

AN INTERFACE OF LAW AND TECHNOLOGY: DEFINING THE EXTENT OF MINING OPERATIONS

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This paper will examine legislative and common-law definitions of mining operations to assess how the law defines the technological process to which it seeks to relate. In addition it will examine a hypothetical set of facts in the context of selected enactments relating to “mining operations” and decisions made on those enactments.

Facts

1. The facts which will be used in this paper assume the following:—
 - The mining of nickel from a mine at Deepdig in Western Australia.
 - The transport of the nickel so mined
 - to a smelter at Bushways, 30 miles from the mine, from which forty-five per cent of the product of the smelter is sold as matte, with the remainder being transported to a refinery at Seabreeze for production of nickel metal, or
 - directly to the refinery at Seabreeze for production of nickel metal and subsequent export.

It is not disputed that the operations by which the nickel is extracted from the ground are operations in the nature of mining nor that the nickel is a mineral. The primary issue for consideration is whether the operations at the smelter and the refinery are, in the context of specific legislation, to be regarded as coming within the definition and scope of mining operations for the purposes of such legislation.

Method of Approach

2. In *N.S.W. Associated Blue-Metal Quarries Ltd. v. Federal Commissioner*

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of *Taxation*¹ Kitto J. at first instance had to decide whether certain operations fell within the description "mining operations upon a mining property" within the meaning of section 122 of the *Income Tax and Social Services Contribution Assessment Act 1936 (Cth)* as it then stood. Applying *Federal Commissioner of Taxation v. Broken Hill South Ltd*² he described the issue as raising a mixed question of law and fact. Firstly, he said, it is necessary to decide as a matter of law whether the Act in question uses the expression "mining operations" in any sense other than that which the words have in ordinary speech. To do this, he continued, it is necessary to examine whether the expression is defined in the Act, whether it has any technical legal signification and whether similar expressions are used elsewhere in the Act in a way which suggests Parliament intended any other meaning than that which the words ordinarily have in this country at this time. The second step is in determining the common understanding of the words, that being a question of fact.

The next question, in his view, must be whether the material before the court reasonably admits of different conclusions on whether the operations fall within the ordinary meaning of the words so determined, that being a question of law. If different conclusions are reasonably possible, it is necessary to decide which is the correct conclusion and that is a question of fact.

In approaching the issue it is therefore necessary to take the following steps in relation to each of the Acts considered:—

- to determine as a matter of law how the expression "mining operations" is used in each Act
- to determine as a question of fact the common understanding of these words in Australia at this time
- to determine as a question of law whether different conclusions can be reached on whether the operations in question fall within the ordinary meaning of "mining operations" as so determined.
- to decide as a question of fact which is the correct conclusion on whether the operations fall within the ordinary meaning of "mining operations" as so determined.

Given the above analysis by Kitto J., it is interesting to examine what happened to the decision in *Utah Development Co. v. Federal Commissioner of Taxation*³ when it went on appeal to the High Court of Australia. As will be discussed subsequently in paragraph 6.4,

1 (1956) 94 C.L.R. 509 at 511-12

2 (1941) 65 C.L.R. 150 at 154, 155, 160

3 (1975) 75 A.T.C. 4103 upheld in (1976) 76 A.T.C. 4119

Newton J. at first instance held (as far as is relevant here) that certain preparation plants for treating “run-of-mine” coal and converting it to “metallurgical coking” coal were not being used in mining operations, so that the taxpayer was not disentitled to a deduction otherwise provided under the relevant legislation. On appeal Barwick C.J., with whom Gibbs J. and Stephen J. agreed, said that in so deciding his Honour was dealing with a question of fact and it was fully open to him to consider that the mining operation finished with the extraction of the run-of-mine coal from the ground. The Australian Tax Review⁴ said the function of the High Court on the appeal was to determine whether the accepted facts fell into the ambit of the expression “mining operations” and this was a question of law. The submission of the Review was that the matter had been wrongly treated as a question of fact. The Review pointed out there was virtual acceptance by the parties of the facts and that different conclusions were not reasonably possible as to the facts.

Ordinary Meaning

3. English language dictionaries do not give a definition of the words “mining operation” used in conjunction. The Shorter Oxford English Dictionary defines “mining” as the action of the verb “mine”. That verb is defined to mean “to obtain (metals, etc.) from a mine”⁵. The noun “mine” is defined as “an excavation made in the earth for the purpose of digging out metallic ores, or coal, salt, precious stones, etc. also, the place yielding these”⁶.

In *Earl of Lonsdale v. Attorney General*⁷ Slade J. considered some dictionary definitions of “mines and minerals” (the references to minerals not concerning us here). He said:—

Dr. Johnson’s Dictionary (1786 edn) gives as its primary definitions of the verb ‘mine’: ‘To dig mines or burrows; to form any hollows under ground’ and of the noun ‘mine’: ‘A place or cavern in the earth which contains metals or minerals’. . . . A similar use of language is to be found in the Encyclopaedia Britannica (1797 edn) and in Hensleigh Wedgwood’s Dictionary of English etymology (1872), which defines the verb ‘mine’ as ‘to dig underground’ . . . A similar usage is also reflected in the New Oxford Dictionary (1908). It gives the primary definition of the noun ‘mine’ as being ‘an excavation made in the earth for the

4. (1976) 5 *Australian Tax Review* 201 at 202

5. *The Shorter Oxford English Dictionary* (1972) 1254

6. *Id.* at 1253

7. [1982] 3 All E.R. 579 at 595

purpose of digging out metals or metallic ores or certain other minerals as coal, salt, precious stones (in 16th-17th century occasionally building stones, sand). Also, the place from which such minerals may be obtained by excavation'. The primary definition given by this dictionary to the verb 'mine' is 'to dig in the earth; esp. in a military sense, to dig under the foundations of a wall etc. for the purpose of destroying it. Also to make subterranean passages'.

The word "operation" is defined in a number of senses in the Shorter Oxford English dictionary to import the notion of activity. It involves action, performance, work and exertion of force, a kind of activity, the performance of something of practical or mechanical nature⁸.

It is apparent from this definition that the word "operation", when used together with mining, would derive its meaning from the word mining. What we are considering here is whether "mining operations", when used in a particular context, involves more than the simple excavation of the mineral from the earth.

Mining Legislation

4.1 *Mining Act 1978 (W.A.)*

4.1.1 The term "mining operations" is defined in sub-section 8(1) of the *Western Australian Mining Act*. In a magnificent example of circularity, the same sub-section defines "minerals" to include all naturally occurring substances obtained or obtainable from land by mining operations. Such operations are then defined to include workings by which mineral-bearing substances are obtained.

4.1.2 There are several elements to the definition of "mining operations". Firstly, there is a generic requirement that there be a mode or method of working. Secondly, the working must then relate to a substance which must be either earth or any rock, structure, stone, fluid or mineral-bearing substance. Thirdly, the working must involve the substance being disturbed, removed, washed, sifted, crushed, leached, roasted, distilled, evaporated, smelted or refined or dealt with. Fourthly, the purpose of the working must be to obtain any mineral from the substance. Fifthly, there are situations specifically included in the definition — namely removal of overburden, staking, deposit, storage and treatment, harvesting of salt or other evaporites, recovery of

8. *Supra* n.5, 1375

minerals from the sea or a natural water supply and the doing of all lawful acts incident or conducive to the operation or purposes.

- 4.1.3 This is a wide definition. It has not been the subject of any decision since the coming into operation of the Act on 1 January 1982. There is little difficulty, however, in fitting the facts under consideration here to this definition.

Following the steps referred to by Kitto J. in the *Blue-Metal Quarries Case*⁹, it is apparent that Parliament has provided a comprehensive definition of the words "mining operations". This is not a situation, unlike the Act which was then under consideration by Kitto J., where the Act does not contain a definition of the term. This is not a situation where different conclusions can be reached on whether the operations fall within the definition. The facts are that the method of working involves disturbing nickel which is then smelted and refined or simply refined. The question which remains for decision, and on which the above statement of facts leaves us uninstructed, is whether this has occurred for the purpose of obtaining any mineral from the substance. We are assisted on that question by the specific inclusion of "treatment" in the definition of mining operations. Were it not for that specific inclusion we would be required to examine whether the smelting and refining took place for the purpose of obtaining the mineral or for the purpose of the better utilisation of the mineral recovered. We will see this issue further developed in *Commissioner of Taxation v. Broken Hill Proprietary Company Limited*.¹⁰

4.2 *Mining Act 1973 (N.S.W.)*

The definition of "mining operations" in sub-section 6(1) of this Act limits the meaning of the description to operations carried out in the course of mining. "Mine" when used as a verb is defined to mean to disturb, remove, cart, carry, wash, sift, smelt, refine, crush or otherwise deal with rock, stone, quartz, clay, sand, soil or water for the purpose of obtaining any mineral.

4.3 *Mining Act 1968 (Qld.)*

This Act defines "mining purpose" as the purpose of searching for or obtaining mineral by any method of mining or of stacking or otherwise storing earth or of treating ore for the recovery of mineral or of doing any act or thing incidental to the proper conduct of mining.

9. *Supra* n.1

10. (1969) 120 C.L.R. 240

4.4 *Mining Act 1971 (S.A.)*

Section 6 of this Act defines "mining" or "mining operations" to mean all operations carried on in the course of prospecting or mining for minerals or quarrying and includes operations by means of which minerals are recovered from the sea or a natural water-supply. This contrasts with the Western Australian Act, where the word "mining", taken alone, is separately defined in sub-section 8(1) to mean mining operations and to include prospecting and exploring for minerals. Prospecting and exploring are not included as such within the definition "mining operations" in the Western Australian sub-section, as we have seen.

4.5 *Mining Act 1929 (Tas.)*

"Mining operations", together with "mining purposes", are defined by sub-section 2(1) of this Act to mean all works and operations carried out or undertaken with the view to or for the purpose of searching for any mining product or of winning or obtaining any mining product in or from any mine, and the handling and treatment of any such mining product, and of any earth for any such purpose, and all operations and proceedings incidental thereto. It will be noted that the "winning" or "obtaining" of a mining product is not from a mineral but from a mine. This would strength an argument that mining operations ceased upon the winning or obtaining of the mining product from the mine and did not encompass smelting or refining happening subsequently. It would strength the case for regarding smelting and refining as forming part of "treatment" within that definition.

4.6 *Mines Act 1958 (Vic.)*

This Act defined "mining purposes" to mean the purpose of prospecting for or of obtaining gold or minerals by any mode or method or of stacking or otherwise storing any earth from which gold or minerals may be obtained. By the Mines (Amendment) Bill 1982 (Victoria) the definition was amended to read:

"Mining purposes" means the purpose of

- (a) mining a mineral from a place where it occurs naturally;
- (b) extracting from its natural state a mineral previously won from a place where it occurred naturally;
- (c) disposing of a mineral in connexion with operations for the purpose mentioned in paragraph (a) or paragraph (b);
- (d) disposing of waste substances resulting from operations for a purpose of paragraph (a) or paragraph (b); and

- (e) treating, storing or stacking earth in connexion with operations for a purpose mentioned in paragraph (a) or paragraph (b).

4.7 *Mining Ordinance 1930 (A. C. T)*

“Mining purposes” are defined by this Ordinance to include cutting and constructing any tunnel, water-race, drain, dam or reservoir, or constructing any railing or tramway, or laying any pipes for the purpose of mining, erecting building and machinery to be used for any process whatsoever in connection with the extraction of gold or minerals, pumping or raising water to or from land mined or worked or intended to be worked for the extraction of gold or minerals therefrom, treatment of tailings on abandoned land, and any other work which the Minister by notice in the Gazette declares to be a mining purpose.

4.8 *Mining Act 1980 (N. T.)*

This Act does not define “mining operations” or “mining purposes”. “Mining” is defined to mean all modes of extracting minerals or extractive minerals by underground, surface or open-cut workings.

4.9 *Summary*

The following table summarises the extent of the definitions of “mining operations” and related definitions in mining legislation of Australian States and Territories.

TABLE SUMMARISING SPECIFIC INCLUSIONS IN DEFINITIONS OF MINING OPERATIONS AND RELATED DEFINITIONS IN MINING LEGISLATION

| JURISDICTION | SMELTING | REFINING | TREATMENT |
|-------------------|----------|----------|-------------------------|
| Western Australia | Included | Included | Included |
| New South Wales | Included | Included | Includes “deal with” |
| Queensland | | | Included |
| South Australia | | | |

| | | | |
|----------|-----------------------------|-----------------------------|----------|
| Tasmania | ?“incidental operations” | ?“incidental operations” | Included |
| Victoria | | | Included |
| A.C.T. | | | |
| N.T. | | | |

Applying this to the facts under consideration here, we can conclude that in Western Australia, New South Wales, Queensland, Tasmania and Victoria the smelting and refining, either in its own right or as treatment, will fall within the scope of “mining operations” or related definitions for the purpose of the mining legislation.

Uranium Mining Environmental legislation

5.1 *Environmental Protection (Alligator Rivers Region) Act 1978 (Cth)*

Section 3 of this Act defines “uranium mining operations” to mean any operations or activities for or in connection with, or incidental to, the mining (whether by underground or surface working) or recovery of uranium-bearing ore or the production of material from that ore. The definition continues by providing that in particular it will include, without limiting the generality of the earlier statement: —

- milling
- refining
- treatment
- processing
- handling
- transportation
- storage
- disposal

Specifically the definition excludes the construction or use of towns or camps or facilities for or in connection with the supply of water, electricity or gas to towns or camps or structures connected with them (in each case). This definition evidences a legislative intention to frame the notion of mining operations very broadly so that milling, refining and treatment are brought within the environmental controls established by the Act.

5.2 *National Parks and Wildlife Conservation Act 1975 (Cth)*

References to uranium mining operations in this Act have the same meaning as in the *Environment Protection (Northern Territory Supreme Court) Act 1978 (Cth)* — see paragraph 5.3.

5.3 *Environment Protection (Northern Territory Supreme Court) Act 1978 (Cth)*

This is even more comprehensive in its definition than the *Environment Protection (Alligator Rivers Region) Act 1978 (Cth)*. In this Act, “uranium mining operations” means any operations or activities for or in connexion with, or incidental to, the mining (whether by underground or surface working) or recovery of uranium-bearing ore or the production of material from that ore and, in particular, without limiting the generality of the foregoing, includes: —

- (a) prospecting and exploration for uranium-bearing ore, the milling, refining, treatment and processing of uranium-bearing ore and the handling, transportation, storage and disposal of uranium-bearing ore and of material produced from uranium-bearing ore; and
- (b) the construction and use of towns, camps, dams, pipelines, power lines or other structures, and the performance of any other work, for the purposes of any such operations or activities.

This exemplifies the fact that the legislature can cast the net wide when it wishes to encompass within “mining operations” acts which, in other legislation, may be excluded from such operations. In relation to environmental controls it is the apparent intention of Parliament that such controls should apply to all aspects of the mining operations concerned.

Income Tax Assessment Act 1936 (Cth)

6.1 *Sub-section 122(1)*

Division 10 (“General Mining”) of this Act provides certain deductions for expenditure relating to “prescribed mining operations”. Such operations are defined to mean mining operations on a mining property in Australia for the extraction of minerals, other than petroleum, from their natural site, being operations carried on for the purpose of gaining or producing assessable income. “Mining operations” as such is not defined, so that much of the case law has been directed to deciding whether a particular fact situation falls within the definition and thus qualifies for the relevant deduction.

It is worth pausing to examine the wording of the present definition of “prescribed mining operations”. It contains the following requirements: —

- There must be mining operations.

- Such operations must be conducted on a mining property in Australia. Property is defined by sub-section 122(1) to include a mining or prospecting right, which is in turn itself defined.
- The operations must have the purpose of extraction of minerals from their natural site.
- The operations must be carried on for the purpose of gaining or producing assessable income.

Several comments may be made on these requirements. It is clear that the definition does not exhaustively define what is meant by mining operations, but it narrows down the type of operations which will come within the definition. The fact that the operations must have the purpose of extracting minerals from their natural site places the emphasis on extraction, an event with a temporal limitation. The requirement that the operations have a purpose related to gaining or producing assessable income is a requirement particularly relevant to the Act to which the definition applies.

6.2 *Mining Operations Distinguished from Quarrying*

A significant amount of the case law on the former definition of "prescribed mining operations" under the Income Tax Assessment Act 1936 (Cth) related to the need to distinguish between mining and quarrying operations. The focus of such case law is on whether operations have the quality of mining rather than the quality of quarrying. In the factual situation posited at the outset of this paper it is conceded that the nickel has been mined. There is no dispute in these facts on whether the nickel was quarried. The case law on this aspect will be examined therefore to indicate that which is considered at common law to lie outside the scope of mining operations because it lacks the character of mining. Such examination will also exemplify the interface of the technological processes concerned with the law.

The case history began with *The Australian Slate Quarries Limited v. F.C. T*¹¹. The facts under examination were that the subject of the operations was slate; the method of working adopted was open-cut or surface workings, the overburden and interlying beds of waste material being removed for the purpose of obtaining the slate; and the properties on which the operations were conducted were described as slate quarries. The operations were held to constitute mining operations. In their joint judgment Isaacs and Rich JJ. spoke of mining operations in a context which did not treat mining and quarrying as antithetical. Kitto J. disagreed with that view at first instance in

11 (1923) 33 C.L.R. 416

the *Blue-Metal Quarries Case*¹² and the Full Court on appeal also found themselves unable to concur in the judgment of Isaacs and Rich JJ.

The facts in the *Blue-Metal Quarries Case* were that bores were put down to test the depth of overburden. The overburden was then removed. The stone thus exposed was then bored by use of pneumatic drills, and explosives were placed in the holes and fired. The broken stone thus obtained was then loaded by means of electrically-operated navvies into wagons and conveyed to screens and crushers. When the pit became deep, part only of the crushing process was done on the floor of the pit, and the stone was then lifted by another conveyor to a higher level or to the surface for further screening and crushing. It was then loaded into lorries and taken away to fill orders for purchasers. Applying a vernacular test, the Full Court found that blue-stone was completely outside the scope of metals, minerals or substances the winning of which was associated in thought or tradition with underground workings. In so deciding the Court followed the decision in *Deputy Federal Commissioner of Taxation (Q) v. Stronach*,¹³ which will be discussed below in relation to sales-tax legislation.

The vernacular test was applied with opposite results in *Waratah Gypsum Pty Ltd v. Federal Commissioner of Taxation*.¹⁴ The facts in that case were that a dragline excavator, from which a bucket was lowered on suspension, removed overburden and all "seed" or "flour" gypsum, thus exposing rock gypsum. That was then drilled with holes in which explosives were inserted and detonated. The fragmented rock gypsum was then scooped up by the dragline excavator, tipped into waiting railway-trucks from which, after transport, it was tipped into a crushing plant and reduced to screens. It was then washed, crushed and washed again, stockpiled and allowed to drain. The evidence, literature and common parlance all established that the extraction of gypsum was associated in thought and tradition with underground mining and accordingly the operations constituted mining operations.

Application of the same vernacular test in *North Australian Cement Limited v. Commissioner of Taxation*¹⁵ to operations for the recovery of limestone necessary for cement-making led to the opposite result again. The facts were that limestone was freed from the ground by open-cut methods involving exploratory drilling, the removal of overburden, the drilling of holes for blasting, charging of them with explosives, further drilling and blasting, breaking down with a

12. *Supra* n 1

13. (1936) 55 C.L.R. 305

14. (1965) 112 C.L.R. 152

15. (1969) 119 C.L.R. 353

mechanical shovel, loading of the resulting-sized limestone onto trucks, by which it was taken to a crusher and reduced to a further smaller size for transport to a railhead by truck and then by rail to the cement-works. Menzies J. considered that the correct application of the *Blue-Metal Quarries Case* was to approach the matter on the basis that whether an open-cut extraction of the material is mining or not is something to be determined by an informed general usage which takes into account the way in which the deposits of the material occur, the character of the material to be recovered and the use to which it may reasonably be put. In the case in question he found that there was not sufficient evidence for him to arrive at a different decision from that reached in the *Blue-Metals Quarries Case*.

Examples of further judicial reasoning on other sections of the Income Tax Assessment Act 1936 (Cth) are found in *Federal Commissioner of Taxation v. Henderson*¹⁶ and the contrasting decision of *Parker v. Federal Commissioner of Taxation*¹⁷ but these decisions involve treatment of tailings and dumps and did not involve the technological processes of the type referred to above. Further reference is made to them below. The distinction between a mine and a quarry was also relevant in *Federal Commissioner of Taxation v. ICI Australia Ltd.*¹⁸

The process in issue involved the sinking of bores into sand and gravel carrying brine. The brine was then mechanically pumped to the surface where it was led into a series of pools or ponds. These large areas of fairly flat land enclosed by earthen or rock walls were designed to hold the brine while it concentrated by natural evaporation but under fairly rigid control. As the brine became more concentrated it was passed from pond to pond, sometimes by means of gravity and sometimes by pumping, until it flowed into ponds where the salt was allowed to crystallize. At times, as a measure of control, either seawater or more brine from underground was added to the pond if evaporation was occurring too quickly. The evaporation was thus a controlled operation with a view to removing unwanted substances such as calcium sulphates and magnesium salts, as well as to concentrate the sodium chloride. After crystallization the salt was harvested and taken to a plant where it was washed with brine to remove other extraneous elements. Finally the salt was carried to the port to be shipped away. Taking into account common parlance and common usage the Full Court of the High Court, with Menzies J. dissenting, held these processes involved mining so that expenditure thereon was deductible. Reference is made to this decision in

16. (1943) 68 C.L.R. 29

17. (1953) 90 C.L.R. 489

18. (1972) 127 C.L.R. 529

discussing both the extent of operations as well as the relevance of context.

6.3 *Activities associated with Mining Operations*

In *Federal Commissioner of Taxation v. Broken Hill South Limited*¹⁹ the question was whether a mining company in a closed-down condition was carrying on mining operations. It was held by the Full Court that it was open to a board of review to find that it was. Rich A.C.J. referred to the policy of the section in issue and the need to interpret mining operations in that context. Starke J. held that the common understanding of the expression "mining operations" covered activities in connection with the mine additional to the mere extraction of ore or metals such as, for instance, the provision and maintenance of plant both above and below the surface and work connected with the protection and safety of the mine and the mining rights. Williams J. said:

Operation is a word of wide import. The Oxford Dictionary enumerates amongst its meanings action, activity and work. The maintenance of a mine while in this condition can be reasonably described in the common understanding of the term as a mining activity or work directly connected with the use of the mine to obtain base metals.²⁰

This issue is now more usually dealt with by express extension of the relevant statutory definition to such related activities.

6.4 *Extent of the Mining Operations*

A matter directly in issue for the set of facts under notional examination in this paper occurred in *Commissioner of Taxation v. Broken Hill Proprietary Company Limited*.²¹ The facts were that the taxpayer worked ironstone deposits in the Middleback Ranges in South Australia and transported the ore thirty miles by rail to Whyalla, the nearest seaport. It improved the harbour facilities at Whyalla by installing an ore-loading jetty and constructed a pelleting plant for the conversion of powdered ore into pellets for convenience of loading, shipping and subsequent use in blast furnaces. The taxpayer also carried out an offshore survey in order to determine where a port might best be constructed for effective development of the mining of manganese deposits at Groote Eylandt in the Gulf of Carpen-

19. (1941) 65 C.L.R. 150

20. *Id.* at 161

21. *Supra* n.10

taria. Expenditure on these matters was claimed as an allowable deduction under section 122 of the *Income Tax and Social Services Contribution Assessment Act 1936 (Cth)* (as the Act was then called). The result was that the High Court allowed as a deduction the expenditure on the offshore survey but not the expenditure in relation to the pelleting plant or the harbour improvements.

The case had been heard at first instance by Kitto J. In analysing the application of section 122 and in particular the words "mining operations", he said it was clear the words embraced:

Firstly: not only the extraction of mineral from the soil but also all operations pertaining to mining (citing *Parker's Case*²²). Thus he considered it comprehended more than mining in the narrow sense (which he described as meaning the detaching of lumps of material from the position in which in a state of nature they form part of the soil).

Secondly: any work done on a mineral-bearing property in preparation for or as an ancillary to the actual winning of the mineral (as distinguished from work for the purpose of ascertaining whether it is worthwhile to undertake mining at all) — citing the *Broken Hill South Case*.²³

Thirdly: any work done on the property subsequently to the winning of the mineral (citing as examples transporting, crushing, sluicing and screening) for the purpose of completing the recovery of the desired end product of the whole activity. He cited *Henderson's Case*²⁴ as authority for this. He continued:

In each case it is the close association of the work with the mining proper that gives it the character of operations pertaining to mining. Accordingly, such subsequent procedures as above mentioned, if carried out at a distance from the mining property, may be in particular cases so dissociated from the mining that they are properly to be considered as standing on their own feet (so to speak) and to be characterized not by reference to the mining but by reference only to the result which they themselves achieve.²⁵

Kitto J. considered that the expenditure on the Whyalla ore-loading jetty was expenditure which qualified as expenditure on development of the mining properties (an element of qualification for the deduc-

22. *Supra* n.17

23. *Supra* n.2

24. *Supra* n.16 at 45, 50

25. *Supra* n.10 at 245

tion). He considered that to construct the jetty, in effect to prolong the tramway to reach the ore-carrying ships, was to add to the mining properties in the Middleback Ranges an appendage of a kind without which the full exploitation of the capability of being mined for commercial purposes was not practicable.

However he considered the position was different in relation to the Whyalla pellet plant. To make the mining properties available for mining on a commercial basis there was no necessity for anything in the way of provision for the agglomeration of fines. He said: —

To construct the pellet plant away from both the mining and manufacturing properties was to make a provision for enhancing the utility, and therefore the value, of certain of the final products of the mining properties after they had left those properties with the quality of saleable commodities already fastened upon them by the existence of the means of access to commerce. The expenditure on the pellet plant therefore did not contribute to any unfolding of the potentiality of the mining properties or mining of a commercial character, and in my opinion was not expenditure on development of those properties.²⁶

Kitto J. said that the pellet plant could not properly be described as a mining property or as part of it and was effectively divorced by distance, if nothing else, from the carrying on of the mining operations on the mining properties at the Middleback Ranges.

So far as the offshore survey was concerned, he considered there was no similar issue because the place at which that was carried out was a compact area in relation to which there was no doubt it was involved in the mining property. In addition, the commercial exploitation of the manganese potentialities was quite impracticable until the way was open for shipping to come to port facilities on the island and take on cargoes of the ore. The surveys were necessary to open up a sea-way for this purpose. (The judgment of Kitto J. also dealt with expenditure at Deep Dale in Western Australia and certain demolition expenses, but no appeal took place against that portion of his judgment nor did those items raise any issue relating to mining operations).

On appeal to the High Court Barwick C.J., McTiernan and Menzies JJ. delivered a joint judgment. They took issue with the statement by Kitto J. that mining operations extended to any work done on the property subsequently to the winning of the mineral (for example transporting, crushing, sluicing and screening) for the pur-

26. *Id.* at 253

pose of completing the recovery of the desired end-product of the whole activity. They expressed a reservation in the following terms: —

We do not doubt that to separate what it is sought to obtain by mining from that which is mined with it, e.g., the separation of gold from quartz by crushing etc., or the separation of tin from dirt by sluicing, is part of a “mining operation” but we would not extend the conception to what is merely the treatment of the mineral recovered for the purpose of the better utilization of that mineral. Thus to crush blue stone in a stone-crushing plant so that it can be used for road-making, or to fashion sandstone so that it becomes suitable for building a wall or a town hall is not, as we see it, a mining operation. Nor would the cutting of diamonds or opals which have been recovered by mining operations fall in the description of mining operations.²⁷

The judgment continued: —

. . . the object of the small taxpayer’s mining operations is to obtain iron ore — the end product — and those operations comprehend all steps taken to do so, but once the iron ore is obtained in manageable lumps then its further treatment, either to reduce or increase its size so that it can be conveniently transported from the mine and better utilized in industry, forms no part of the mining operation. In the same way we would not regard the converting of brown coal into briquettes as part of a mining operation; nor would we regard the treatment in a refinery of naturally occurring hydro-carbons in a free state as part of the operation of mining for petroleum . . . accordingly, we would not treat “the whole activity” referred to in [. . . the judgment of Kitto J.] as extending to the disposal of the product mined, and because we think “the end-product” of the mining activity in this case is iron ore to be taken away from the mining property, we consider that “mining operations” ends when the iron ore is in a state suitable for this. The taking away from the mining property of ore which has been mined, whether that be done by the mining company or by someone else, is a step subsequent to the conclusion of the mining operations.²⁸

Consequently the three judges delivering the joint judgment concluded that pellet-making was not a mining operation and so expenditure upon the pelleting plant was not for the purpose of more ef-

²⁷ *Id.* at 273

²⁸ *Id.* at 273-4

fectively carrying on the taxpayer's mining operations. In addition they considered the plant was not on the taxpayer's mining property.

Applying the same understanding of mining operations, the joint judgment disagreed with Kitto J. concerning the deductibility on the harbour facilities, holding they did not regard the shipment at Whyalla of ore mined on the properties as part of the mining operations and consequently such expenditure was not in connection with those mining operations. The Judges said: —

It is true, no doubt, that, for economic reasons, no more ore would be mined in the Middleback Ranges than could either be used at Whyalla or transported by sea from Whyalla, and that the purpose of the improvement of the port facilities at Whyalla was either to absorb the output of the mine or to make provision for the disposal of increased output from the mine. But so much is not, we think, a sufficient connexion with the mining operations themselves. The expenditure must be for the purpose of the mining operations and it is not sufficient that it is for the purpose of the shipment of the iron ore mined.²⁹

Owen J. dissented from the view expressed by the three judges in holding the harbour improvement expenditure not to be deductible. In relation to the deductibility of expenditure on the pelleting plant he said:

The process of pelleting is not one designed to separate the final product — the iron ore — from the soil, rock or other substances which are extracted with it from the earth and it does not appear to me to be comparable, for example, with the cyaniding or other chemical processes used in gold mining, the purpose of which is to separate the gold from the other substances which, in the process of mining, are extracted with it from the earth. Pelleting the ore is, in my opinion, the first step in an industrial process, that of producing pig-iron, and is not sufficiently associated or connected with the process of extracting the ore from the earth as to justify the conclusion that expenditure on erecting such a plant is incurred in the development of an iron-ore mining property.³⁰

The scope of mining operations also became an issue in the *ICI*

29 Id. at 277

30 Id. at 282-3

Case.³¹ The question there was whether all the processes up to the crystallization of the salt fell within the description of mining operations. In the opinion of Walsh J. at first instance the answer to that question fell to be determined by whether the object of the mining activities was to be regarded as the obtaining of brine or the obtaining of salt in crystallized form. He concluded that the end-product of the operations was to obtain salt in crystallized form, freed from the water in which it was in solution. Applying the principle in the *Broken Hill Case*³², he concluded that the relevant expenditure was all incurred in connection with the carrying on of mining operations.

On appeal to the Full Court of the High Court Barwick C.J. said on this point:—

. . . If the evaporation was of sea water or of salt water obtained otherwise than from below the surface of the earth, the evaporative process would not itself be a mining operation any more than the pumping of the water from the sea or from a lake would be a mining operation. But though the evaporative process is similar in each case, the fact that the brine is the immediate product, as I think, of a mining operation and that the recovery of the mineral raised by the mining operation is not complete until the evaporative process has taken place lead me to conclude that that evaporative process is itself so associated with the raising of the brine and the recovery of the metal sodium chloride, as to be part of the mining operation.³³

Accordingly he agreed with the primary judge. McTiernan J. agreed with the Chief Justice.

On the same point Gibbs J. also agreed with the reasoning of the primary judge.³⁴ He said that the treatment of the brine after it had been pumped to the surface and before it was harvested in the crystallizers was for the purpose of separating that which it was sought to obtain by mining, namely, salt, from that which was mined with it, namely water and the calcium and magnesium salts. The object of the operation was to obtain salt, not to obtain brine. He thus applied the principles in the *Broken Hill Case*.

In his dissenting judgment in the case Menzies J., considering that the operations were intended to mine brine, formed the view that evaporation of sufficient water from the brine to enable salt crystals to form was not part of a mining operation. In his view the mining

31. *Supra* n.18

32. *Supra* n.21

33. Federal Commissioner of Taxation v ICI Australia Ltd *Supra* n.18 at 565

34. *Id.* at 583

operation came to an end once the brine was pumped from the aquifer into the evaporation tanks. In any event he considered there was no "mine" to which operations related.³⁵

The principles concerning the extent of mining operations set out in the *Broken Hill Case* were applied by Newton J. in *Utah Development Co. v. Federal Commissioner of Taxation*.³⁶ The question there was whether the Commissioner had correctly disallowed Utah's claims for deductions under Section 62AA(5) of the *Income Tax Assessment Act 1936 (Cth)* in respect of capital expenditure on the construction of preparation plants. If Utah could have shown that the preparation plant was not for use in mining operations, its capital expenditure would not have been excluded from eligibility for deduction. The plants were used in connection with three open-cut coal mines in Queensland. Coal which was mined (the "run-of-mine" coal) was conveyed to the on-site preparation plant where it was converted into a type of coal which was suitable for making coke for use in iron-ore blast furnaces ("metallurgical coking coal"). The conversion involved the breaking up of the run-of-mine coal so as to separate its different components, some of which were constituted into a combination which met certain required specifications.

Applying the principles in the *Broken Hill Case*, Newton J. said: —

In my opinion what Utah seeks to obtain by mining at each of the three mines is the run-of-mine coal which is extracted from the open-cut pits. I would characterise the operations of the preparation plants as treatment of what is mined for the purpose of its better utilisation. Indeed it would in my view be quite wrong to say that what Utah seeks to obtain *by mining* is the metallurgical coking-coal, which is later produced by the preparation plants from the run-of-mine coal. For the metallurgical coking-coal as such simply does not exist in the mine. It is only by the separation and reconstruction of entities or macerals found in the run-of-mine coal, which is effected by the complex and sophisticated operations of the preparation plants, that the metallurgical coking-coal is brought into existence.³⁷

Newton J. dealt with four further matters. Firstly, he likened the processors in issue in relation to the coal to the operations of a simple fractional distillation oil refinery, noting that in the *Broken Hill* case treatment in a refinery of naturally-occurring hydrocarbons in

35. *Id.* at 571-3

36. *Supra* n.3

37 (1975) 75 A.T.C 4103 at 4109

a free state was not regarded as part of an operation of mining for petroleum.

Secondly, he considered that it could be of some relevance that the run-of-mine coal would have commercial value as a steaming-coal if it were never put into the preparation plants. Thirdly, he tested the matter against the ordinary or popular meaning in the English language and concluded he would have no hesitation in saying that the preparation plants were not for use in mining operations. He said: —

They play no part in the winning of the coal from the ground; their function is to manufacture from the coal already mined, which is not suitable for use as metallurgical coking-coal, another coal of different properties or qualities, which is suitable for that use; and the circumstance that each is situated topographically in the same areas as the mine pits from which its feed coal is taken appears to me to be logically irrelevant.³⁸

Fourthly, he dealt with evidence as to the vernacular of the coal industry in relation to the expression “mining operations”. (This will be discussed under Point 10 of this paper “Evidentiary Techniques”).

6.5 *Relevance of Context*

It is apparent from all that has been said thus far that the context in which the expression “mining operations” is used is fundamental to an understanding of it. We have already noted the differences in approach among mining legislation, environment legislation relating to uranium mining operations and revenue legislation. The relevance of the context of the *Income Tax Assessment Act 1936 (Cth)* was specifically discussed in the *ICI Case*.³⁹ Gibbs J. considered that both the subject matter of Section 122 and the context in which it was found provided indications that it should be liberally construed. He saw the section as one of the provisions of an Act the evident purpose of which was to encourage the production of minerals. Reference was made also in paragraph 6.3 above to the emphasis placed on context by Rich A.C.J. in the *Broken Hill South case*.⁴⁰

It follows that not only the immediate context of the Act, but also the purpose of the legislation in which the context is contained are matters to be taken into account in interpreting the expression “mining operations”.

38. Id. at 4110

39. *Supra* n.18 at 581

40. *Supra* n.19 at 153

6.6 Recapitulation

It is submitted that it follows from the above case law relating to the *Income Tax Assessment Act 1936 (Cth)* that the following questions need to be addressed in deciding whether a particular fact situation is a “mining operation” from the purposes of the Act:

- (1) In what context is the expression used in the Act? If the context is one designed to encourage development of mining by provision of deductions, the expression should be construed liberally.
- (2) In what manner are the words “mining operations” understood in the vernacular of the industry under consideration?
- (3) Do the operations in question have the character of operations relating to “mining”?
- (4) What mineral is it that the mining operations seek to yield?
- (5) Is the object of the operations to recover the mineral, or to treat it for the purpose of its better utilization as a mineral? If the latter, the operation will not be mining operations.

In assessing the purpose of the operations, regard may be had to economic objectives, but they alone may not establish the sufficient connection. Likewise distance between the operations and the mining would be a factor to be taken into account in assessing the objective of the operations but will not be determinative.

Commercial value in untreated mined ore will be a relevant factor in this assessment.

Applying the tests outlined to the facts positioned at the commencement of this paper in the context of this Act and the decisions on it, one is left with the conclusion that the smelting and refining operations would be outside the objectives of the mining operations and would be regarded as treatment for the better utilization of the ore mined. Like the treatment in a refinery of naturally occurring hydrocarbons in a free state, such operations would not be regarded as part of operations for mining for nickel. (This view, of course, is not addressed to whether the *Income Tax Assessment Act 1936 (Cth)* otherwise provides deductions in that respect).

Sales Tax Legislation

7.1 *Stronach's Case*⁴¹

This decision was on a case stated to the High Court, in which it was asked whether the freestone or granite in question or part of

41. *Supra* n.13

either thereof constituted goods manufactured in Australia within the meaning of the *Sales Tax Assessment Act (No. 1) 1930 (Cth)* and so became liable to sales tax. The taxpayer claimed that the freestone and granite were exempted by section 20(1)(g) of that Act being "primary products which are derived directly from operations carried on in Australia in . . . mining . . . and which have not been subject to any process or treatment resulting in an alteration of the form, nature or condition of the goods".

The facts as stated to the Court were that freestone was obtained by cutting from open-face quarries by means of drilling machines. When blocks were removed from the quarry they were taken to a stone-mason's yard and were classified for colour and size and were sawn into sizes suitable for use in the construction of buildings. The blocks of stone were then usually worked on by a stone-mason, who shaped them into the correct size and shape for setting in positions in a particular building. They were then planed on one side and that side was then polished.

Starke J., Dixon J. and McTiernan J. each had no hesitation in concluding that the winning of the freestone and granite was not within the ordinary meaning of the mining products. Each distinguished the *Slate Quarries Case*⁴² on the ground that it was a decision of fact not binding on the Court, and, in the case of Starke J., on the further ground that it was wrongly decided on the facts in any event.

Furthermore, with respect to all of the freestone and granite which was subject to shaping and polishing, each of the judges held that this constituted processing or treatment resulting in an alteration of the form, nature or condition of the goods, so that in any event the terms of the exemption were not satisfied.

This early case under sales-tax legislation illustrates the interdependence of considerations to be taken into account under that legislation with decisions made on provisions of the *Income Tax Assessment Act 1936 (Cth)* in relation to mining operations.

7.2 *The Hamersley Iron Case*

In *Federal Commissioner of Taxation v. Hamersley Pty Ltd*⁴³ the Commissioner of Sales Tax appealed against a decision of Gobbo J. in the Supreme Court of Victoria upholding as exempted from sales-tax certain items of equipment used in larger items of equipment known as iron-ore stackers and bucket-wheel reclaimers. So far as is relevant here, the claim for exemption was that the equipment con-

⁴² *Supra* n.11

⁴³ (1981) 37 A.L.R. 595

cerned came within Item 14 of the First Schedule to the *Sales Tax (Exemptions and Classifications) Act 1935 (Cth)*. This required the company to establish three things: —

- (1) That the equipment was “for use in the mining industry”. This was accepted by both parties.
- (2) That the equipment was for use “in carrying out mining operations”. The respondent company did not concede this argument, but apparently in effect conceded that its own argument could not be successfully put. Counsel for the appellant relied on the *Broken Hill Case*⁴⁴, the *ICI Case*⁴⁵ and the *Utah Case*⁴⁶.
- (3) That the equipment was for use in the treatment of the products of mining operations. The claim for exemption was upheld as coming within this requirement.

The facts involved in the case occupied much attention before Gobbo J. and comprise a large part of the judgment of the Appeal Court. In summary they involved the following: —

- Hamersley Iron mined iron-ore in the Hamersley Ranges through two mines, one at Mount Tom Price and one at Paraburdoo.
- The mined ore was railed to the coast and then shipped.
- The mines produced ore of qualities which in combination could be used to fulfil contracts calling for a standard level of iron-content of 64%. Because of the variations in the grade of ore between the mines in the region this could only be achieved by blending ores, for which there are also good commercial inducements.
- Exploratory drilling was directed towards establishing the qualities of the ore-bodies under assessment and resulted in preparation of zone-plans.
- Blast-plans for breaking up the ore were related to the mineral content of the ore established by exploration. This resulted in materials of known characteristics, selected for those characteristics, arriving at the crushers.
- The ore then passed through the primary crusher, the primary stockpile, secondary and tertiary crushers and the screen-house, in the latter of which lump-ore was separated from fines and placed in separate stockpiles during which passage they were subjected to hourly sampling and assay.

44. *Supra* n.10

45. *Supra* n.18

46. *Supra* n.3

- Elaborate records of the stockpile contents were kept relating to the overall quality of the ore stockpiled.
- From stockpiles the ore was moved by a reclaimer to conveyor belts to the train-loading station (with a variation at the Mount Tom Price mine).
- The ore then travelled by rail to the port where it was stockpiled.
- When ships were to be loaded it was usual for appropriate ore to be reclaimed by a conveyor belt (if lump ore) or a bucket-wheel boom-type reclaimer (if fines) and despatched to the ship loader along conveyor belts passing through a final screen house, where it was finally sampled.
- The equipment in relation to which the sales tax was sought were a boom-type bucket-wheel reclaimer and a boom-type stacker at the port and a bridge-type bucket-wheel reclaimer at the Paraburdoo mine. The stackers were used with the aim and result of disturbing materials of different characteristics as evenly as possible throughout the stockpile so that the proportions of various minerals in the stockpile would be as close as possible to those required for export. (The precise contribution of the stacker and the reclaimers to the achievement of the objective of producing deliverable ore was the issue in dispute in relation to the third limb or the requirements of item 14).

It is noteworthy that both before Gobbo J. and before the Full Court of the Supreme Court of Victoria much attention was, of necessity, given to the facts to which the claim related. A reading of the decision highlights the detail into which the courts concerned were required to go to arrive at an understanding of the technological and administrative processes in issue before them.

As has been said, in the Appeal Court the issue of definition of "mining operations" did not receive other than passing reference. It received more lengthy treatment before Gobbo J. He referred to the main authority before him as the *Broken Hill Case*, and quoted at length the views of the majority of the High Court in that case and their comments on the judgment of Kitto J. at first instance. He quoted particularly the passage that "once the iron ore is obtained in manageable lumps then its further treatment, either to reduce or increase its size, so that it can be conveniently transported from the mine and better utilised in industry, forms no part of the mining operations". He also noted that mere treatment of the ore for its better utilisation was regarded as not being within mining operations. He saw no reason to treat the phrase "mining operations" in the Act before him as having any different meaning in its context from the

meaning given to it in the *Broken Hill Case*. He accordingly rejected the argument for exemption so far as it sought to show that the reclaiming of the mine and the stacking and reclaiming at the port brought the equipment within the description of mining operations and thus within the terms of the exemption. He also rejected an argument that the use of the equipment was sufficiently integrated with the mining operations as to form part of it, saying that such process of integration could not give an ancillary and special role, as it were, to mining operations.

7.3 Comment

Stronach's Case and the *Hamersley Iron Case* provide confirmation that the words "mining operations" when used under sales-tax legislation are to be approached in the same manner as when they appear in income-tax legislation. If smelting and refining are not part of mining operations in such latter legislation, they are no more likely to be so under the sales-tax legislation. As Gobbo J. pointed out in relation to the argument concerning integration of the equipment with mining operations, the very presence in item 14 of an exemption for treatment of products of mining does not support the concept of an all-embracing meaning for mining operations sufficient to gather up everything said to be within an integrated operation. The sales-tax legislation provides specific exemption for equipment for use in the mining industry in the treatment of the products of mining operations. Treatment is thus a severable step from the mining operations themselves. The *Hamersley Iron Case* held that the "treatment" includes not only some chemical change, but also a physical alteration of the product designed to make it more marketable. It would therefore include the smelting and refining in the facts posited at the commencement of this paper, and thus provide exemption to any equipment used in such treatment.

Customs & Excise Legislation

8. *The Diesel Fuel Taxes Legislation Amendment Act*, 1982 introduced section 164 into the *Customs Act* 1901 and section 78A into the *Excise Act* 1901. Those sections provide a rebate payable to a person who purchases diesel fuel being diesel fuel upon which duty has been paid, for use by him *inter alia* in mining operations. Sub-section 164(7) and sub-section 78A(7) define "mining operations" to mean:—

- (a) exploration, prospecting or mining for minerals; or
- (b) the dressing or beneficiation (at the mining site or elsewhere) of minerals, or ores bearing minerals, as an integral part of operations for their recovery.

The following comments may be made on this statutory definition:—

- (1) Exploration and prospecting are not usually included in statutory definitions of “mining operations”. In paragraph 4.4 above we noted an exception in the case of the definition of “mining operations” in South Australia. It is apparent from our review of the case law that exploration and prospecting are not part of such operations at common law.
- (2) The reference to “mining for minerals” brings into application the cases which distinguish mining for minerals as well as those which determine the extent and duration of “mining”.
- (3) “Dressing” involves the preparation of ore for smelting by removing the non-metallic portion.⁴⁷ This stage prior to smelting is therefore treated as lying outside the description of “mining for minerals”.
- (4) “Beneficiation” involves the reduction of ores.⁴⁸ It also is not treated as forming part of the mining for minerals.
- (5) The dressing or beneficiation, to form part of mining operations as defined in this Act, may take place “at the mining site or elsewhere”. This means that the fact that the smelter is located at Bushways and the refinery is located at Seabreeze, each of them being apart from the mine-site at Deepdig, would not of itself result in purchases of diesel fuel for use in the smelter and the refinery being ineligible for the rebate.
- (6) The dressing or beneficiation must relate to minerals or ores bearing minerals. That would be the case in connection with the nickel mined from Deepdig.
- (7) The dressing or beneficiation must also be an integral part of operations for the recovery of the minerals. This requirement seems to bring us back to both the argument concerning integration made before Gobbo J. in the *Hamersley Iron Case* and the test laid down in the *Broken Hill Case*. “Integral” means “of or pertaining to a whole . . . belonging to or making up an integral whole; constituent, component; . . . necessary to the completeness of the whole”⁴⁹ This requirement introduces an interesting new element since it treats dressing and beneficiation as potentially integral parts of operations for the recovery of the minerals or ores bearing minerals. It will be recalled that the test provided by the majority of the Court in the *Broken Hill Case*

47. *The Shorter Oxford English Dictionary* 562-3

48. *Id.* at 169

49. *Id.* at 1021

distinguished between operations done on property subsequently to the mining of the mineral for the purpose of completing the recovery of the desired end-product of the whole activity (on the one hand) and the treatment of the mineral recovered for the purpose of the better utilisation of that mineral (on the other hand). The requirement for integration appears to take the minerals or ores bearing minerals which have resulted from "mining for minerals" and states that the further treatment of them, by way of dressing or beneficiation, may be an integral part of operations for their recovery and consequently part of mining operations. It is submitted that in this context the word "recovery" can not be read as only the equivalent of "mining", because dressing or beneficiation are clearly acts which occur after mining has taken place and which it is impossible to perform prior to actual extraction of the minerals or ores bearing minerals. It is submitted that "recovery" is used in the sense of separation of the minerals or ores bearing minerals. That separation may itself be for the purpose of better utilisation of the mineral concerned. The definition therefore cuts across the divisions established by case law.

The case for a wide interpretation of this statutory definition of "mining operations" so as to include treatment of the mineral recovered for the purpose of the better utilisation of the mineral is heightened by reference to specific inclusions which are set out in the latter part of the definition. Those specific inclusions include operations connected with exploration, prospecting or mining carried out in or at a place adjacent to the area in which those acts occur; transportation of minerals or ores from the mining site to the place where they are dressed or beneficiated; the liquefying of natural gas; the transporting of natural gas; the transporting of natural gas from the mining site to the place of liquefaction and the production of salt by means of evaporation. Quarrying operations carried on for the sole purpose of obtaining stone for building, road-making or similar purposes are specifically excluded.

No reported cases have yet arisen on this provision, but it will be seen that the legislature has adopted a distinctive approach in its method of defining "mining operations" for the purpose of this legislation, an approach which appears to cut across the distinctions drawn in case law and to depart from statutory definitions of mining operations in other legislation.

Definitional Techniques

9. Enough has already been said throughout the progress of this paper

to emphasise the variation in approach to definition of mining operations depending upon the context of the legislation in which the words are used. In paragraph 4.9 the differences in approach to definition under the mining legislation have been summarised. In paragraph 5.3 reference has been made to the difference of approach under environmental legislation in order to achieve the widest possible application of that legislation to mining operations. In paragraphs 6.6 and 7.3 the more restrictive development of the definition of mining operations through case law in relation to income-tax and sales-tax legislation has been referred to. We have just concluded in paragraph 8 an examination of the innovative approach under customs legislation.

From all this it is apparent that "mining operations" are to be interpreted, as one would expect as a matter of law, in the context in which they appear. Principles will emerge, but whether they are relevant in any particular case must depend on the use made of the words in that case. As has appeared throughout, the specific processes of mining involved are fundamental to a consideration of the application of the relevant definition of mining operation in any particular case.

Evidentiary Techniques

10. This paper has dealt with the subject involving an interface of law and technology. The technology concerned relates to mining and varies according to the type of mining being undertaken. It is apparent from the cases reviewed that a clear judicial comprehension of the processes and administrative arrangements involved in such mining is of primary importance in considering the application of questions arising in relation to the words "mining operations". The techniques by which this evidence is brought before the Court will require careful consideration by counsel in the preparation of any such case. By way of conclusion to this paper, reference is made to some issues of evidence which have arisen in the cases reviewed above.

In the *ICI Case*, Walsh J. at first instance made reference to the use to be made of expert evidence in establishing the meaning of the words under consideration by him. He had this to say:

There has been some debate as to the proper use to be made of the evidence of experts and of conclusions based upon it as to their usage of the words whose meaning I have to determine. I have no doubt that such evidence and conclusions may be taken into account. I think that they may be of much importance, especially in a situation where there has not been in fact any oc-

casation for a widespread adoption or development by the general public of a terminology to describe the particular processes under review. At the same time I think that use may be properly made of such knowledge as is available to the Court concerning more general usage. In *Federal Commissioner of Taxation v. Broken Hill South Ltd*⁵⁰ Williams J. referred to “the vernacular of mining men”. In *North Australian Cement Ltd v. Federal Commissioner of Taxation*,⁵¹ Menzies J. referred to “an informed general usage”. But those statements do not suggest to me that the Court is restricted to a consideration of the usage adopted by “mining men”. Indeed, it seems plain from his judgment that Menzies J. did not think it was so restricted. In *Waratah Gypsum Pty Ltd v. Federal Commissioner of Taxation*⁵² McTiernan J. referred to literature which showed how the mining profession described the winning of gypsum and then he referred also to “common parlance”. With respect, I am of opinion that his Honour was right in taking both into account.⁵³

An example of the result of calling vernacular evidence appears in the *Utah Case*.⁵⁴ Evidence had been called on behalf of the Commissioner of Taxation with a view to showing that in the vernacular of the coal industry the expression “mining operations” would include the actual winning of the coal from open-cut pits and the operations of the preparation plants. The evidence was objected to as inadmissible but the evidence was taken subject to objection. Evidence was heard from both sides upon the issue. The ultimate conclusion of Newton, J. at first instance was that there was no established usage in the vernacular of the coal industry according to which particular preparation plants would be regarded as being used in mining operations. The evidence, even if admissible, only established that there was a difference of opinion.

Apart from establishing questions relating to the vernacular of the mining industry, it is apparent that a great deal of thought must go into the presentation of evidence of the details of the technological processes to which the Court is required to give consideration. The facts in the *Hamersley Iron Case* have already been referred to above as being complex and as occupying much judicial time in the judgments of the Courts which had the matter under consideration. Looking at the judgment of Gobbo, J. in that case, it is apparent

50. *Supra* n 2 at 160

51. *Supra* n.15 at 362

52. *Supra* n 14 at 160

53. *Supra* n.18 at 544-5

54. *Supra* n.3 at 4110

that his sources of evidence included the following: —

- a view of the mine operations and an inspection of the unloading and loading facilities, the stock piles and pellet plant;
- witnesses giving evidence to establish the full range of procedures from exploration to ship-loading;
- searching cross-examination of lengthy evidence of various witnesses;
- geological evidence, being both data and demonstrated results of product actually mined;
- production of records and data;
- elaborate evidence as to the planning and control of the composition of the iron-ore as it was finally shipped.

Gobbo, J. was faced with a number of objections to the evidence given in that case. The first concerned the use of textbooks that used and described the terms in issue or similar terms and which also described the use of blending piles and blending procedures. They were partly relied upon by a professor who had given evidence, but his evidence was not relied upon by the Judge. They were also sought to be used independently of that witness as a free-standing body of evidence. Gobbo J. ruled that the textbooks could not be relied upon to prove the meaning of the terms in question for the same reasons that expert evidence is not admissible on that issue. Where the expert relies on the textbooks to refresh or confirm his memory as to usage it is not thereby independent evidence and in the ordinary course will not be admitted into evidence. In any event, textbooks were not in the same category as a dictionary — they contain the opinion of an expert not called to give evidence and consequently were not admissible as independent evidence of the meaning of the expressions in issue.

Objection had also been taken to short evidence as to the use by others in the iron-ore industry of standard deviations of the kind used by the company. This evidence as to industry practice was accepted as admissible as going to the issue that the kind of procedures employed were commercially and industrially realistic and not an unnecessary complex means of storing and loading iron-ore. The evidence was not admissible however to prove the opinions of others as to the company's ore or its blending procedures.

The face of the law which the experienced person from the mining industry may see may be limited to the giving of evidence and objections on such matters. The interface of law and technology at this point may sometimes therefore appear to him as an interface of conflict. Whether or not that is the case, the application of legal

method to the realities of the mining industry to establish whether activities in that industry constitute "mining operations" clearly involves both counsel and judge in mastering the aspects of technology involved. The success of the interface will depend much on their skills for its success.