

Minerals Separation North American Corporation - - Appellants

v.

Noranda Mines, Limited - - - - - Respondents

FROM

THE SUPREME COURT OF CANADA

JUDGMENT OF THE LORDS OF THE JUDICIAL COMMITTEE
OF THE PRIVY COUNCIL, DELIVERED THE 5TH FEBRUARY, 1952

Present at the Hearing:

LORD NORMAND
LORD MORTON OF HENRYTON
LORD REID
LORD ASQUITH OF BISHOPSTONE
LORD COHEN

[*Delivered by* LORD REID]

This is an appeal by special leave from a judgment of the Supreme Court of Canada of date 5th December, 1949, whereby that court by a majority (Rand, Kellock, Estey and Locke, JJ., Kerwin, J., dissenting) allowed an appeal from a judgment of Thorson, P., in the Exchequer Court of date 28th May, 1947. The appellants are the holders of the Canadian patent No. 247,576 which expired on 10th March, 1943. On 1st March, 1943, they brought an action against the respondents claiming declarations that the patent was valid and that the respondents had infringed it, and also claiming payment of damages or an account of profits as the plaintiffs might elect. It is admitted that if the patent was valid there was infringement. The respondents' defence is that the patent was invalid.

In order to understand the questions in dispute in this appeal it is necessary to have in mind certain facts which are not in dispute. The patent relates to froth flotation of ores. Most metals are found in the earth in the form of ores. These ores contain minerals which are chemical compounds of the metals with one or more other elements such as sulphur or oxygen; but the metalliferous minerals are generally mixed with a large amount of other matter which does not contain any of the metals which are to be extracted, and before the ore can be smelted it is necessary or at least highly desirable in most cases to separate as far as possible the metalliferous minerals from the other unwanted matter. There are various traditional ways of doing this, such as by picking the pieces of valuable mineral by hand out of the mixture or by taking advantage of the fact that it has generally a higher specific gravity than the other matter and washing away the lighter matter. For various reasons these methods are often unsatisfactory or uneconomical and in or about 1905 a great advance was made. It was found that if the ore as got from the mine was crushed and mixed with water—often in the proportion of four parts of water to one part of ore—to form what is known as a pulp, and then a frothing agent was added to this pulp and the whole agitated

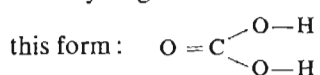
in the presence of air, a great part of the metalliferous mineral, but comparatively little of the other matter, was caught up in the froth which rose to the surface. The froth was then removed and the matter caught up with it separated from the froth. The matter so separated is known as a concentrate and generally contains a much higher proportion of the valuable minerals than there had been in the original ore. This process is known as froth flotation and it can be repeated so that in the end the concentrate is sufficiently rich in the valuable mineral to be profitably smelted, and the remainder known as the tailings or gangue contains little of the valuable mineral and can be thrown away. Although this process was in many cases very useful, it was not wholly satisfactory for several reasons. In the first place the separation of the valuable minerals from the gangue was not as good or as easy as it might be and secondly the process was not equally satisfactory with all minerals. Where the mineral was a sulphide of the metal the method was more satisfactory than where it was an oxide of the metal.

Many metallurgists were seeking for substances which could be added to the pulp together with the frothing agent in order to make the froth flotation more effective. In or about 1922 Mr. Keller, to whom the patent in suit was ultimately granted, made a number of experiments, one purpose of which was to discover some material which would "sulphidise" oxide minerals so as to make them as easily dealt with as sulphide minerals. In the course of these experiments he tried the effect of adding a xanthate to the pulp, and he found that this gave very good results. But the xanthate did not sulphidise the mineral. It acted in some way which has not been explained and caused more of the valuable mineral to be caught up with the froth than would be caught up if a frothing agent was used alone. Moreover it assisted in selective froth flotation. By arranging conditions properly it was possible to do a froth flotation in two stages so that where the ore as mined contained a mixture of different minerals each of which contained a different valuable metal, the first froth flotation would catch up most of the mineral containing the one metal and leave most of the mineral containing the other, and then the second froth flotation would catch up most of the latter mineral. After further experiments Mr. Keller obtained a patent in the United States of America for this new process and then he obtained the Canadian patent which is now in suit. These patents are in substantially the same terms. Mr. Keller's processes have been extensively used by many mining companies and it appears from the evidence in this case that Mr. Keller's discovery was an invention of great merit. Mr. Keller was employed by the appellants and his patent was assigned to them and has been owned by them throughout the period with which this case is concerned. It appears that a number of mining companies took licences under this and other patents from the appellants but the respondents and certain other companies refused to take such licences and for a considerable time carried on operations which admittedly infringed this patent. These operations were on a large scale. It appears that the respondents over a period of years treated over a million tons of material by processes which infringed the patent in suit if that patent is valid. The appellants took no action in respect of these infringements until their patent had almost expired but no point is now made of this delay in taking action.

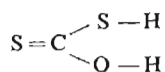
The judgment of Thorson P. contains a full and accurate account of the technical matters involved in this case, and their Lordships are much indebted to him and need not repeat much of what he has so lucidly set out. But certain parts of the chemistry of the case are so closely connected with the matters in dispute that their Lordships must state what they understand to be the purport of the technical evidence. The questions at issue cannot be properly understood without having in mind what is meant by the chemical term xanthate. The term had been used by organic chemists for many years before the date of the patent to denote a certain class of chemical compounds, and, subject to one matter which is in dispute and which their Lordships will deal with later, there is no doubt about what the term xanthate, used without qualification, means to a chemist or meant at the date of the patent.

A xanthate is a salt of a sulphur derivative of carbonic acid. In a molecule of carbonic acid there are one atom of carbon, three atoms of oxygen and two atoms of hydrogen. The carbon atom has four bonds or valences by which it can be chemically attached to other suitable atoms; the oxygen atom has two such bonds and the hydrogen atom has one.

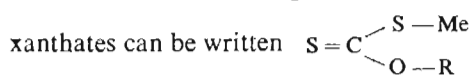
The structure of the molecule of carbonic acid is that two of the bonds of the carbon atom are attached to the two bonds of one of the oxygen atoms and each of the other two bonds of the carbon atom is attached to one of the bonds of each of the other two oxygen atoms; the remaining bond of each of these two oxygen atoms being attached to a hydrogen atom. The structure of carbonic acid can be written in



In a sulphur derivative of carbonic acid one, two or three of its oxygen atoms are replaced by sulphur atoms. In these compounds each sulphur atom has two bonds just as the oxygen atom has. If one oxygen atom only is replaced by sulphur this can be done in two ways; either the oxygen which is doubly attached to the carbon can be replaced or one of the other two oxygen atoms can be replaced by sulphur. So there are two monothiocarbonic acids. Similarly there are two dithiocarbonic acids in which two of the oxygen atoms have been replaced by sulphur atoms and there is one trithiocarbonic acid where all the oxygen atoms have been replaced by sulphur atoms. Of these five thiocarbonic acids, the one which is so to speak the parent of the xanthates is the dithiocarbonic acid which has the structure:



If the hydrogen in the OH group in this compound is replaced by an organic radical, the result is xanthic acid and if the hydrogen in the SH group is then replaced by a metal, or it may be by a group such as tetramethyl ammonium which in certain ways behaves like a metal, the result is a salt which is a xanthate. If Me and R be written to represent the metal and the organic radical respectively, the structure of all



It is possible to make a very large number of compounds which have this structure. In particular the organic radical R may be any one of a number of different classes. Radicals are divided into aryl and aliphatic radicals, but, as no one has been able to make a compound of this structure with an aryl radical, that class may be disregarded. The different classes of radicals which can be used are all aliphatic, and one class of aliphatic radicals which can be used is the class of alkyl radicals. These radicals are derived from the saturated hydrocarbons or paraffins, which are compounds of carbon and hydrogen with the generic formula $\text{C}_n \text{H}_{2n+2}$, where n may be any number from 1 up to a rather large number. The radical is the group of atoms which is left when a hydrogen atom is taken away: the bond by which that hydrogen atom was held is then free to combine with something else. The alkyl radicals are the groups of atom left when one hydrogen atom is taken from any of the saturated hydrocarbons. The first of these hydrocarbons is methane CH_4 and this yields the methyl radical CH_3 ; the next is ethane C_2H_6 which yields the ethyl radical C_2H_5 , and so on. So the generic formula for the alkyl radicals is $\text{C}_n \text{H}_{2n+1}$.

The matter in dispute is whether the name xanthate is properly applicable to every substance which has the structure above set out, whatever be the class to which its organic radical R belongs, or whether the name is only properly applicable to a substance in which the organic radical, R, is an alkyl radical. The appellants contend that the name xanthate is only properly applicable when the organic radical, R, is an

alkyl radical and they base this contention on a passage in the evidence of their expert witness Mr. Higgins. Mr. Higgins was a witness of great knowledge and experience and of undoubted integrity and if it were clear that he meant this their Lordships would give great weight to his evidence. But in their Lordships' judgment this is very far from clear. Mr. Higgins did not deal with this point in his examination in chief: in cross examination he appears to accept the wider meaning: and it is only in a short passage in his re-examination that he appears to attach the narrower meaning to the term. Re-cross examination was allowed and there he appears clearly to support the wider meaning. The other experts certainly support the wider meaning. Moreover the only substances with this structure which were at all well known at the date of the patent were the cellulose xanthates which had already become commercially important. In these substances the organic radical is the cellulose radical which is not an alkyl radical: it is a somewhat complex radical containing oxygen as well as carbon and hydrogen. Yet no witness throughout the evidence even suggested that the name xanthate ought not to be applied to cellulose xanthate. Further, the respondents produced a list of some 91 different xanthates which had been described in chemical literature before the date of the patent: these were divided into 16 groups according to the organic radical which they contained and in 10 of the groups the organic radical was not an alkyl radical. Again no witness suggested that the substances in these 10 groups were less entitled to the name xanthate than the others. In his judgment Thorson P. quoted definitions of the term "Xanthate" which he had found in certain dictionaries. These definitions are not very clear and, as none of the witnesses referred to any of them, their Lordships are unable to found any conclusion on them. Their Lordships have found nothing in the evidence to support the above-mentioned passage in Mr. Higgins' re-examination and they must therefore hold that Mr. Higgins gave his evidence in re-examination under some misunderstanding and that at the date of the patent the term xanthate as used by organic chemists was properly applicable to every substance of the structure referred to whether the organic radical which it contained was an alkyl radical or not.

Their Lordships can now turn to the Specification. The respondents attack the Specification as a whole but their primary attack is directed against the claims on which the appellants have based their action. There are eleven claims in all and in the present action four claims were originally alleged to have been infringed, viz. Nos. 6, 7, 8 and 9. No infringement of claim 8 was proved, and claim 7 is identical with claim 9 except that in one respect claim 7 is wider, so that as regards the facts of this case any infringement of claim 7 is necessarily also an infringement of claim 9. Accordingly the argument before their Lordships was confined to the question of the validity of claims 6 and 9. It is admitted that both these claims have been infringed and that by the law of Canada, if either is valid the appellants are entitled to succeed. It will be convenient before considering the rest of the Specification to examine these two claims. Claim 6 is in these terms:—

"The process of concentrating ores which consists in agitating a suitable pulp of an ore with a mineral-frothing agent and an alkaline xanthate adapted to co-operate with the mineral frothing agent to produce by the action of both a mineral-bearing froth containing a large proportion of a mineral of the ore, said agitation being so conducted as to form such a froth, and separating the froth."

This claim is attacked on several grounds. The first attack is directed against the phrase "an alkaline xanthate". This phrase is crucial because, so far as this claim is concerned, the inventor only claims a monopoly if the process described is carried on with an alkaline xanthate: if it is carried on with a xanthate not alkaline there is no infringement of this claim. It is therefore necessary to consider what this phrase would have meant at the date of the patent to the notional addressee of

the specification, a person skilled in the art of froth flotation. It appears from the evidence that such a person would be a metallurgist with a good knowledge of the relevant parts of inorganic chemistry, but that he might have no more than an elementary knowledge of organic chemistry. The word "alkaline" would be familiar to him: he would be accustomed to working with solutions or mixtures which were either alkaline, acid, or neutral. But the term xanthate would not be familiar to him and he might never even have heard of it before reading the specification. He would learn from the specification that xanthates are certain salts of sulphur derivatives of carbonic acid but the specification would not tell him much about their nature and properties and he would probably have to consult an organic chemist. He would then discover, if he did not know it already, that there is no such thing as an alkaline xanthate: all xanthates are neutral and none is alkaline. If the matter rested there the claim would clearly be valueless. As all xanthates are neutral he could work with any of them without infringing the claim. But the appellants seek to save the claim by arguing that he would at once realise that the patentee had made a slip of the pen and would at once see what was meant. No doubt he would at once realise that a mistake had been made because it cannot be supposed that a patentee would deliberately use a meaningless expression or make a claim which is valueless. But, even if it be assumed that this mistake could be treated as a mere clerical error, the claim cannot be valid unless it is clear from the evidence that persons to whom the specification is addressed would have no doubt about what was meant. The law as to ambiguity is clear and their Lordships need only refer to a well known passage in the speech of Lord Loreburn in *Natural Colour Kinematograph Co. Ltd. v. Bioschemes Ltd.* (1915), 32 R.P.C. 256 where he says

"It is the duty of a patentee to state clearly and distinctly, either in direct words or by clear and distinct reference, the nature and limits of what he claims. If he uses language which, when fairly read, is avoidably obscure or ambiguous, the Patent is invalid, whether the defect be due to design, or to carelessness or to want of skill. Where the invention is difficult to explain, due allowance will, of course, be made for any resulting difficulty in the language. But nothing can excuse the use of ambiguous language when simple language can easily be employed, and the only safe way is for the patentee to do his best to be clear and intelligible."

In Canada the requirements with regard to a specification are statutory. The relevant statute in this case is the Patent Act, 1923. Section 14 (1) of that statute enacted with regard to a specification "It shall end with a claim or claims stating distinctly the things or combinations which the applicant regards as new and in which he claims an exclusive property and privilege." It was not argued that the law of Canada is less stringent than the law of the United Kingdom with regard to ambiguity of a claim.

The appellants' case is that the instructed reader would at once see that when the patentee said "alkaline xanthate" he meant "alkali metal xanthate". The term "alkali metal" is well known: it means any one of five metals, sodium, potassium and three rarer metals, which chemists class together. The appellants get support from their expert Mr. Higgins but the other expert witnesses do not agree and Thorson P. did not find in favour of the appellants on this question. Before coming to claim 6 the instructed reader would have observed in claim 5 the phrase "an alkali-metal salt of an ethyl-sulphur derivative of carbonic acid". So he would see that the patentee was well able to use the term "alkali metal" when that was what he meant, and he would naturally assume that when the patentee used another word he intended a different meaning. So if the word "alkaline" in claim 6 could reasonably have a different meaning he could not safely assume that it was a mistake for "alkali metal". At least one other meaning is suggested by the respondents' witnesses. The process of froth flotation was found by metallurgists to work best in some circumstances when the pulp had been made alkaline and in other circumstances when it had been made acid or neutral. Metallurgists

speak of an alkaline circuit, an acid circuit, or a neutral circuit. So it would not be unreasonable to suppose that an alkaline xanthate meant a xanthate used in an alkaline circuit. The matter may be tested in this way. If a metallurgist wished to use in an alkaline circuit a xanthate of a metal other than an alkali metal would it be obvious to him that this was not an infringement of claim 6? In their Lordships' judgment it would not, and this claim is ambiguous and invalid.

Even if the difficulty arising from the use of the word alkaline were surmounted, there would still be other obstacles in the way of the appellants. The alkali metal xanthates include those cellulose xanthates in which the metal is an alkali metal, e.g., potassium cellulose xanthate. As will appear when their Lordships come to deal with claim 9 such a xanthate does not assist the process of froth flotation: on the contrary it hinders the process. So claim 6 could only be valid if the latter part of the claim, beginning with the words "adapted to co-operate", could be read as excluding those alkali metal xanthates which do not assist the process, and if this method of limiting the scope of the claim were held to be legitimate in this case. As their Lordships have already decided that claim 6 is invalid, it is unnecessary to deal with these further objections to it. But their Lordships think it right to add that on this matter formidable arguments were adduced by the respondents.

The other claim which has been infringed and the validity of which is now in dispute is claim 9. This claim is in these terms:---

"The improvement in the concentration of minerals by flotation which comprises subjecting the mineral in the form of a non-acid pulp to a flotation operation in the presence of a xanthate and a frothing agent."

This claim is attacked as being bad for inutility. There is uncontradicted evidence that there is at least one class of xanthates, viz. the cellulose xanthates, whose presence does not improve the process but on the contrary hinders it, and it is also said that there are other xanthates, viz. the xanthates of the heavier metals such as copper, which do not in any way improve the process, but as regards these xanthates there is some room for dispute. It would appear from the evidence that the reason why cellulose xanthates hinder the froth flotation process is that their molecules are extremely large and form, when mixed with pulp, what is known as a colloidal solution, and it appears to have been known for a considerable time that colloids should always be avoided in froth flotation. But whatever the reason may be, the fact is plain that cellulose xanthates do hinder the process and the only way in which the appellants can save this claim is to attach such a meaning to the word "xanthate" in the claim as to exclude at least cellulose xanthates. It has already been said that in their Lordships' judgment the word "xanthate" as ordinarily used by chemists at the date of the patent included cellulose xanthates and indeed cellulose xanthates were the only xanthates at all widely known. Therefore unless the meaning of the word in this claim can be controlled and limited by a reference back to the earlier part of the specification, the appellants must fail. The appellants contend that there is in the earlier part of the specification a definition of the word "xanthate" as used by the patentee which is in effect a "dictionary" and that, as the patentee has shown that he intends the word to be understood in a limited sense throughout, that limited sense ought to be attached to the word when it occurs in claim 9. Their Lordships do not doubt that it is possible for a patentee to make his own dictionary in this way. If he has put something in the earlier part of the specification which plainly tells the reader that for the purpose of the specification he is using a particular word with a meaning which he sets out, then the reader knows that when he comes to the claims he must read that word as having that meaning. But this is an awkward method of drafting and is very undesirable where a simpler method could easily be adopted and it is in all cases incumbent on a patentee who chooses to adopt this method to make his intention plain to those who read the specification.

In paragraph 1 of the specification the inventor states that he has invented "certain new and useful improvements in froth flotation concentration of ores" and declares "that the following is a clear, full and exact description of the same". Paragraphs 2 and 3 are in the following terms:—

"2. This invention relates to the froth-flotation concentration or" (this is plainly a mis-print for "of") "ores, and is herein described as applied to the concentration of certain ores with mineral-frothing agents in the presence of certain organic compounds containing sulphur.

3. It has been found that certain sulphur derivatives of carbonic acid greatly increase the efficiency of the froth-flotation process when used in connection with mineral-frothing agents. The increased efficiency shows itself sometimes in markedly better recoveries, sometimes in effecting the usual recoveries with greatly reduced quantities of the usual mineral-frothing agents, and sometimes in greatly reducing the time needed for agitation to produce the desired recoveries."

It will be noted that up to this point the inventor has not defined the sulphur derivatives which are useful; he has merely said that certain sulphur derivatives have this effect. Then there comes paragraph 4 which is said to contain the "dictionary":—

"4. The invention is herein disclosed in some detail as carried out with salts of the sulphur derivatives of carbonic acid containing an organic radical, such as an alkyl radical and known as xanthates, as the new substance. These form anions and cations in solution. Excellent results were also obtained by agitating ore pulps with the complex mixture produced when 33½ per cent. of pine oil was incorporated with an alcoholic solution of potassium hydrate, and xanthates or analogous substances were produced by adding carbon disulphide to this mixture."

At first sight the first sentence of this paragraph might appear to be stating that all salts of the sulphur derivatives of carbonic acid containing an organic radical such as an alkyl radical are known as xanthates and in this way to be defining the term xanthate. But the appellants do not contend that this is the patentee's meaning. It has already been stated that there are five thio-carbonic acids which are sulphur derivatives of carbonic acid and that xanthates are derived from only one of these substances. So salts of any of the other four would not be xanthates even if they contained an organic radical such as an alkyl radical. What the appellants contend is that the first two sentences show that the patentee intended to limit the ordinary meaning of the word xanthate (which is nowhere stated) by excluding all xanthates which do not contain an organic radical such as an alkyl radical and also by excluding all xanthates which do not form anions and cations in solution, and that wherever the word xanthate is found later in the specification it has this limited meaning. They then contend that if this limited meaning is given to the word xanthate in claim 9 this excludes from the scope of the claim both the cellulose xanthates and the xanthates of the heavier metals.

Without accepting the appellants' contention their Lordships will for the moment assume that it is possible to carry forward to claim 9 the limited meaning of xanthate which is said to appear from paragraph 4. It then becomes necessary to determine the meaning of the phrases in that paragraph on which the appellants rely. The first modification of the ordinary meaning of the term is said to be a limitation to xanthates "containing an organic radical, such as an alkyl radical." There was much argument about this phrase and several meanings were suggested. It could mean "containing an organic radical, for example, an alkyl radical" and it would then include all organic radicals. If that is its meaning the phrase does not contain any limitation of the term "xanthate" and in particular does not exclude the cellulose xanthates. Another possible meaning might be "an organic radical of a class which comprises the alkyl radicals and

others similar to them." But that meaning would not help the appellants unless there exists a class of organic radicals which includes alkyl radicals and others but does not include the cellulose radical. There is nothing in the evidence to indicate the existence of any such class. There are two main classes of organic radicals, aryl and aliphatic. Both the alkyl radicals and the cellulose radical belong to the aliphatic class and there is no evidence of any sub-class of aliphatic radicals which includes the alkyl radicals but not the cellulose radical. So the appellants can only succeed if the phrase is to be read as meaning "an organic radical which is an alkyl radical" and as excluding all radicals which are not alkyl radicals. If the words "such as" are to be construed in their context as ordinary words of the English language, then in their Lordships' judgment they are not capable of this construction. But it was argued for the appellants that the whole phrase "an organic radical such as an alkyl radical" is a single and indivisible technical expression and must be held to mean what a chemist would understand it to mean. If it appears from evidence that a word in a specification has acquired a technical meaning among persons to whom that specification is addressed, then that meaning will be given to that word and the same may apply to a whole phrase. But there is not, and there could hardly be, evidence that this whole phrase has acquired a technical meaning among chemists or metallurgists. The terms "organic radical" and "alkyl radical" have technical meanings but that is all. So the construction of a phrase or sentence in which these terms occur is a matter for the Court after the meanings of these terms have been ascertained from evidence. For the reasons which have been given their Lordships hold that this phrase does not exclude the cellulose radical and therefore, even if it could be held to qualify the word "xanthate" in claim 9, the claim would still be invalid for inutility.

Then there is the second alleged limitation that claim 9 only refers to those xanthates which "form anions and cations in solution". It is not easy to understand why this sentence was inserted in paragraph 4 because it does not seem to lead up to anything else in the specification. There are many substances whose molecules behave in this way when they are dissolved, and the patentee can hardly have intended to attribute the efficacy of xanthates in the froth flotation process to this property. What the appellants say is that this sentence shews an intention to inform readers of the specification that xanthates must be soluble in water to an appreciable degree if they are to be effective, and makes it clear to them that whenever the patentee thereafter used the word "xanthate" he intended to exclude any xanthate not so soluble. If this was his intention he could scarcely have found a more obscure way of expressing it. And even if he had succeeded in expressing this intention clearly he still would not have excluded the cellulose xanthates, because there is uncontradicted evidence that a cellulose xanthate is soluble in water to the extent of one part in several hundreds. The specification shews that xanthates are to be used in very small quantities in the froth flotation process—generally less than one pound weight per ton of pulp. So even if cellulose xanthate were only soluble to the extent of one part in a thousand it would still be sufficiently soluble for this process. It is true that cellulose xanthate forms a colloidal solution which differs in some respects from an ordinary solution. But again there is uncontradicted evidence that cellulose xanthates do form anions and cations in solution and that is the test which the patentee has selected. Their Lordships must therefore hold that even if this second limitation of the meaning of xanthate could be carried forward to claim 9 it would not exclude the cellulose xanthates and claim 9 would still be invalid for inutility.

One other ground for excluding the cellulose xanthates was urged at one stage in this case. It was said that for various practical reasons no person skilled in the art would ever attempt to use these xanthates for froth flotation and therefore they could be disregarded. But counsel before their Lordships did not attempt to maintain this argument. It is

well settled that where the scope of a claim includes some method which is useless the claim cannot be saved by shewing that no skilled person would ever try to use that method.

Their Lordships are therefore of opinion that claim 9 is invalid even on the assumption that the meaning of the word "xanthate" in that claim can be controlled by reference back to paragraph 4 of the specification. They have thought it right in the circumstances to consider the case fully on that assumption. But they must add that in their judgment there is nothing in paragraph 4 which plainly indicates any intention to use the word xanthate with a special or limited meaning and nothing at all to indicate any intention to control or limit the meaning of that word when it is used subsequently in the specification.

As their Lordships hold both claim 6 and claim 9 to be invalid there is no need to deal with the respondents' contentions which were directed against the validity of the Patent as a whole.

Their Lordships will humbly advise His Majesty that this appeal should be dismissed. The appellants must pay the costs of this appeal.

In the Privy Council

MINERAIS SEPARATION NORTH
AMERICAN CORPORATION

v.

NORANDA MINES, LIMITED

DELIVERED BY LORD REID

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