, I am satisfied that the past performance of XCQ has been satisfactory. There was no evidence as to the past performance of the other applicants other than a statement that they have previously been successful applicants for mining leases in Queensland.[98]

***Section 269(4)(h) - Whether any disadvantage may result to the rights of -***
***(i) holders of existing exploration permits or mineral development licences; or***
***(ii) existing applicants for exploration permits or mineral development licences***

[624] There are a number of exploration permits for petroleum (EPP) and exploration permits for coal (EPC) over the MLA areas. These are described in Chapters 8 and 9 of the EIS and SEIS and in the coal seam gas statement which accompanied the application at Exhibit 1. There is also an existing petroleum lease over part of the MLA areas.

[625] The applicants say that the process prescribed in the Act relating to overlapping tenements is ongoing and is being managed by XCQ. None of the existing holders of permits or other tenures with rights in relation to the MLA areas have made an objection to the proposed MLs or to the draft EA.

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97 Coordinator-General's report, p.2.

98 Affidavit of RC Thatcher affirmed 8 July 2011, [43].

[626] Accordingly, there is no evidence that any disadvantage will result to the rights of the existing holders or applicants for permits if the proposed MLs are granted.

***Section269(4)(i) - Whether the operations to be carried on under the authority of the proposed mining leases will conform with sound use land management***

[627] The management and operation of the mine will be subject to the conditions in the Coordinator-General's report and the draft EA which include conditions relating to adverse environmental impacts and rehabilitation of the land. Further, I have recommended the inclusion of additional conditions in the proposed MLs and EA. The applicants have adduced evidence that they are committed to finalizing tenure arrangements which seek to maximize the productive use of the MLA areas when not required for mining operations.

[628] Accordingly, I consider that the operations to be carried out under the authority of the proposed MLs will conform with sound land use management.

***Section 269(4)(j) - Whether there will be any adverse environmental impact caused by those operations and, if so, the extent thereof***

[629] The evidence concerning the potential impact of the mining operations on the water supplies in the area of the proposed mine, the dust and noise emissions from the mine and the impacts of the mine on climate change have been discussed in detail in this decision.[99] My conclusions in relation to those issues were that, taking into account the conditions imposed in the Coordinator-General's report and the draft EA and the additional conditions that I have recommended for inclusion in the proposed MLs and the draft EA for the control of those adverse impacts, I do not consider that they will be such as to warrant a recommendation against the grant of the proposed MLs.

***Section 269(4)(k) - Whether the public right and interest will be prejudiced***

[630] There was a significant amount of evidence adduced by the objectors as to the adverse impacts that the proposed mine will have on their way of life and business operations. I do not consider that the objectors' individual interests may legitimately be considered as part of the consideration of the public right and interest.[100] Those interests are considered under s.269(4)(l) below.

[631] The climate change objection lodged by the FoE does raise public interest considerations, as discussed at [571] - [581] above. I concluded that the climate change objection did not justify a refusal of the proposed MLs on public interest grounds. In

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99 See [181] - [293], [311] - [377], [378] - [435] and [488] - [605].

100 *Sinclair v Mining Warden at Maryborough* (1975) 132 CLR 473 at 480.

any event, the economic benefits that will flow from the mine in terms of jobs creation and financial return to the State of Queensland are also to be taken into account.

[632] My conclusion is, on balance, that the positive impacts of the mine outweigh the negative impacts and, therefore, the public right and interest is not prejudiced to the extent that I should recommend against the grant of the mining leases.

***Section 269(4)(l) - Any good reason has been shown for a refusal to grant the mining leases***

[633] As discussed previously, a number of the landowners will be adversely affected by the grant of the mining leases. In particular, objectors Mr and Mrs Edmonds, Mr Erbacher and Mr and Mrs Keys own property within the MLA areas. Large areas of their properties will no longer be available for grazing if the proposed MLs are granted. This will impact on the continuing viability and amenity of those properties.

[634] Mr and Mrs Rich are concerned about the impacts of the mining leases on the value of their property and the feedlot and cropping businesses they conduct there, together with the impacts on their cattle and their own health.

[635] Mr and Mrs Devlin established that access to their property will be adversely affected such that they will incur additional expense in operating their fuel contracting business. Mr and Mrs Devlin also established that the fuel contracting business would be adversely affected because a large number of the farm businesses within the district will cease to exist as a result of the mine. Further their property will lose value and marketability because of its close proximity to the mining operations. The Devlins are unable to obtain compensation for these losses, although there have been negotiations with the applicants as to the loss of business and the impact on the value of their property.

[636] Mr Bruggemann and Mr and Mrs Peake will also suffer financial losses because of the proposed road closures and diversions as it will be necessary for them to travel additional distances to obtain access to and from their properties. Again these objectors are not entitled to compensation under the MRA provisions.

[637] Although it is accepted that these are matters of legitimate concern to the objectors, they do not of themselves, in my opinion, lead to the conclusion that they constitute sufficient reason for a refusal to grant the mining leases.

***Section 269(4)(m) - Taking into consideration the current and prospective uses of that land, the proposed mining operation is an appropriate land use***

[638] The proposed mine will have a massive impact on the use of land in the area. The land within the MLA areas is predominantly cleared and is used for grazing purposes although agricultural activities are also available. 42 of the 45 properties within the

MLA areas have been purchased by the applicants. Thus those properties will be withdrawn, for an extended period in some or all of the cases, from the grazing industry and used for mining operations. While the applicants have an obligation to rehabilitate the land, that obligation may not be fulfilled within the working life of a number of landowners.

[639] Nevertheless it is clear that the land is mineralized and that the mining operations proposed will produce economic benefits for the State. That being the case, I am unable to say that the proposed mining operation is not an appropriate land use.

**ORDERS**

1. I make the following recommendations, pursuant to s.269(1) of the *Mineral Resources Act*, to the Honourable the Minister administering the *Mineral Resources Act 1989* -

   (a) Subject to the following recommendations in relation to the mining leases and the draft environmental authority being adopted, I recommend that the mining leases 50229, 50230 and 50231 be granted over the application area, other than over the land identified in Recommendation 1(b) below, for the term and purpose sought by the applicants, with the exception of the areas occupied by the proposed Woleebee South and Glen Haven Pits.

   (b) In accordance with s.238(2) of the *Mineral Resources Act 1989*, the following areas of restricted land be excised from the lease areas -

      (i) The land shown as restricted land on Drawing No. 921703 attached to the mining lease application, and the following land to the extent that it is not included in that drawing -

         a. Mr and Mrs Edmonds' land: land within 100m laterally of the two residences and five sheds; land within 50m laterally of each of the two stockyards, two turkeys nests, the bore, those stock water troughs connected to a water supply and seven dams;

         b. Mr Erbacher's land: land within 100m laterally of the residences, sheds and the piggery; land within 50m laterally of the stockyards, turkeys nest, water storages, bore, those stock water troughs connected to a water supply, tanks and dams;

c. Mr and Mrs Keys' land: land within 50m laterally of the stock water facilities connected to a water supply.

(ii) The land occupied by the water pipelines providing water supply to the water storage facilities identified in a., b., and c. above and within 50m laterally of those water pipelines be excluded from the grants.

(c) I recommend that any leases granted over the areas of land occupied by the proposed Woleebee South and Glen Haven Pits be limited to infrastructure purposes associated with the mining activities on the balance of the lease areas.

(d) I recommend that the applicants must provide continuing access via public roads to the same standard as currently exists to the Edmonds and Erbacher properties, while those properties remain in the ownership of persons and entities other than the applicants.

2. I make the following recommendations, pursuant to s.222(2)(b) of the *Environmental Protection Act 1994*, to the Honourable the Minister administering the *Environmental Protection Act 1994* -

(a) Subject to the following recommendations in relation to the mining leases and the draft environmental authority being adopted, I recommend that the environmental authority be issued in the terms of the draft environmental authority issued on 10 December 2010.

(b) I recommend that the draft environmental authority be amended to include a condition that a monitoring program for the Hutton and Precipice Sandstone Aquifers, using the existing deep bores, be designed and implemented in consultation with DERM for the following purposes -

(i) to establish the base line yield and water quality of the supply from those bores; and

(ii) to regularly monitor the bores to identify any change in the yield and quality of the water supply from aquifers in accordance with parameters to be set by DERM.

(c) I recommend that, as a pre-requisite to the grant of the environmental authority, the applicants are 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.

3. I direct the Registrar of the Land Court to provide a copy of these reasons to the Honourable the Ministers administering the *Mineral Resources Act 1989* and *Environmental Protection Act 1994* and to direct the Ministers' attention specifically to my observations in [606] - [610].

**CAC MacDONALD**
**PRESIDENT OF THE LAND COURT**