SUPREME COURT OF QUEENSLAND

CITATION:	*Qld Cooper Shale Pty Ltd & Ors v Minister for Natural Resources and Mines* [2016] QCA 352
PARTIES:	**In Appeal No 839 of 2016:** **QLD COOPER SHALE PTY LTD** ACN 164 794 272 (appellant) **v** **MINISTER FOR NATURAL RESOURCES AND MINES** (respondent) **In Appeal No 841 of 2016:** **QLD COOPER ENERGY PTY LTD** ACN 169 397 915 (appellant) **v** **MINISTER FOR NATURAL RESOURCES AND MINES** (respondent) **In Appeal No 843 of 2016:** **QLD SHALE GAS PTY LTD** ACN 164 794 227 (appellant) **v** **MINISTER FOR NATURAL RESOURCES AND MINES** (respondent)
FILE NO/S:	Appeal No 839 of 2016 Appeal No 841 of 2016 Appeal No 843 of 2016 SC No 792 of 2014 SC No 793 of 2014 SC No 794 of 2014
DIVISION:	Court of Appeal
PROCEEDING:	General Civil Appeal
ORIGINATING COURT:	Supreme Court at Townsville – [2015] QSC 360
DELIVERED ON:	23 December 2016
DELIVERED AT:	Brisbane
HEARING DATE:	2 June 2016
JUDGES:	Margaret McMurdo P and Philippides JA and Henry J Separate reasons for judgment of each member of the Court, each concurring as to the orders made
ORDERS:	**1. The appeals are dismissed.**

2. The appellants are to pay the first respondent's costs.

CATCHWORDS: ENERGY AND RESOURCES – MINERALS – GENERALLY – DEFINITIONS – OTHER CASES – where the appellants sought exploration permits for "oil shale" under the *Mineral Resources Act* 1989 (Qld) – where the respondent refused the applications for the exploration permits – where the appellants made applications for judicial review of the decisions to refuse to grant the exploration permits – whether the definition of "oil shale" in s 318AD of the *Mineral Resources Act* 1989 (Qld) (MRA) applied to the entirety of that Act – whether s 318AD of the MRA incorporates the term "gasification or retorting product" as defined in s 10(1)(c) of the *Petroleum and Gas (Production and Safety) Act* 2004 (Qld) – whether that imports the definition of "petroleum" in s 10(1) of that Act in to the definition of "mineral" in the MRA

ADMINISTRATIVE LAW – JUDICIAL REVIEW – GROUNDS OF REVIEW – ERROR OF LAW – where the appellants sought exploration permits for "oil shale" under the *Mineral Resources Act* 1989 (Qld) (MRA) – where the respondent refused the applications for the exploration permits – where the appellants made applications for judicial review of the decisions to refuse to grant the exploration permits – where one of the grounds of review alleged was that the decision-maker made an error of law – where the appellants submitted that the appellant had made an error of law in considering that "fracking" did not fall within the definition of "chemical process" within s 10 of the *Petroleum and Gas (Production and Safety) Act* 2004 (Qld) (PGPSA) – where the decision-maker's conclusion was based on technical advice which indicated that oil shale could not, as a matter of geology, exist in the relevant areas and that the kind of activities that the MRA might authorise were a physical impossibility – whether the decision-maker was permitted by the statutory regime to seek satisfaction as to the mineral actually being targeted by the appellants – whether the definition of petroleum in s 10(1) of the PGPSA was imported into the MRA – whether it was necessary to consider the proper characterisation of "fracking" – whether the decision-maker made an error of law

ADMINISTRATIVE LAW – JUDICIAL REVIEW – GROUNDS OF REVIEW – IRRELEVANT CONSIDERATIONS – where the appellants sought exploration permits for "oil shale" under the *Mineral Resources Act* 1989 (Qld) (MRA) – where the respondent refused the applications for the exploration permits – where the appellants made applications for judicial review of the decisions to refuse to grant the exploration permits – where one of the grounds of review alleged was that the decision-maker took into account an irrelevant consideration – where the decision-maker considered that the appellants had not provided sufficient geological information to support the existence of "oil shale" as defined

in the MRA in the target area – where the appellants contended that the decision-maker's view that there was insufficient evidence to establish the existence of oil shale was an irrelevant consideration in that it required one to demonstrate "oil shale" exists in order to determine whether "oil shale" exists – whether the decision-maker was entitled to seek satisfaction that what the appellants were targeting was a mineral for the purpose of exploration under the MRA – whether the decision-maker took an irrelevant consideration into account

Acts Interpretation Act 1954 (Qld), s 14(3), s 14(4)
Clean Energy Act 2008 (Qld), s 76
Judicial Review Act 1991 (Qld), s 20(2)(e), s 20(2)(f)
Mineral Resources Act 1989 (Qld), ch 4, ch 5, ch 6, ch 8, s 2, s 3A, s 5, s 6, s 6(2)(f), s 6(2)(i), s 6A, s 6D, s 129, s 130, s 131, s 133, s 137, s 137A, s 179, s 181, s 208, s 245, s 318A, s 318AA, s 318AD, s 386J, sch 2
Mines Legislation (Streamlining) Amendment Act 2012 (Qld), sch 1
Petroleum and Gas (Production and Safety) Act 2004 (Qld), s 3, s 10, s 10(1)(c), s 10(2), s 32, s 300

Australian Broadcasting Tribunal v Bond (1990) 170 CLR 321; [1990] HCA 33, cited
Hayes v Westpac Banking Corporation & Anor [2015] QCA 260, cited
Project Blue Sky Inc v Australian Broadcasting Authority (1998) 194 CLR 355; [1998] HCA 28, cited
Queensland Cooper Shale Pty Ltd & Ors v Minister for Natural Resources and Mines [2015] QSC 360, considered

COUNSEL: N H Ferrett with C Jennings for the appellants
P J Dunning QC SG, with J M Horton QC and M Hickey, for the respondent

SOLICITORS: Ruddy Tomlins & Baxter for the appellants
Crown Law for the respondent

[1] **MARGARET McMURDO P:** The respondent refused to grant the appellants' applications for exploration permits under the *Mineral Resources Act* 1989 (Qld). These appeals are from the primary judge's refusal of their applications to judicially review the respondent's decisions. I agree with Philippides JA that the appeals must be dismissed. As her Honour identifies, the appellants refined their three grounds of appeal into two contentions.

[2] The first was that the respondent's delegate, the decision maker, Mr Benjamin Johns, erred in law in concluding that hydraulic fracturing of underground rocks ('fracking') is not a "chemical process" under s 10 *Petroleum and Gas (Production and Safety) Act* 2004 (Qld).

[3] The second was that Mr Johns erred by improperly requiring proof that oil shale actually existed in the areas of the proposed permits. I agree with Philippides JA's reason for rejecting that contention.

[4] Like Philippides JA, I also reject the first contention. Thanks to her Honour's identification of the relevant statutory provisions and evidence, I can state my reasons quite briefly. This contention involves a consideration of whether Mr Johns erred in law in refusing the applications for exploration permits as the oil shale the appellants' were proposing to explore for was not a mineral under the *Mineral Resources Act*. The definition of mineral under that Act raises the relationship between that Act and the *Petroleum and Gas (Production and Safety) Act*.

[5] It is clear from s 2 and the long title of the *Mineral Resources Act* that its objects include the control of the mining of minerals in Queensland. It is equally clear from s 3 and the long title of the *Petroleum and Gas (Production and Safety) Act* that its objects include managing Queensland's petroleum resources safely and efficiently for the benefit of all Queenslanders. It is also clear that there is some overlap between the two Acts in relation to coal seam gas, oil shale and substances obtained in conjunction with oil shale.[1]

[6] The appellants were entitled to apply under the *Mineral Resources Act* for an exploration permit only for a mineral or minerals as defined in that Act.[2] Their applications were for exploration permits for oil shale, a substance defined as a mineral under s 6. But it is self-evident that the respondent did not have to accept they were in fact applying to explore for oil shale if there was material before him demonstrating they were applying to explore for something which was not a mineral as defined in the Act. Whether he erred in law in concluding that they were not targeting a mineral or minerals under the Act requires a review of the relevant legislation and an understanding of his findings of fact.

[7] Under s 6(2) *Mineral Resources Act*:

> "(2) Subject to subsection (3), each of the following is a ***mineral—***
>
> ...
>
> (c) coal seam gas;
>
> ...
>
> (f) a product that may be extracted or produced by an underground gasification process for coal or oil shale (***mineral (f)***) and another product that may result from the carrying out of the process (also ***mineral (f)***);
>
> *Examples of underground gasification processes—*
>
> combustion, consumption, heating, leaching and reaction
>
> *Examples of another product—*
>
> gas desorbed as a result of an underground gasification process
>
> ...
>
> (i) oil shale;
>
> *Note—*

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1 See, eg, *Petroleum and Gas (Production and Safety) Act* s 3(1)(g), s 6, s 10(1), s 32(2); *Mineral Resources Act* s 3A, ch 3, ch 8, especially s 318AA, s 318AC, s 318AD.

2 *Mineral Resources Act* s 133.

For what is oil shale, see section 318AD.

...

(3) Despite subsections (1) and (2)—

...

(c) mineral (f) is only a mineral if—

(i) the coal or oil shale, from which it is extracted or produced, is held under a mineral development licence and it has been added to the licence under section 208; or

(ii) the coal or oil shale, from which it is extracted or produced, is held under a mining lease and it is specified in the lease...".

[8] Section 318AD[3] defines oil shale as "rock (other than coal) from which a gasification or retorting product, as defined in the Petroleum and Gas (Production and Safety) Act, may be extracted or produced." The Act's dictionary also includes: "***oil shale*** see section 318AD".[4]

[9] *The Petroleum and Gas (Production and Safety) Act* sch 2, Dictionary includes "***gasification or retorting product*** see section 10". Section 10 relevantly provides:

"**10 Meaning of *petroleum***

(1) ***Petroleum*** is—

...

(c) a fluid that—

(i) is extracted or produced from coal or oil shale by a chemical or thermal process or that is a by-product of that process; and

(ii) consists of, or includes, hydrocarbons; or

Example of a fluid that is petroleum under paragraph (c)—

mineral (f)

...

(2) A substance mentioned in subsection(1)(c) is a ***gasification or retorting product.***

(3) To remove any doubt, it is declared that ***petroleum*** does not include any of the following—

...

(e) oil shale; ...".

[10] It is clear from these extracts from both Acts that the mining of the rock, oil shale, is to be governed by the *Mineral Resources Act*, but the harnessing of fluids, whether

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3 Set out in Philippides JA's reasons at [37].

4 *Mineral Resources Act* sch 2.

liquid or gas, extracted or produced from oil shale by a chemical process which consists of or includes hydrocarbons such as mineral (f) is primarily to be governed by the *Petroleum and Gas (Production and Safety) Act*.

[11] In determining the appellants' relevant contention it is also necessary to refer to the respondent's findings of fact. The respondent's Mr Warren Cooper, a highly-qualified geologist,[5] formed the view that the oil shale in the areas the appellants proposed to explore no longer contained kerogen, the "naturally occurring insoluble organic material contained in sedimentary rocks, from which hydrocarbons are produced … as a result of gasification or retorting". The kerogen in that rock had been "naturally transformed and altered to produce hydrocarbons"[6] He could find no evidence of oil shale as defined in the *Mineral Resources Act* identified in the proposed areas for exploration.[7] He stated that the areas were generally identified as thermally mature with hydrocarbons already generated and with little or no kerogen remaining in the rock so that the rock was not oil shale suitable for mining under the *Mineral Resources Act*.[8] In assessing the applications he consulted other expert geologists whose views were to the same effect.[9] For these reasons, he refused to approve the appellants' proposed work programs accompanying their applications.[10] As a result, the Minister's delegate, Mr Johns, was obliged to refuse the appellants' applications for exploration permits.

[12] In light of Mr Cooper's findings of fact upon which he and Mr Johns acted, the applications were not to explore for oil shale rock but to explore for a gas or liquid already naturally produced from the rock.

[13] There is a persuasive argument that, on those factual findings, the appellants were seeking to explore for petroleum as defined under s 10(2) *Petroleum* and *Gas (Production and Safety) Act*. The term "chemical process" under s 10(1)(c)(i) is not defined in the Act. It is an inexact and general term and may be contrasted with the term "chemical reaction" used elsewhere in the Act.[11] A chemical process involves chemistry, that is, the study of the elements, the compounds they form, and the reactions they undergo.[12] Hydraulic fracturing for naturally generated gas may well be a chemical process under s 10 even though it is a physical process not involving chemicals.[13] If so, it may be that what the appellants were applying to explore was petroleum under the *Petroleum* and *Gas (Production and Safety) Act*. But it is unnecessary to decide that point of construction. On the respondent's findings of fact, which it is not suggested had no evidentiary basis, the appellants did not apply for exploration permits for oil shale or other rock from which a fluid consisting of or including hydrocarbon would be extracted or produced. They were seeking to explore only for the fluid which had been already been naturally released from the oil shale rock.

[14] It is true that under s 6(2)[14] *Mineral Resources Act* "mineral" includes mineral (f), the definition of which would encompass the substance for which the appellants hoped

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5 Affidavit of Warren Cooper (sworn 18 February 2015) [2], AB 274.
6 Above, [14], AB 276 – 277.
7 Above, [17], AB 278.
8 Above, [18], AB 278.
9 Above, [19] and [20], AB 278 – 279; Exhibit WC-5, AB 307 – 312.
10 *Mineral Resources Act* s 137(2)(d).
11 *Petroleum* and *Gas (Production and Safety) Act* s 724.
12 The Australian Concise Oxford Dictionary.
13 AB 311.
14 Set out in [7] of these reasons.

to explore. But s 6(3)(c)[15] makes clear that an applicant cannot apply for an exploration permit for mineral (f). Only if an exploration permit and a subsequent mineral development licence is granted for another mineral as defined in the *Mineral Resources Act*, and mineral (f) is then found can the mineral development licensee apply to add mineral (f) to the licence.[16] This limited inclusion of mineral (f) as a mineral under the *Mineral Resources Act* is consistent with the respondent's decision to refuse the applications based on the facts found.

[15] Once the relevant provisions of both Acts are understood together with the relevant factual findings of the respondent, it is clear that there is no inconsistency between the Acts. Based on this analysis of the relevant provisions of the *Mineral Resources Act* and the *Petroleum* and *Gas (Production and Safety) Act*, I am unpersuaded that the respondent erred in refusing the applications.

[16] I agree with Philippides JA that the primary judge was wrong, in light of the note to s 6(2)(i)[17] and the definition in Schedule 2 of "shale oil,"[18] to conclude that the definition of shale oil under s 318AD was confined to Chapter 8 of the *Mineral Resources Act*. But that does not assist the appellants as his Honour's conclusion that the appellants did not make out a legal basis to challenge the respondent's decisions is correct.

[17] I agree with the orders proposed by Philippides JA.

[18] **PHILIPPIDES JA**: **The issues on appeal** The issues in this appeal concern the interaction between the *Mineral Resources Act* 1989 (Qld) (the MRA) and the *Petroleum and Gas (Production and Safety) Act* 2004 (Qld) (the PGPSA) and how "oil shale" is to be defined in the MRA.

Background

[19] The appellants are part of the "Qld Oil Shale Group" and are related corporations in that they share common shareholders and directors. Between 4 April and 7 May 2014, the appellants, between the three of them, made 92 applications to the respondent for exploration permits under ch 4 of the MRA. The applications were, for relevant purposes, in materially identical terms.[19] While each application sought a permit for "all minerals other than coal", as contemplated by s 130(1)(a) of the MRA, the appendix to the application in each case specified "oil shale" as the "high priority target mineral".[20] On 25 September 2014, the respondent, by its delegate, refused each application.

[20] The appellants brought three applications before the primary judge seeking statutory orders of review, alleging that the decisions proceeded upon an error of law or, alternatively, that they took into account irrelevant considerations and thus amounted to improper exercises of power. The applications, accordingly, relied upon s 20(2)(e) and s 20(2)(f) of the *Judicial Review Act* 1991 (Qld) (the JRA). The applications were heard together, since they raised identical questions based on the same evidence.[21] The

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15 Above.
16 *Mineral Resources Act* s 208.
17 Set out at [7] of these reasons.
18 See [8] of these reasons.
19 That is, in the approved form with accompanying appendices, see eg s 133(a) to s 133(g).
20 AB 69, 402 and 460.
21 The primary judge, by orders made on 10 February 2015 in each matter, ordered that the applications be heard together and directed that the evidence in any one proceeding be evidence in the others.

primary judge determined that the appellants had not made out a basis for a challenge to the decisions that were the subject of the applications and dismissed the applications with costs.

The grounds of appeal

[21] The grounds of appeal as alleged in the Notice of Appeal were:

1. The trial judge erred in concluding that the definition of "oil shale" given by s 318AD of the MRA is not to be construed as the definition of those words wherever they appear in the MRA.
2. The trial judge erred inasmuch as:
   (a) in his reasons, his Honour stated that the appellants had submitted that the relevant decision was affected by error because the decision-maker had concluded that the appellants had not provided sufficient geological information to support the existence of oil shale and that the work program described activities that were related to petroleum exploration; and
   (b) in fact, the submission made was that, in concluding that the appellants' proposed work program was targeting petroleum rather than oil shale, the decision-maker had misconstrued the document describing the work program, construction of a document being a matter of law.
3. The trial judge erred in concluding that the respondent sought a degree of satisfaction that the appellants, in applying for exploration permits under the MRA, were targeting a mineral within the meaning of the MRA when the decision-maker actually sought proof of the existence of the particular mineral, namely oil shale.

[22] Although the appellants appealed on three grounds, in their outline they submitted that the grounds reduced down to two issues.[22] These were whether the relevant delegate of the Minister acted on a wrong basis in:

(a) concluding that "fracking" is not a "chemical process" for the purposes of s 10 of the PGPSA; and
(b) "requiring proof that the resource in question actually existed" in the areas of the proposed permits.

[23] The appellants also alleged that the primary judge wrongly concluded that the definition of "oil shale" provided in s 318AD of the MRA is not to be taken to be the definition of that term wherever it appears in that Act.

Legislation

Relevant provisions of the MRA

Objects and definitions

[24] The principal objectives of the MRA are stated in s 2. They include to:

> "(a) encourage and facilitate prospecting and exploring for and mining of minerals;

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22 Appellants' outline of argument at [8].

(b) enhance knowledge of the mineral resources of the State; …"

[25] Section 5 provides that the dictionary in sch 2 defines particular words. In addition, the meaning of key terms is dealt with in pt 4 of ch 1.

[26] Section 6 provides in respect of the meaning of "mineral":

"(2) Subject to subsection (3), each of the following is a ***mineral***—

…

(c) coal seam gas;

…

(f) a product that may be extracted or produced by an underground gasification process for coal or oil shale (***mineral (f)***) and another product that may result from the carrying out of the process (also ***mineral (f)***);

Examples of underground gasification processes—

combustion, consumption, heating, leaching and reaction

Example of another product—

gas desorbed as a result of an underground gasification process

…

(i) oil shale

Note—

For what is oil shale, see section 318AD.

(3) Despite subsections (1) and (2)—

…

(c) mineral (f) is only a mineral if—

(i) the coal or oil shale, from which it is extracted or produced, is held under a mineral development licence and it has been added to the licence under section 208; or

(ii) the coal or oil shale, from which it is extracted or produced, is held under a mining lease and it is specified in the lease …"

[27] Section 6A provides that to "mine" relevantly means to carry on an operation with a view to, or for the purpose of, winning mineral from a place where it occurs; or extracting mineral from its natural state, but extracting does not include a process in a smelter, refinery or anywhere else by which mineral is changed to another substance.

[28] Section 6D sets out the types of authority with which the MRA is concerned. These are a prospecting permit, a mining claim, an exploration permit, a mineral development licence and a mining lease.

Exploration permits

[29] Provisions dealing with "exploration permits" are contained in ch 4. Section 130, entitled "Exploration permit to specify minerals sought", relevantly provides:

> "(1) Except where subsection (2) is applied, an exploration permit shall be granted in respect of—
>
> (a) all minerals other than coal; or
>
> (b) coal."

[30] Section 133, which concerns an application for an exploration permit, requires that that application be made by an eligible person, be in the approved form, identify in the prescribed manner the land in respect of which a permit is sought, and specify the mineral or minerals in respect of which the exploration permit is sought. It also requires the application to:

> "(f) be accompanied by a statement—
>
> (i) specifying a description of the program of work proposed to be carried out under the authority of the exploration permit, if granted; and
>
> (ii) specifying the estimated human, technical and financial resources proposed to be committed to exploration work during each year of the exploration permit, if granted; and
>
> (iii) detailing exploration data captured by the applicant prior to the application in relation to that land; …"

[31] The prescribed criteria for grant of exploration permit are specified in s 137 of the MRA. Relevantly, they are as follows:

> "(2) …
>
> (d) the Minister has, under subsection (3), approved the program of work that accompanied the application for the exploration permit;
>
> …
>
> (3) In deciding whether to approve the program of work, the Minister must have regard to the following matters—
>
> (a) the extent of the proposed activities in the proposed area of the exploration permit;
>
> (b) when and where the applicant proposes to carry out exploration activities in the proposed area of the exploration permit;
>
> (c) whether the applicant has the financial and technical capability for carrying out the work."

[32] The entitlements provided under an exploration permit are outlined in s 129 of the MRA; importantly, s 129(2) provides:

> "(2) Notwithstanding subsection (1)(a) the holder of an exploration permit is not required to obtain consent in respect of the entry

> or being upon land that is a reserve for public road where the entry of or being upon that land is solely as access in respect of the area of the exploration permit."

[33] Where an exploration permit is granted, the minerals that are the subject of the exploration permit and the programs of works and studies to be carried out under it must be stated in the permit.[23]

Mineral development licences

[34] The issuing of mineral development licences is dealt with in ch 5. The holder of such a licence may lodge a written application for the Minister's approval to add stated minerals to the licence.[24] If the mineral to be added is mineral (f) then Ministerial approval is required.[25]

Relationship between the MRA and the PGPSA

[35] The relationship between the MRA and the PGPSA is dealt with in s 3A of the MRA:[26]

> "**3A Relationship with petroleum legislation**
>
> (1) This section does **not** apply to a coal or **oil shale mining tenement**.
>
> *Note—*
>
> For the relationship between this Act and the Petroleum and Gas (Production and Safety) Act—
>
> (a) in relation to coal or **oil shale mining tenements**, see chapter 8; or
>
> (b) otherwise, see the Petroleum and Gas (Production and Safety) Act, **section 6** (Relationship with Mineral Resources Act).
>
> (2) Subject to subsections (3) to (9), the *Petroleum Act 1923* and the Petroleum and Gas (Production and Safety) Act do not limit or otherwise affect—
>
> (a) the power under this Act to grant or renew a mining tenement over land (the ***overlapping land***) in the area of a petroleum authority; or
>
> (b) a mining tenement already granted over land (also the ***overlapping land***) in the area of an existing petroleum authority."

Provisions for coal seam gas

[36] As identified in the note to s 3A(1) of the MRA, the interaction between the MRA and PGPSA in relation to oil shale mining tenements is the subject of ch 8. The main relevant purposes of ch 8, and how they are achieved, are stated in s 318A and s 318AA:

> "**318A Main purposes of ch 8**

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23 MRA, s 137A.
24 MRA, s 208(1).
25 MRA, s 3A.
26 (emphasis added).

The main purposes of this chapter are, in conjunction with the Petroleum and Gas (Production and Safety) Act, chapter 3, and the *Petroleum Act 1923*, part 6F, to—

(a) clarify rights under this Act to mine coal seam gas; and

Note—

For the limited entitlement to mine coal seam gas under this Act, see part 8, division 1.

(b) address issues arising for coal seam gas mining under this Act, and, in particular, issues arising when a coal mining lease or an oil shale mining lease and a petroleum lease are granted over the same area; and

(c) provide security of tenure to protect existing operations and investments relating to coal, oil shale and petroleum;

…

Note—

See also chapter 15, part 2, division 6…

318AA How main purposes are achieved

(1) The main purposes of this chapter are achieved by—

(a) ensuring commercial coal seam gas production (other than for use for mining under a coal mining lease or an oil shale mining lease) is carried out under a relevant petroleum lease; and

Note—

See, however, chapter 15, part 2, division 6.

(b) providing for processes to decide the priority of overlapping coal mining leases or oil shale mining leases and petroleum tenure applications or potential applications; and …"

[37] The definition of "oil shale" is critical for the purposes of ch 8 and is stated in s 318AD:

"**318AD What is oil shale**

Oil shale is shale or other rock (other than coal) from which a gasification or retorting product, as defined in the Petroleum and Gas (Production and Safety) Act, may be extracted or produced."

Relevant provisions of the PGPSA

[38] Section 3 of the PGPSA provides for the main purpose of the PGPSA:

"**3 Main purpose of Act**

(1) The main purpose of this Act is to facilitate and regulate the carrying out of responsible petroleum activities and the development of a safe, efficient and viable petroleum and fuel gas industry, in a way that—

(a) manages the State's petroleum resources—

(i) in a way that has regard to the need for ecologically sustainable development; and

(ii) for the benefit of all Queenslanders; and

(b) enhances knowledge of the State's petroleum resources; and

(c) creates an effective and efficient regulatory system for the carrying out of petroleum activities and the use of petroleum and fuel gas; and …

(2) In this section—

petroleum activities means—

(a) the exploration, distillation, production, processing, refining, storage and transport of petroleum; and

(b) the distillation, production, processing, refining, storage and transport of fuel gas; and

(c) authorised activities for petroleum authorities; and

(d) other activities authorised under this Act for petroleum authorities."

[39] The meaning of the term "petroleum" is stated in s 10 as follows:

"**10 Meaning of *petroleum***

(1) ***Petroleum*** is—

(a) a substance consisting of hydrocarbons that occur naturally in the earth's crust; or

(b) a substance necessarily extracted or produced as a by-product of extracting or producing a hydrocarbon mentioned in paragraph (a); or

(c) a fluid that—

(i) is extracted or produced from coal or oil shale by a chemical or thermal process or that is a by-product of that process; and

(ii) consists of, or includes, hydrocarbons; or

Example of a fluid that is petroleum under paragraph (c)—

mineral (f)

(d) another substance prescribed under a regulation, consisting of, or including, hydrocarbons; or

(e) a gas, that occurs naturally in the earth's crust, as prescribed under a regulation.

(2) A substance mentioned in subsection (1)(c) is a ***gasification or retorting product***.

(3) To remove any doubt, it is declared that ***petroleum*** does not include any of the following—

…

(b) coal

…

(e) oil shale; …"

The notice given to the appellants under s 386J of the MRA

[40] There is provision in s 386J of the MRA for additional information to be sought from an applicant with respect to applications made, including in respect of an application for an exploration permit under s 130.

[41] On 5 June 2014, pursuant to s 386J of the MRA, the Minister's delegate required the appellants to address various requirements and actions with respect to the applications. Relevantly, these were:[27]

"**A: Requirements and Actions**

1. Pursuant to s386J(1)(b) and (c) you are required to give additional information, from an appropriately qualified person, verifying or responding to the points outlined below as they relate to information contained in your applications:

   a) A clear description of what the company considers to be 'oil shale' and the key parameters they are using to define an 'oil shale deposit' that forms the basis for its exploration rationale in the Cooper Basin.

   b) Information to demonstrate that the oil shale exploration proposed is targeting material that would be considered oil shale as defined in the *Mineral Resources Act 1989*.

   c) In your applications the statement shown below was made. Please provide information on the parameters used in this assessment and explain the relevance of the statements '*a geological formation with source rock potential*' and '*an oil shale exploration target*':

      i. '*A review was carried out of key parameters that make a geological formation with source rock potential an oil shale exploration target in deeper parts of sedimentary Cooper Basin. This review identified the Toolachee, Roseneath, Epsilon, Murteree and Patchawarra formations and Nappameri Trough within our application area be specifically targeted for oil shale exploration*'.

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27 AB 129-130.

…

h) As stated in the Mineral and Coal Exploration Guideline, applicants occasionally make multiple applications that appear to be under underpinned by the same funding. When assessed holistically, the financial capability statement may be insufficient to support the overall proposed commitment assuming all applications are progressed. In respect to points i to ii below and taking into account the significant investment proposed, provide additional evidence of the applicants financial capability. Any documentation should evidence the percentage of in place funding to deliver the proposed work program, particularly for years one' and two, and the percentage of additional prospective funding to meet the significant expenditure over the remaining period:

i. It is noted that that there are similar applications made by two other companies Qld Cooper Energy Pty Ltd (30 EPMAs) and Qld Cooper Shale Pty Ltd (8 EPMAs) who have all relied on the same financial and technical information, including the authorised holder representative and management team.

ii. Based on the information in the applications the financial commitments that are associated with the applications indicate a total expenditure of $31,050,000 for year one and $84,650,000 for year two. The expenditure commitments for the combined company applications for years three to five total in excess of $400 million;

2. Pursuant to s386J(1)(b) you are required to give the department additional information, in response to the points outlined below:

…

b) In addition confirm that the work program and expenditure commitments as submitted takes into account the standard relinquishment schedule. Where a variation is requested, please supply updated work program and expenditure plans that have taken the matter into consideration."

Appellants' additional information pursuant to s 386J of the MRA

[42] On 8 August 2014, the appellants provided statements to the Minister's delegate in response to the requests for information under s 386J(1)(b) and s 386J(1)(c) of the MRA:[28]

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28 AB 140-146.

"The company considers that under the *Minerals and Resources Act* 1989 (MRA):

- A gasification product may be extracted or produced from oil shale;
- A mining lease (ML) for oil shale with mineral (f) specified in the lease will permit the extraction or production of mineral (f), a mineral, from oil shale.
- A Mineral Development Licence (MDL) for oil shale with mineral (f) added to that licence under S208, recorded in the register and endorsed on the licence and granted by the Minister will permit the exploration for oil shale including the testing of mineral (f) (mineral) that is extracted or produced from the oil shale.
- An oil shale exploration tenement is an Exploration Permit (EP) or MDL granted for oil shale.

My first impression is that the notice seems to go beyond what is necessary for consideration by the Minister whether to grant an exploration permit. Some requirements to supply information regarding oil shale seem to us to be premature given that it may not be possible, without exploration, to determine the most desirable method of extraction or production of a gasification or retorting product from oil shale, mineral (f).

We are aware of two products, gasification and retorting, that can be extracted or produced from oil shale under the MRA. At this stage we favour the gasification product but are not committed and again at this stage of the application we do not believe we need to commit to a product or process. New technologies that are being developed are likely to play a role in this decision.

As far as we are aware, the applications by our company are the first to be made and processed by the Department in respect of oil shale and the extraction or production of a gasification product from the oil shale. The company could have made the initial application as a MDL and an application to add mineral (f) to that MDL under S208 to explore for oil shale and extract or produce mineral (f) for testing. We consider the Department policy, application guidelines and generic format is not suitable for this initial MDL application.

To simplify our response to the notice we will provide the information based on the extraction or production of a gasification product from oil shale under the MRA.

Our response to the notice is:

A. Requirements and Actions.

Notice to Applicant
1 (a)
Refer to Rocsol Pty Ltd: Statement A (attached)

Under the MRA and the applicable oil shale tenure:

- Oil shale is a mineral.

- What is oil shale, see S3l8AD.
  '*Oil shale is shale or other rock (other than coal) from which a gasification product may be extracted or produced.*'
- An example of a gasification product is mineral (f).
- S6 – Meaning of mineral, S6(3)(c)
  Mineral (f) is only a mineral if – the oil shale, from which it is extracted or produced, is held under a MDL and it has been added to the licence under S208: or the oil shale, from which it is extracted or produced, is held under a Mining Lease ('ML') and it is specified in the lease.
- Mineral (f) that is added to a MDL is a mineral. Mineral (f) (mineral) is a petroleum fluid that is extracted or produced by a chemical process or that is a by-product of that process and consists of, or includes, hydrocarbons.
- Hydrocarbon means a hydrocarbon in a gaseous, liquid or solid state.

The chemical process includes:–

- Hydraulic fracturing activities – a form of stimulation that involves specially engineered fluids being pumped at high pressure and rate into oil shale for the purpose of opening fractures.
- Hydraulic fracturing fluid – Means a fluid that is a mixture of water, liquid chemicals and other additives, including, for example, proppants and is commonly known as slurry.
- Stimulation means a technique used to increase the permeability of oil shale, including for example, hydraulic fracturing, cavitation's (sic), fracture acidizing, and the use of proppant treatments.
- Proppant – means well-sorted and consistently-sized sand or manufactured materials that are mixed into a hydraulic fracturing fluid to hold the fracture faces apart after the fluid used for hydraulic fracturing activities has been pumped under pressure into the well and the pressure has been released.

Exploration for oil shale and the extraction or production of a gasification product, mineral (f) will be earned out using a UCG Well.

- UCG well means a hole in the ground made or being made by drilling, boring or any other means as part of an underground gasification activity.

Any other means (mentioned in a UCG Well) refers to the activities mentioned above under the chemical process e.g. hydraulic fracturing activities etc.

We consider that from the above, we have shown the processes and activities that permit the extraction or production of a gasification product (mineral (f)) from oil shale under the MRA.

The holder of petroleum tenure must not carry out any of the following:–

(a) Extraction or production of a gasification product from oil shale by a chemical process.

(b) Explore for oil shale to carry out extraction or production mentioned in paragraph (a).

Refer to Rocsol Pty Ltd definition: Statement A (attached)
The term oil shale deposit is arbitrarily used to designate a natural sedimentary occurrence (of physical or chemical origin), of useful material (oil shale) in sufficient extent and degree of concentration, to invite exploration for commercial viability.

We are aware of a commentary on oil shale mining and processing published by the Department of Environmental and Heritage Protection (refer to Commentary A attached) that describes *'What is oil shale?'* We accept this commentary may have been written for educational, political or other reasons other than for the Department's administration of the MRA. Whatever the Department's uncertainties, we do not think that the statutory definition in S318AD *'What is oil shale'* is unclear.

From a further commentary, *'Queensland's unconventional petroleum potential'*, published in years 2012, 2013 and February 2014 (refer to Commentary B attached), it is apparent the Department considers that there are two types of petroleum, conventional and unconventional.

We consider this to mean that the Department considers that the petroleum which is extracted or produced is from a different source to conventional petroleum and may be administered under the same or different Acts.

Prior to making our applications we researched many papers on the make-up geology of the Cooper Basin. Part of this review included the commentary mentioned above which forms part of our statement.

We consider the commentary shows the tight gas, basin centred gas, shale gas and shale oil are gasification products. example is mineral (f), extracted or produced by a chemical process and are by-products of that process that are extracted from oil shale (shale or other rock, other than coal) under the MRA. For example:

'There are many examples from the history of petroleum exploration in Queensland of hydrocarbon shows within source rocks and tight reservoirs. In some cases, hundreds of wells have penetrated intervals which have constantly recorded oil and gas shows over shale or tight sandstone intervals. These shows were largely ignored in search of conventional petroleum due to the lack of technology to extract oil and gas.'

'A review of petroleum systems studies has highlighted formations with source rock potential across Queensland that may have potential for shale oil or gas.'

Table 2 – Summary of Attributes and unconventional resource target formations in Queensland. The Cooper Basin formations are the Toolachee, Roseneath, Epsilon, Murteree and Patchawarra (not natural underground reservoirs). The resource target is shale gas and tight gas. Under the Petroleum and Gas Act 2004 (P&GA), the resource target must be a natural underground reservoir or coal seams

Under the MRA, the resource target must be oil shale from which a gasification product mineral (f) (hydrocarbon) may be extracted or produced.

Notice to Applicant
1 (b)
Our proposed exploration is targeting oil shale as defined in S318AD *'What is oil shale'* under the MRA.

Notice to Applicant
1 (c)
Refer to Commentary B attached
Refer again to the commentary on *'Queensland's unconventional petroleum potential'* prepared by the Department of Natural Resources and Mines for years 2012, 2013 and 2014.
The statement was extracted from parts of this commentary.

The statement *'a geological formation with source rock potential'* is relevant because if a gasification product e.g. mineral (f) may be extracted or produced from the rock in the formation, the rock that contains the gasification product (mineral (f)) in the formation is oil shale. That rock in that formation is relevant because it is our oil shale exploration target.

'An oil shale exploration target' is source rock in a formation from which a gasification product, mineral (f), may be extracted or produced.

…

Notice to Applicant
1 (h) (i) and (ii)
Refer to Carey Accountants: Statement (attached)

The rationale for our multiple applications was provided in our application permits for all minerals other than coal. The rationale was based on having a standalone project where the size of the resource and the value of that resource will support exploration, development, infrastructure and all other cost, with acceptable margins for risk and profit. The gasification product (mineral (f) – hydrocarbons) are extracted or produced from oil shale has significant long term value. There is an opportunity for potential long term contracts to supply the LNG plants at Gladstone, the domestic market and other future markets with mineral (f) (hydrocarbon).

Our applications for an exploration permit for all minerals other than coal (specified mineral oil shale) include a works program submitted in a generic format as required under the Departments guidelines. The works program format requires a description of the proposed exploration activities and expenditure associated with that activity. This was provided in our applications. The generic works program format does not provide for the significant revenue that may be produced from successful exploration over the five year term.

Oil shale is a unique mineral in that it has no value until the gasification product (mineral (f)) is extracted or produced by a chemical process from the oil shale. Successful exploration for oil shale can be progressed

to production under tenure in the MRA. The revenue received from sales of mineral (f) (mineral – hydrocarbons) can pay back all costs associated with the exploration and development of a UCG well within one to two years.

…

Pursuant to S386 (j) (1) (b) we provide the additional information.

…

Notice to Applicant
2 (b)
The works program expenditure and commitment take into account the standard relinquishment schedule.

An oil shale exploration tenement is an EP or MDL grant for oil shale. Under the MRA each has a standard relinquishment schedule that our company will comply with.

Under the MRA, oil shale is a mineral and the gasification product extracted or produced is mineral (f), a mineral, if the oil shale from which it is extracted or produced is held under an MDL and mineral (f) has been added to the MDL and is endorsed on the MDL for oil shale.

The works program, in our applications, provides for a desk top study in the first three quarters of year 1 with drilling to commence in the last quarter. The desk top study will provide a proposed sequence of exploration drilling and the location of a UCG well within the area of each application.
Years 2 to 5 in the works program are the drilling of UCG wells in each application.
An EP for oil shale will permit the proposed desk top study in the first three quarters of year I.

However, a UCG well will be drilled to explore for and test sections of oil shale encountered in the UCG well for mineral (f) (mineral). The results from the testing of mineral (f) extracted or produced from oil shale will be used to confirm or vary the parameters used in the desk top study and used to determine the best location for the next UCG well in the sequence.

Under the MRA, the drilling and testing of a UCG well is only permitted if mineral (f) is a mineral. A MDL for oil shale where mineral (f) is endorsed on the MDL permits the extraction or production of mineral (f) (mineral) from oil shale (mineral).

When the EP applications are granted the company will have to make an application for a MDL for oil shale and an application under S208 to add mineral (f) to the MDL. This will permit the drilling and testing of all the proposed drill holes in our submitted works program and permitted under the MRA.

If the Minister is considering the grant of our EP applications would he consider an application from our company for a MDL for oil shale and adding mineral (f) under S208 at the appropriate time?”

The decision of the Minister's delegate refusing the applications for exploration permits

[43] In an affidavit filed on behalf of the respondent, Mr Johns, the delegate of the Minister authorised to make decisions under the MRA, swore:[29]

> "11. On 25 September 2014, pursuant to s 136(1) of the MRA, I decided to refuse the Applicants' applications ('My Decision'). In making My Decision, I took into account the prescribed criteria set out in s 137 of the MRA. I noted that the Minister's delegate, Mr Warren Cooper, had not approved the programs of work that accompanied the applications. In those circumstances, I considered that I was obliged to refuse the Applicants' applications, because the applications did not meet the criteria prescribed by s 137(2) of the MRA".

[44] This decision was communicated by letters dated 26 September 2014. Mr Johns' reasons for his decisions accompanied these letters, which relevantly said:[30]

> "**Findings on material questions of fact**
>
> Based on the above documentation before me I made the following findings of fact:
>
> A. The Ministers delegate under section 137(3) of the MRA completed an assessment on 18 September 2014 and decided not to approve the program of work.
> B. The decision not to approve the program of work was based on:
> B.1. Statements supporting the applications, including the work program rationales and the responses to the information request, demonstrate the work programs are not targeting mineral as defined at section 6 of the MRA and do not align with the objectives of the MRA.
> B.2. Considering all documentation submitted, the applicants have not provided sufficient geological information to support the existence of oil shale as defined in the MRA.
> C. It is within the powers given to me under section 136(1)(b) MRA to refuse the applications.
>
> **Reasons for the Decision**
>
> 1. The work programs were not approved by the relevant delegate in accordance with section 137(3) of the MRA.
> 2. The approval of the work program is a prescribed criteria for the grant of an exploration permit under section 137(2) and it is a requirement under section 136(2) for the Delegate to be satisfied that all prescribed criteria are met.
> 3. On the basis that the work program has not been approved I made the decision to refuse the applications pursuant to section 136(1)(b) of the MRA."

[45] The Minister's delegate for the purposes of considering whether to approve the program of work accompanying the application for exploration permits under s 137(2)(d) and s 137(2)(3) was Mr Warren Cooper. In his affidavit, he swore:[31]

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29 AB 113.
30 AB 253-254; AB 258-259.
31 AB 279-280.

"**My Decision**

23. On 18 September 2014, I decided to not approve the Work Programs ('My Decision').
24. In making My Decision, I completed an assessment of the Work Programs, pursuant to s 137(3) of the MRA ('the Worksheet'). The Worksheet was predominantly completed by me prior to making My Decision. However, I finalised the Worksheet contemporaneously in formulating the reasoning and basis for a decision not to approve the work programs. I completed the Worksheet as at the date of formal signing of the Worksheet, which marks the decision date. Exhibited and marked **'WC-12'** is a true copy of the Technical Assessment worksheet and attachments, dated 18 September 2014."

[46] In his affidavit, he went on to identify the materials or information to which he had regard when making his decision and then swore:[32]

"**Reasons for decision**

26. Having considered all of the above information, the following matters formed the basis for My Decision:
    (a) In reviewing the statements supporting the applications, the work program rationales, and the responses to information provided by the Applicants, I believed that the work programs proposed by the Applicants were not targeting a 'mineral' as defined by s 6 of the MRA and therefore did not align with the objectives of the MRA.
    (b) Further, in considering all of the documentation submitted, I considered that the Applicants did not provide sufficient geological information to support the existence of 'oil shale', as defined in the MRA.
    (c) I formed the belief that the exploration rationale, target stratigraphy, proposed drilling techniques, and work program clearly described activities that were related to petroleum exploration. Further, I considered the activities were targeting unconventional petroleum resources in the nominated target stratigraphy, and not mineral exploration for oil shale."

The decision of the primary judge

Primary judge's consideration of the issue of a purported error of law

[47] The appellants' argument was that there was an error of law within s 20(2)(f) of the JRA involved in Mr Cooper's conclusion[33] that the appellants were targeting an unconventional petroleum resource and not a "mineral". The appellants submitted that Mr Cooper had misinterpreted the applications lodged by the appellants in concluding that the appellants' intention was not to explore for oil shale but to instead

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32 AB 281.

33 The appellants referred to Mr Cooper's reasons at paragraphs 26(a) and 26(c) of his affidavit and to certain statements by Mr Cooper in the attachments to his worksheet and documents exhibited to his affidavit: see AB 274-385.

explore for a petroleum product.[34] The argument was premised on the fact that s 6(2)(i) of the MRA defined "oil shale" to be a mineral and the use of that term in s 6(2)(f) of the MRA, which defined the product of the process referred to, termed "mineral (f)", to be a mineral. The appellants directed attention to s 318AD of the MRA, which defined "oil shale" by reference to shale or rock from which a "gasification or retorting product" (within the meaning of that term as defined in s 10 of the PGPSA) might be extracted and produced. The argument was "that that term, found within s 10(2) of the PGPSA, in turn imported the substance mentioned in s 10(1)(c) of the PGPSA within the meaning of 'mineral (f)' and hence became a mineral within the MRA".[35]

[48] The respondent's response to that argument was summarised by the primary judge as follows:[36]

> "… the respondents pointed to the meaning of 'mineral (f)' found in s 6(2)(f) of the MRA and noted that the section referred to 'underground gasification process' and to the product that may thereby be extracted or produced or that which may result from the carrying out of such process. The respondents compared that with the 'petroleum' defined by s 2(1)(c) (sic[37]) of the [PGPSA] which might be extracted or produced using a 'chemical or thermal process'. The respondents submitted that s 318AD of the MRA did not import into the MRA the oil shale definition provided in s 318AD for all purposes and with it the 'gasification or retorting product' referred to in s 10(2) and thereby s 10(1)(c) of the [PGPSA]. The respondent pointed out that s 318AD was found in Chapter 8 of the MRA which contained 'Provisions for coal seam gas' and that Division 2 of Chapter 8, which included s 318AD, contained definitions for Chapter 8."

[49] The primary judge identified[38] that the central argument, that the decisions were affected by an error of law, reflected the appellants' suggested interpretation of the MRA. They submitted that s 318AD imported into the MRA the "gasification or retorting product" referred to in the definition of petroleum found in s 10(1)(a) and s 10(2) of the PGPSA, with the result that a fluid that consists of or includes hydrocarbons that may be extracted or produced from coal or oil shale by a chemical or thermal process is a "mineral" within s 6 of the MRA and specifically is "mineral (f)" within s 6(2)(f). The appellants' submission was that, if this interpretation was correct, then Mr Cooper's decision, and that of Mr Johns, that the appellants were targeting an unconventional petroleum resource and not a mineral with the result that they were not entitled to an exploration permit under the MRA,[39] was based upon an incorrect interpretation of the provisions.

[50] The primary judge noted that there were indications in the MRA pointing against the interpretation that s 318AD is a definition with an operation limited to ch 8.[40] In that regard, the appellants had relied on the note included after the reference to the mineral "oil shale" found within s 6(2)(i) and also the note found after s 10(1)(c) of the PGPSA which expressly referred to "mineral (f)".

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34 [2015] QSC 360 at [12].
35 [2015] QSC 360 at [12].
36 [2015] QSC 360 at [13].
37 The reference is to s 10(1)(c).
38 [2015] QSC 360 at [12].
39 AB 281.
40 [2015] QSC 360 at [12].

[51] His Honour observed that the MRA, together with its important counterpart, the PGPSA, contained somewhat contrary indications that created an ambiguity as to whether the definition of "what is oil shale" found in s 318AD of the MRA is to play a wider role within the MRA and, particularly, in informing the definition of "oil shale" within s 6(2)(i) and in giving added content to the concept of "mineral (f)" found within s 6(2)(f) of the MRA.

[52] His Honour had regard to *Project Blue Sky Inc & Ors v Australian Broadcasting Authority*[41] and concluded that:[42]

> "When regard is had to the objectives of the MRA in s 2 and to s 3A which concerns the relationship with 'petroleum legislation' while comparing those with s 318A which expresses the main purposes of Chapter 8 and its operation in conjunction with the [PGPSA] it can be seen that one of the objectives of the MRA is to provide for its operation consistent with the objectives of the Act in parallel with the objectives of the [PGPSA] avoiding wherever possible overlap or conflict. The foregoing, reinforced by the heading of Division 2 to Chapter 8 of the MRA leads me to the conclusion that, save in so far as the MRA deals with coal seam gas under Chapter 8 and does so in conjunction with the [PGPSA] and the *Petroleum Act* 1923, the intention of the MRA is that it operates and has effect independently of the [PGPSA] and without overlap and thus potential incoherence and consequent conflict or inconsistency. Thus in so far as Chapter 8 of the MRA concerns provisions for coal seam gas it contains within itself a definition of oil shale in s 318AD that draws in part upon provisions of the [PGPSA] but only for the purposes of coal seam gas exploration and mining. But in so far as a mining tenement, be it an exploration permit, a mineral development licence or a mining lease is concerned with coal or oil shale it is the MRA which informs the rights, interests and obligations including the meaning or understanding of the mineral called 'mineral (f)'."

[53] His Honour continued:[43]

> "To adopt a construction of the MRA that draws upon s 10 of the [PGPSA] to inform the meaning or understanding of 'mineral (f)' contended by the applicants leads to a potential incoherence by introducing into concept 'mineral (f)' fluids or substances that may include hydrocarbons more consistently covered by the [PGPSA]. The construction of the MRA contended for by the respondent is more consistent with the language and purpose of the provisions of the MRA and seems to give effect to harmonious goals when considered in light of the [PGPSA]. It follows that the decision from Mr Cooper (and the consequential decision of Mr Jones) not to approve the work programme because he considered the applicants were targeting petroleum rather than a mineral within the meaning of the MRA and that consequently the applications for exploration permits did not satisfy Part 2 of Chapter 4 of the MRA did not proceed upon an error of law."

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41 (1998) 194 CLR 355.
42 [2015] QSC 360 at [18].
43 [2015] QSC 360 at [19].

[54] By this reasoning, the primary judge disposed of the appellants' submission that the challenged decision was effected by an error of law involving the interpretation of the MRA. As to the appellants' submission that the decision of Mr Cooper (and with it, that of Mr Johns) was affected by error in so far as he concluded that the appellants had not provided sufficient geological information to support the existence of "oil shale" and that the work program described activities that were related to petroleum exploration,[44] his Honour accepted the respondent's submission that Mr Cooper's decision in this respect involved a finding of fact, not a question of law, and so was not reviewable.[45]

The primary judge's consideration of the issue as to an alleged irrelevant consideration

[55] The appellants' contention, at first instance, that Mr Cooper had taken into account an irrelevant consideration with the result that his decision, and that of Mr Johns, involved an improper exercise of power within s 20(2)(e) of the JRA, focused on paragraph 26(b) of Mr Cooper's affidavit and his conclusion that the applicants "did not provide sufficient geological information to support the existence of 'oil shale'".[46] The appellants' submission was that it was not necessary that an applicant for an exploration permit demonstrate the likely existence of a mineral as a prerequisite to obtaining a permit to explore for the mineral. In making that submission, the appellants referred to the objectives of the MRA set out in s 2 and to the sections found in ch 4 (including s 131 and s 133). They compared those sections, which concerned exploration, with those concerning mineral development licences covered by ch 5 and the provisions concerning mining leases in ch 6.[47]

[56] The respondent's argument that no irrelevant consideration had been taken into account was summarised as follows:[48]

> "…the applications for an exploration permit were correctly refused because on the uncontradicted evidence of Mr Cooper it was not demonstrated that oil shale, which was the high priority target material sought under the permit the exploration programme for which was the subject of the applications, could exist in the area covered by the permits. Further the respondent submitted that this finding was one of fact not of law. It was submitted that in order for there to be an application for a permit within s 131(1)(a) of the MRA it was necessary that the object of the exploration be a mineral within the meaning of that Act hence if the possible existence of the target mineral could not be demonstrated within the programme of work required to be specified in the application pursuant to s 133(f)(i) the application might be properly refused under s 137(3)(a) of the MRA."

[57] The primary judge rejected the appellants' contention. His Honour referred to the guidelines issued under the MRA that were designed to be a guide for those making an application under the MRA[49] and, in particular, referred to the "work programme"

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44 AB 281.
45 See *Australian Broadcasting Tribunal v Bond & Ors* (1990) 170 CLR 321 at 355-356.
46 AB 281.
47 [2015] QSC 360 at [12].
48 [2015] QSC 360 at [13].
49 AB 326-372.

(specification and description of which is required as part of an application),[50] which is also the subject of guidelines.[51] His Honour observed that the guidelines require an explanation of the rationale behind the work program:[52]

> "It is that statement of rationale within the guidelines that Mr Cooper refers to which formed the basis for his decision as explained in paragraph 26 of his affidavit. Regard might be had to the objects of the MRA including, in addition to those provided in s 2(a) and (b) set out above but also to other objects including that – to minimise land use conflict with respect to prospecting, exploring and mining; to encourage environmental responsibility in prospecting, exploring and mining; and to encourage responsible land care management in prospecting, exploring and mining. Additionally, regard might be had to the scheme of the Act, one designed to achieve a harmonious operation of the MRA with the objects of the [PGPSA]. One can readily accept that the activities involved in exploration under a permit may cause vexation or disruption to a range of persons including pastoralists or farmers, indigenous traditional owners and others who might have overlapping rights under the [PGPSA]. Further exploration activities can raise legitimate concerns in respect of environmental or land care issues."

[58] His Honour concluded:[53]

> "In my view, therefore, relevant considerations, as part of the consideration of an application for an exploration permit under s 133(1), leading to or involving a consideration of the prescribed criteria for the grant of an exploration permit under s 137(3), might include the scope of the work and potential disruption to others and whether the proposed works might be fruitless but in the undertaking cause harm to others. To put it more bluntly it seems a relevant consideration to an assessment as to whether to grant an exploration permit under the MRA for the decision maker to have a degree of satisfaction that the applicants are targeting minerals within the meaning of that Act and not some other object other than a mineral and with some prospect of success. In order to make such an assessment the programme of works and the related technical research and data would necessarily have to be considered."

Issues

Issue 1 - The proper characterisation of fracking and the acceptance of a factual description of it

The appellants' submissions

[59] The appellants contended that the trial judge had resolved this issue, essentially, by concluding that it was irrelevant.

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50 MRA, s 133(f)(i).
51 AB 353-361.
52 [2015] QSC 360 at [23] (citations omitted).
53 [2015] QSC 360 at [23].

[60] His Honour accepted a submission that the definition of "oil shale" provided in s 318AD of the MRA only applied to ch 8 of the MRA, the chapter within which the definition appeared, and concluded that such a restriction was necessary to avoid conflict between the MRA and the PGPSA.

[61] The appellants submitted that his Honour seemed to have implicitly accepted the contention that, if s 318AD applied to the whole MRA, then fracking, as described by Mr Cooper, must constitute a chemical process. His Honour considered that that proposition gave rise to a conflict between the PGPSA and the MRA. However, the appellants submitted that there was no conflict because s 32 of the PGPSA specifically prohibited exploration for oil shale under its equivalent of an exploration permit (the authority to prospect). Once it was accepted that the resource was "oil shale", the only statutory regime by which one may be permitted to explore for it is the exploration permit regime under the MRA. It followed that there was no possibility of conflict between the MRA and the PGPSA.

[62] It was argued that Mr Cooper's conclusion on this issue depended on a question of fact (identifying the accurate description of fracking) and a question of law (whether that description fell within the meaning of "chemical process" in s 10 of the PGPSA). The appellants did not seek to review Mr Cooper's resolution of the question of fact but challenged his "implicit application" of s 10 of the PGPSA to his assessment of the facts.

[63] Reference was made to Mr Cooper's acceptance of the following statement as an accurate description of the process of fracking:

> "There is nothing 'chemical' about typical hydraulic fracturing – the act of fracturing a tight reservoir is a /very/ (sic) physical process. Chemistry comes into it when considered how the rock will react to the fluid being pumped into it not the actual derivation of the final product".

[64] The appellants submitted that that description, while it described the whole process as "very physical", plainly identified "chemistry" as a component of the process. It was argued that the inference to be drawn from the fact that the chemistry is concerned with how the rock (from which the hydrocarbon is to be extracted) reacts to the fracturing fluid being pumped into it is that chemistry is involved in the overall process. It was contended that was enough to satisfy the definition of "chemical process" under the PGPSA for the following reasons.

[65] Firstly, in construing the meaning of "chemical process" as it appears in s 10(1)(c) of the PGPSA, the appellants pointed to the following. The words "chemical process" were able, it was said, to be contrasted with the common phrase "chemical reaction" which has a relatively confined meaning as "a process that involves change in the structure of atoms, molecules or ions".[54] The term "chemical reaction" is used in s 724 of the PGPSA, which, it was submitted, suggested that the legislature intended a wider meaning when it used the words "chemical process" in s 10. The appellants suggested this was easy enough to accept given that any process that did not purely involve "change in the structure of atoms, molecules or ions" might be thought to fall outside of the definition of "chemical reaction". If so, any process that used a combination of chemical reactions and other mechanisms to achieve a result would not be included in the definition of "chemical process", with the effect that a gasification or retorting product could not be obtained by any process that had a physical component to it.

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[54] Oxford Concise Australian Dictionary, 2nd ed.

[66] Those matters were said, by the appellants, to militate in favour of a less constrained definition, with the effect that a "chemical process" is a process in which chemicals are involved.

[67] The appellants also submitted that the MRA plainly included extraction of hydrocarbon fluids within the meaning of what it is to mine. Section 6A, in defining that verb, included "extracting mineral from its natural state". The minerals (as defined in s 6 of the MRA) which may be mined included "mineral (f)" (the gaseous product of oil shale) and coal seam gas. It was submitted that the legislature's obvious intention was that exploration for hydrocarbons should occur under the MRA and that this dispelled any notion that exploration for, and extraction of, hydrocarbons was the exclusive preserve of the PGPSA. Accordingly, it was submitted that his Honour erred in failing to conclude that the decisions to refuse to grant the exploration permits were affected by error.

The respondent's submissions

[68] The respondent submitted that the primary judge was correct in concluding that, insofar as (relevantly, for this case) an exploration permit was concerned with "oil shale", it was the MRA which informed the rights, interests and obligations, including as to the meaning or understanding of "mineral (f)".[55] His Honour was also correct in rejecting the construction of the MRA for which the appellants contended[56] on the basis that it resulted in a potential incoherence between the statutory regimes by introducing into the concept of "mineral (f)" fluids or substances that may include hydrocarbons that were more consistently covered by the PGPSA.

[69] It followed, it was submitted, that the issue of the proper characterisation of fracking only fell for determination if the definition of "petroleum" in the PGPSA could be read as being imported into the MRA. Once that construction was rejected, the question of what was and was not a chemical process could not arise, as it was a question which only s 10 of the PGPSA necessitated the determination of.

[70] The respondent pointed out that, in submitting that the basis of these findings (as to the inconsistency his Honour identified between the two Acts on the construction for which the appellants contended) may be impugned,[57] the appellants accepted that part of Mr Cooper's decision was a question of fact.[58] A decision on a question of fact is not open to judicial review.[59]

[71] The respondent agreed that left only the appellants' assertion that Mr Cooper's conclusion on this technical determination should be characterised as a question of law because he purportedly misconstrued the document describing the work program as a potential subject of review.[60] On the appellants' case, that question was predicated upon Mr Cooper's "implicit application of section 10" of the PGPSA. The respondent contended that submission relied entirely on technical arguments about whether or not "fracking" is a chemical process.

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55 [2015] QSC 360 at [18].
56 [2015] QSC 360 at [19].
57 Appellants' outline of argument at [23] and [24].
58 Appellants' outline of argument at [25].
59 *Australian Broadcasting Tribunal v Bond* (1990) 170 CLR 321 at 355-356 per Mason CJ.
60 Appellants' outline of argument at [25]-[31].

[72] The respondent argued that this was a question of fact and not susceptible to judicial review, especially in circumstances in which there was no technical evidence to contradict the expert material upon which the decision-maker relied. It was never suggested by the appellants that there was "no evidence" to support the finding that the decision-maker reached on this issue.

[73] Accordingly, the respondent submitted that the primary judge did not misunderstand the submission made by the appellants about the decision-maker's treatment of the work program (as was alleged in Ground 2 of the Notice of Appeal). In any event, it was agreed that the decision-maker's reading of the work program was one that was reasonably open to him (as a person with some technical expertise) and proceeded on the correct understanding of the statutory regime.

(a) *Legislative history of s 6 and ch 8 of the MRA*

[74] Before addressing the submission concerning the first issue, it is useful to note the following concerning the legislative history of s 6 and ch 8 of the MRA.

Introduction of ch 8 of the MRA and the present form of s 6 of the MRA

[75] Chapter 8 of the MRA was inserted (albeit at the time referred to as pt 7AA) by the PGPSA. Section 318AD of the MRA, which defines oil shale, was inserted by the PGPSA and has not been subsequently amended.

[76] In a footnote to the definition of "oil shale" in this original iteration of the present form of s 6 of the MRA, it is stated: "See section 318AD (What is 'oil shale')". In the version of s 6 in force immediately prior to the commencement of the *Mines Legislation (Streamlining) Amendment Act* 2012 (Qld), this footnote was incorporated as an "Editor's note": "*Editor's note* — See section 318AD (What is *oil shale*)". However, s 4 of sch 1 of the *Mines Legislation (Streamlining) Amendment Act* 2012 (Qld) removed the "Editors' note" and inserted the current "Note":

> "**4 Section 6(2)(i), editor's note—**
>
> *omit, insert—*
>
> *'Note—*
>
> For what is oil shale, see section 318AD.'."

Position prior to enactment of the PGPSA

[77] Immediately prior to the enactment of the PGPSA, the definition of "mineral" was found in sch 2 of the MRA and was as follows:

> "'**mineral**' means a substance which normally occurs naturally as part of the earth's crust or is dissolved or suspended in water within or upon the earth's crust and includes a substance which may be extracted from such a substance, and includes—
>
> …
>
> (c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or

future mining operations for coal or the extraction or production of mineral oil therefrom;

…

(f) mineral oil or gas extracted or produced from shale or coal by in situ processes;

…

(i) shale from which mineral oil may be extracted or produced;

…

but does not include—

…

(m) petroleum within the meaning of the *Petroleum Act 1923*;

…

(o) water."

[78] The MRA at that time did not include a definition of oil shale, as is currently contained in s 318AD. However, there were definitions that are cognate to "mineral (f)" and also "oil shale" contained within the earlier definition of "mineral":

"(f) mineral oil or gas extracted or produced from shale or coal by in situ processes; …"

(i) shale from which mineral oil may be extracted or produced;"

[79] The Explanatory Note for the PGPSA states, in relation to the insertion of s 6 of the MRA, that:

> "Clause 951 defines the meaning of 'mineral'. This has been relocated from the 'Schedule – Dictionary' as it is a fundamental definition for this Act. Consequential drafting changes have been made to better express the definition of clay, and locate all the exceptions together. Changes have also been made to mineral '(c)' now called coal seam gas, and the main definition of coal seam gas is provided for later in this Bill. The mineral '(f)' has been clarified. This mineral defines underground coal gasification products and has been clarified to include coal seam gas that will be desorbed and extracted as a consequence of the gasification process. The mineral '(i)' has been simplified and the main definition of oil shale is now provided for later in this Bill."

[80] The meaning of "oil shale" provided in s 318AD is referred to in the Explanatory Note as follows:[61]

> "Clause 300 defines "oil shale". The meaning of this term is defined, as it is used regularly throughout **this Part**."

Subsequent amendments

[81] The definition of "mineral" in s 6 of the MRA introduced by the PGPSA was then relevantly amended by s 76 of the *Clean Energy Act* 2008 (Qld):

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[61] (emphasis added).

"**76 Amendment of s 6 (Meaning of *mineral*)**

(1) Section 6(2)(f)—

omit, insert—

'(f) a product that may be extracted or produced by an underground gasification process for coal or oil shale (***mineral (f)***) and another product that may result from the carrying out of the process (also ***mineral (f)***);'.

(4) Section 6(3)(c)—

renumber as section 6(3)(d).

(5) Section 6(3)—

insert—

'(c) mineral (f) is only a mineral if—

(i) the coal or oil shale, from which it is extracted or produced, is held under a mineral development licence and it has been added to the licence under section 208; or

(ii) the coal or oil shale, from which it is extracted or produced, is held under a mining lease and it is specified in the lease.'."

(6) These amendments, coupled with the addition of the "Note" (that was formerly an "Editor's Note") by the *Mines Legislation (Streamlining) Amendment Act* 2012 (Qld), provide the version of s 6 as it existed at the relevant time.

[82] The Explanatory Notes for the *Clean Energy Bill* 2008 state, in reference to the s 6 definition that:[62]

"Clause 76 amends the definition of mineral to more clearly provide for its application in respect of underground coal gasification.

One form of the process for underground coal gasification involves the combustion of coal underground in the coal seam and the capture of the resultant gas for processing into oil and its related by-products. In another form it involves the mining of coal and processing to gas on the surface. This amendment relates to the former.

The products of underground coal gasification are currently defined as a mineral in section 6(2)(f) of the *Mineral Resources Act 1989* as '*a product that may be extracted or produced by an underground gasification process for coal or oil shale and another product that may result from the carrying out of the process*' and commonly termed the 'mineral f' because of the section's reference (section 6(2)(f)).

This definition is anomalous to the other minerals listed under section 6, in that the product itself cannot be actively explored for, as it is a mixture

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62 (emphasis added).

> of artificial alteration products and not a naturally occurring mineral. Exploration may only be carried out for the feedstock mineral (coal or oil shale). **The only way mineral 6(2)(f) may be realised is through combustion** of the identified oil shale or coal resource.
>
> Consequently, the holder of an exploration permit, either for all minerals other than coal (oil shale), or for coal, cannot explore for "a product that may be extracted or produced by an underground gasification process for coal or oil shale and another product that may result from the carrying out of the process", ie the products of an industrial process. The presence of coal or oil shale must first be established before either trial testing or commercial production occurs and before the "mineral 6(2)(f)" can be extracted, as a holder cannot explore for this mineral.
>
> The amendment to the definition of "mineral" in section 6 is the initial step in the (sic) legislating the policy position on underground coal gasification that;
>
> (a) **To explore for the feedstock to produce in-situ gasification products, a proponent must be the holder of an exploration permit for coal in the case of coal or an exploration permit for minerals in the case of oil shale, under the provisions of the Mineral Resources Act 1989. This is necessary because the presence of coal or oil shale must first be established before either trial burning or commercial production occurs and before the 'mineral f' can be extracted; a person cannot explore for the products of an industrial process."**

Consideration of issue 1

[83] I accept the respondent's submission that it is clearly important to know what it was the appellants were exploring for because one of two different statutory regimes might apply depending on the answer to that question.

[84] An exploration permit under s 133 of the MRA may only be made in respect of a "mineral", a term defined in s 6 of the MRA. By s 6(2)(i) "mineral" includes "oil shale". An application for an exploration permit under the MRA requires the mineral for which the permit is sought to be specified. "Oil shale" may only be the subject of a mineral exploration licence under the MRA, since petroleum under the PGPSA does not include oil shale[63] which is defined as "shale or rock from which a gasification or retorting product can be extracted and produced".[64] The meaning of "oil shale" for the purposes of s 6(2)(i) is to be construed on the basis that the note "For what is oil shale, see section 318AD" of the MRA forms part of s 6(2)(i) of the MRA.[65]

[85] Section 318AD is contained in ch 8 of the MRA which concerns the interaction between the MRA and the PGPSA. It relevantly provides that "oil shale" is shale or other rock from which a gasification or retorting product, as defined in the PGPSA may be extracted or produced.

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63 PGPSA, s 10(3).

64 PGPSA, s 300.

65 See *Acts Interpretation Act* 1954 (Qld) (AIA), s 14(4). *Hayes v Westpac Banking Corporation & Anor* [2015] QCA 260 at [33]. The dictionary in sch 2 has the same effect, see s 5.

[86] Section 318AD of the MRA thus incorporates the meaning of the term "gasification or retorting product" as stated in the PGPSA. That term is relevantly defined in s 10(1)(c) of the PGPSA as "a fluid that is extracted or produced from oil shale by a chemical or thermal process" and includes hydrocarbons. "Mineral (f)" is identified in s 10(1)(c) of the PGPSA as "an example" of such a fluid; that notation forms a part of s 10(1)(c).[66] A "gasification or retorting product" within s 10(1)(c) of the PGPSA may satisfy the definition of "petroleum" in s 10(1) in that Act. But that does not result in an importation of the definition of "petroleum" into the definition of "mineral". For the purposes of the MRA, mineral (f) is only a "mineral" if the provisions in s 6(3) of the MRA are satisfied. That is made quite explicit by s 6(2) and s 6(3) of the MRA. Those provisions state that mineral (f) is only a "mineral" for the purposes of the MRA if the oil shale from which it extracted or produced is either held under a mineral development licence and mineral (f) has been added to the mineral development licence under s 208 of the MRA, or a mining lease and mineral (f) is specified in the lease. If there is any ambiguity, the Explanatory Notes referred to reinforce the interpretation I favour.

[87] Unlike the primary judge, I do not consider there is any basis to confine the meaning of "oil shale" contained in s 318AD of the MRA to ch 8 in which it is found. Neither the note to s 6(2)(i), nor the definition in sch 2 of "oil shale", support such a restriction. Applying the definition of "oil shale" in s 318AD of the MRA does not cause any incoherency. It is important in this regard to bear in mind that, even though "oil shale" has the meaning described in s 318AD of the MRA for the purposes of the MRA as a whole, that does not impact on the construction of "mineral" for the purposes of the MRA.

[88] The present applications are for exploration of "oil shale" only. The appellants submitted "a description of the program of work proposed to be carried out" as part of their applications for exploration permits as required by s 133(f) of the MRA. As the respondent submitted, the decision-maker's task (as delegate of the Minister) was to have regard to matters that included "when and where the applicant proposes to carry out exploration activities in the proposed area of the exploration permit" and whether the appellants had the financial and technical capability for carrying out the work.[67] Approval of the work program was a pre-requisite criterion to the grant of exploration permits.[68] As the work program was refused by Mr Cooper on 18 September 2014, it was incumbent upon Mr Johns, who made the ultimate decision on 25 September 2014, to refuse the applications for the exploration permits.

[89] I accept the contention by the respondent that, while the targeted mineral specified by the appellants for the applications was "oil shale", the decision-maker was permitted by the statutory regime to make inquiries about the likely existence of what the appellants said they wished to explore for, or to seek satisfaction as to the mineral actually being targeted. When considering a work program, the decision-maker was entitled to consider what was being targeted by the work program.

[90] As the respondent submitted, technical advice was obtained by the Crown in considering the appellants' work program. As the respondent stated in its submissions, that advice was that the place in which the appellants said they intended exploring had stratigraphy that would preclude the existence of oil shale as that term is used in

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66 See s 14(4) of the AIA.
67 MRA, s 137(3).
68 MRA, s 137(2)(d).

a technical sense. The advice was that the material in that location was "thermally mature", meaning that a substance known as kerogen had been formed (kerogen being the substance from which hydrocarbons are produced from oil shale as a result of gasification or retorting).

[91] The decision challenged at first instance was based on technical advice given to the decision-maker which indicated that oil shale could not, as a matter of geology, exist in the relevant area and that the kind of activities that the MRA might authorise appeared to be a physical impossibility.

[92] In my view, his Honour's conclusion that the decision-maker had made a determination of fact, which did not constitute an error of law, was correct.[69] Further, the decision-maker considered matters plainly relevant, having regard to the objects of the legislative regime within which the decision was made,[70] and thus the decision-maker did not take into account an irrelevant consideration. By reason of those matters, the decisions were not affected by reviewable error. The primary judge was correct in rejecting any contention that the definition of petroleum in s 10(1) of the PGPSA was imported into the MRA. There was no cause to consider the proper characterisation of "fracking".

Issue 2 – Requiring proof of the existence of oil shale versus having a degree of satisfaction that the appellants were targeting oil

The appellants' submissions

[93] Mr Cooper stated that he "considered that the applicants did not provide sufficient geological information to support the existence of 'oil shale' as defined in the MRA". That conclusion was accompanied by observations he made in the worksheet, including:[71]

> "The information provided does not demonstrate that the area contains oil shale, or in fact has the potential to contain oil shale that would be suitable for an underground gasification processeses (sic).
>
> The exploration rationale for the proposed work program for the exploration targets at depth does not sufficiently demonstrate the existence of material that would be considered mineral under the MRA."

[94] It was submitted that these statements revealed that, in Mr Cooper's conception of the decision-making process to obtain an exploration permit to determine whether oil shale exists, one must demonstrate that oil shale exists. However, it was argued that the statutory regime clearly contemplated that exploration is the means by which mineral deposits are discovered, as opposed to simply being a process for determining whether a known deposit is a feasible candidate for extraction.

[95] On the appellants' case, the MRA, broadly put, contemplated a regime of exploration, development and mining, in that order. The purpose of the exploration stage was to establish whether there is a deposit. If that was established, one could apply for a mineral development licence for the purpose of establishing the feasibility of mining that deposit. If that process indicates potential, one can then apply for a mining lease. The following points were made by the appellants in that regard.

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69 [2015] QSC 360 at [19] and [20].
70 [2015] QSC 360 at [23].
71 AB 377.

[96] Under s 129 of the MRA, the holder of an exploration permit for minerals is authorised to enter the relevant land "with or by such vehicles, vessels, machinery and equipment as may be necessary or expedient for the purpose of exploring". It was submitted that the definition of "explore" given in the dictionary in sch 2 makes plain that the MRA's conception of exploring is to discover the existence of minerals rather than to simply confirm that a known mineral deposit is a feasible candidate for extraction.

[97] Chapter 5 of the MRA sets out the regime for the grant of mineral development licences. Section 179 sets out the fact that a mineral development licence is the natural successor tenure to an exploration permit. Section 181(3) demonstrates that the purpose of a mineral development licence is to evaluate an ore body. The natural implication is that it contemplates evaluation of an ore body discovered under an exploration permit. In other words, the mineral development licence is the tenure under which feasibility is established. Section 183 sets out the matters that must be included in an application for a mineral development licence. It is the equivalent of s 133 in ch 4 of the MRA. It was said that the requirement in s 133(1)(m) of "a detailed description and technical particulars of the mineral occurrence for which the mineral development licence is sought together with any necessary supporting documents" was of particular note. In support of their argument, the appellants submitted that there was no equivalent requirement in s 133 in respect of an application for an exploration permit. This was said to reinforce the position that the demonstration of the existence of a mineral occurrence was irrelevant to the approval of an exploration permit application. The appellants referred to the part of the MRA dealing with mining leases, ch 6, as being similar. They noted that s 245(1)(o)(iii)(A) requires an applicant to provide a statement that outlined the mining program proposed. No equivalent requirement exists in respect of an exploration permit. For those reasons, the appellants contended that the Court should conclude that Mr Cooper's view that there was insufficient evidence to establish the existence of oil shale was an irrelevant consideration, and that refusing the applications on that ground constituted an improper exercise of power.

The respondent's submissions

[98] The respondent noted that it was alleged below that Mr Cooper had relied upon an irrelevant consideration, being that to determine whether oil shale exists, one must demonstrate that oil shale exists.[72] The ground of appeal advanced was that the primary judge erred in concluding that the decision-maker sought a degree of satisfaction that the appellants were targeting a mineral within the meaning of the MRA when what they really sought to do was prove the existence of the particular mineral. It was submitted by the respondent that Mr Cooper's task was to consider whether to approve a program of work accompanying the appellants' application for an exploration permit. Relevantly, Mr Cooper's reasons for not approving the work program included that "the [appellants] did not provide sufficient geological information to support the existence of 'oil shale'".

[99] The respondent argued that his Honour considered the guidelines to which Mr Cooper had regard in making the decision, along with the objects of the MRA, which were to:

- encourage and facilitate prospecting and exploring for and mining of minerals, s 2(a);

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72 Appellants' outline of argument at [33].

- enhance knowledge of the mineral resources of the state, s 2(b);
- minimise land use conflict with respect to prospecting, exploring and mining s 2(c);
- encourage environmental responsibility in prospecting, exploring and mining, s 2(d); and
- encourage responsible land care management in prospecting, exploring and mining, s 2(g).

[100] As his Honour found, "relevant considerations, as part of the consideration of an application for an exploration permit under s 133(1), leading to or involving a consideration of the prescribed criteria for the grant of an exploration permit under s 137(3), might include the scope of the work and potential disruption to others and whether the proposed works might be fruitless but in the undertaking cause harm to others".[73] The respondent referred to the relevant guideline, for example, made under the MRA, which were as follows:

> "**Work program rationale**
> *Mandatory
>
> The department requires an explanation of the rationale behind the proposed work program, including an overall rationale for the complete work program and a more detailed rationale for the years in the program.
>
> The rationale for the work program statement needs to address the following questions.
>
> **What are you looking for?**
>
> - Explain the high-priority target mineral/s to be explored for during the permit term
> - Include where possible the methodology, preferred techniques and definitive parameters to be used
>
> **Why do you think you will find it here?**
>
> - Provide a summary of the covering research, previous work and the exploration model developed to support the proposed work program which is being undertaken to advance the exploration model
> - Where little or no research is currently available, you should state there is no known research to reference but explain why that exploration model has been chosen
> - Include (where practicable or necessary) the regional geological settings, including as appropriate, basin models, structure, mineralization, deposits and specifically addressing the geological aspects of the area applied
>
> **How do you propose to go about finding it?**
>
> - Significant work programs must include a map that shows the geological aspects of the application area with the permit area outlined

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73 [2015] QSC 360 at [23].

- Provide an outline illustrating how the exploration is to be undertaken during each year of the permit term and describe when and where the activities will occur, that is, a general locality or in relation to geological references
- Describe the work program for each year of the proposed permit term, including the machinery and equipment to be used each year to undertake the exploration work"

[101] The respondent noted that the appellants did not seek to challenge the validity of the guideline, nor did it suggest that it went beyond the terms, scope and purpose of the relevant provisions of the MRA.

[102] It was submitted that, properly understood, what Mr Cooper sought to be satisfied of was the appropriateness of the work program. It was said by the respondent that, having regard to those matters, where the scientific evidence before Mr Cooper led irresistibly to the conclusion that the appellants had not shown that minerals governed by the MRA could in reality be the target of their program, consideration of that issue was relevant to Mr Cooper's task. The respondent submitted, therefore, that the primary judge did not fall into error in finding the decision-maker did not take irrelevant considerations into account. The statutory power to assess the adequacy of a work program must necessarily bring with it the need for a degree of satisfaction on the part of the decision-maker that the applicant for the permit is in fact targeting minerals within the meaning of the MRA under which the application has been made and would do so with some prospect of success.

Consideration of issue 2

[103] In my view, the respondent's submissions should be accepted. The decision-maker, contrary to what the appellants contended, did not seek "proof" of the existence of oil shale but rather sought satisfaction that what the appellants were targeting was indeed a mineral for the purpose of the statutory regime under which the applications were made. The evidence indicated that relevant minerals for the purposes of the exploration permit under the MRA, namely "oil shale", did not exist in the area proposed to be explored, so the decision-maker here was therefore entitled to find that the appellants had not provided sufficient geological information to support the existence of "oil shale" as defined in the MRA.

[104] Given the confusing position that the appellants had adopted in their applications, the decision-maker was entitled to make inquiries about what kind of resource was in the exploration area. The technical assessment showed that the mineral being targeted could not be one that was of a type that was governed by the MRA. Accordingly, there was no error in the primary judge's approach to this issue.

Orders

[105] I would dismiss the appeals and order that the appellants pay the respondent's costs.

[106] **HENRY J:** I agree with the reasons of Philippides JA and the orders proposed.