

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen
(D) No distribution

**Datasheet for the decision
of 15 April 2008**

Case Number: T 0767/06 - 3.2.07

Application Number: 02790238.6

Publication Number: 1412545

IPC: C22B 3/04

Language of the proceedings: EN

Title of invention:

Method for improving metals recovery using high temperature pressure leaching

Applicant:

Phelps Dodge Corporation

Headword:

-

Relevant legal provisions:

EPC Art. 54, 84, 111(1), 123(2)

Relevant legal provisions (EPC 1973):

-

Keyword:

"Extension beyond content of application as originally filed (no)"

"Clarity (yes)"

"Novelty (yes)"

"Fresh case - remittal to department of first instance for further prosecution (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0767/06 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 15 April 2008

Appellant: Phelps Dodge Corporation
One North Central Avenue
Phoenix, AZ 85004-4464 (US)

Representative: Hanna, Peter William Derek
Hanna, Moore & Curley
13 Lower Lad Lane
Dublin 2 (IE)

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 28 December 2005
refusing European application No. 02790238.6
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: H. Meinders
Members: H. Hahn
E. Dufrasne

Summary of Facts and Submissions

- I. The applicant lodged an appeal against the decision of the Examining Division to refuse the European patent application No. 02 790 238.6.

The Examining Division held that the subject-matter of amended claim 1 of the single request as filed during the oral proceedings on 6 December 2005 met the requirements of Article 123(2) EPC but lacked novelty over D2 (US-A-4 605 439) and D3 (Das G. K. et al.: "Acid pressure leaching of nickel-containing chromite overburden in the presence of additives" Hydrometallurgy, Elsevier Science B.V., Amsterdam, NL, vol. 39, no. 1, 1 October 1995, pages 117-128, ISSN: 0304-386X).

- II. With a first communication dated 14 June 2007 the Board presented its preliminary opinion with respect to the admissibility of the amendments, clarity and novelty of claims 1-18 of the single request underlying the impugned decision and claim 1 of an auxiliary request, wherein the words "seeding agent" were replaced with "hematite", as proposed in the grounds of appeal dated 27 April 2006.

The Board stated among others that claim 1 of the main request and the auxiliary request appeared to meet the requirements of Article 123(2) EPC. Furthermore, the process of claim 1 of the main request appeared to lack novelty over the processes of D2 and D3. The subject-matter of claim 1 of an auxiliary request being restricted to hematite as seeding agent, however, appeared to be novel compared to D2 and D3. The Board

also noted that there existed several inconsistencies between claim 1 and the description of the application.

The Board then remarked that it intended to remit the case to the first instance provided that an acceptable main request comprising a claim 1 such as that according to the proposed auxiliary request were to be filed since a fresh case would ensue.

Furthermore, the Board stated that if the appellant were to maintain its present main request it intended to arrange for oral proceedings.

The appellant was further invited to clarify its requests and to provide them in written form within the set time limit.

III. With letter dated 11 September 2007 the appellant withdrew its previous main request and requested that the application be remitted back to the first instance for further prosecution and that the decision under appeal be set aside and a patent be granted on the basis of the claims 1-16 of a new main request, or alternatively, if the main request is found not to be allowable, on the basis of claims 1 to 16 of the amended first auxiliary request, both requests as submitted with the same letter. It also requested that an opportunity be afforded to make the necessary amendments to the description. A request for oral proceedings was submitted as an additional auxiliary request if the other requests could not be accepted.

IV. With a further communication annexed to the summons for oral proceedings dated 18 January 2008 the Board

presented its preliminary negative opinion with respect to the claims 1-16 according to the main and auxiliary request as filed with letter dated 11 September 2007.

The amendments made to independent claim 1 and dependent 16 of the main request appeared to contravene Article 123(2) EPC. Furthermore, the subject-matter of claim 1 of the main request still lacked novelty over the process of D2. Dependent claim 16 of the main request additionally contravened Article 84 EPC. These conclusions fully applied also to the auxiliary request, the set of claims of which contained an identical claim 16.

V. With letter dated 5 February 2008 the appellant submitted claims 1-11 of an amended first auxiliary request. Furthermore, it requested that, if this revised first auxiliary request is found to meet the requirements of Articles 54, 84 and 123(2) EPC, the main and auxiliary request dated 11 September 2007 would be withdrawn, and the application be remitted to the department of first instance for further prosecution. The oral proceedings scheduled for 20 May 2008 could then be dispensed with.

VI. Claim 1 of this first auxiliary request dated 5 February 2008 reads as follows:

"1. A process for recovering copper and other metal values from a metal-bearing material (2) comprising the steps of:

subjecting a metal-bearing material to a pressure leaching process (10) tending to liberate at least one metal value from said metal-bearing material;

incorporating hematite as seeding agent into said pressure leaching process to prevent said process from passivating or encapsulating said at least one metal value, said seeding agent forming a preferential nucleation site for the crystallization, precipitation, and/or growth of unwanted solid species during said pressure leaching process;

obtaining a product from said pressure leaching process, wherein at least one metal value is present in said product; and

extracting (30,46,66) said at least one metal value from said product."

VII. With a communication dated 19 February 2008 the Board informed the appellant that the oral proceedings appointed for 20 May 2008 have been cancelled.

VIII. The appellant argued essentially as follows:

Claim 1 of the first auxiliary request is based on claims 1, 4 and 9; and page 2, lines 1 to 17; page 5, line 19; page 6, lines 15 to 18; and page 12, line 23 and Figure 3 of the application as originally filed. Thus it meets the requirements of Articles 84 and 123(2) EPC.

D2 does not anticipate the invention because it deals with the problem of wetting by **molten** elemental sulphur, rather than the problem of encapsulation or passivation of wanted metal material by unwanted **solid** species, as in the present invention. D2 neither mentions any "seeding agent" nor does it describe a seeding process as such, let alone with hematite as seeding agent. D2 teaches the use of recycled solids to prevent wetting

of unreacted sulphidic materials by elemental sulphur. D2 does not specify in what form the iron content comprised in said recycled oxidized material is present (see column 3, lines 23 to 29). The recycled solids utilized in D2 cannot properly be characterized as forming a nucleation site or providing a "seeding agent", because no crystallization and/or growth of solid species **during** the pressure leaching process occurs in connection with these recycled solids.

D3 does not anticipate the invention either because D3 uses a combination of $(\text{NH}_4)_2\text{SO}_4$ (ammonium sulphate) and jarosite as "additives" to improve the metal recovery (e.g. Ni) from beneficiated lateritic chromite overburden by altering the process chemistry to improve the breakdown of the crystal (e.g. goethite) matrix, and therefore teaches a chemical rather than a physical process. D3 refers to jarosite as being a "seed" material at pages 126-127, in the context of taking up unwanted iron [Fe (III)] from solution, in contrast to the invention which claims hematite seeding agent as a preferential nucleation site for solid species.

Therefore the process of claim 1 of the first auxiliary request is novel over D2 and D3.

Reasons for the Decision

1. *Admissibility of amendments (Article 123(2) and 84 EPC)*
- 1.1 Claim 1 of the first auxiliary request is based on claims 1, 4 and 9 and page 1, lines 2 to 4 of the application as originally filed (corresponding to the published WO-A-03 010345). The further feature "...

incorporating **hematite** as seeding agent ..." has a basis at page 5, line 14 to page 6, line 1 and at page 6, lines 15 to 18 of the application as originally filed while the feature "**said seeding agent forming a preferential nucleation site for the crystallization, precipitation and/or growth of unwanted solid species during said pressure leaching**" is derivable from the description page 2, lines 4 to 6 and lines 15 to 17; and page 5, line 1 to page 6, line 1 of the application as originally filed.

Therefore claim 1 meets the requirements of Article 123(2) EPC.

1.2 The dependent claims 2 to 11 of the first auxiliary request are based on claims 2 to 6, claim 8, claim 10 in combination with page 4, lines 16 and 17, and claims 11 to 13 of the application as originally filed, respectively. Hence claims 2 to 11 also meet the requirements of Article 123(2) EPC.

1.3 Claim 1 is considered to implicitly define that the metal-bearing material (2) comprises copper which besides said "at least one metal value" is likewise recovered in an unspecified process step. Therefore claim 1 is in this respect considered to meet the requirements of Article 84 EPC.

In actual fact, with respect to claim 1 it is remarked that it may be necessary to amend that the present feature "... subjecting a metal-bearing material to a pressure leaching process (10) ..." of claim 1 to read "... subjecting **said** metal-bearing material to a pressure leaching process (10) ...".

2. *Novelty (Article 54 EPC).*

According to the impugned decision D2 and D3 were considered to be novelty destroying:

- 2.1 D2 discloses a process for the recovery of gold from auriferous iron-containing sulphidic material wherein a slurry is made up of fresh feed material and oxidized solids from a subsequent pressure oxidation step, then subjected to pressure oxidation at about 120°C to 250°C (see abstract and figure). A portion of the washed oxidized solids obtained from a thickener underflow is recycled to the said feed slurry and gold is recovered from the remaining oxidized solids (see column 4, lines 3 to 16). Said recycled oxidized material contains soluble iron and/or readily soluble iron (see column 3, lines 34 to 36 and lines 56 to 64).
- 2.2 D3 discloses the addition of $(\text{NH}_4)_2\text{SO}_4$ and jarosite as seed to improve the recovery of nickel from nickel-containing lateritic chromite overburden as these additives promote the binding up of iron (see abstract; and page 119, chapter 3.1; page 126, chapter 3.8, last sentence; and pages 126 to 127, chapter 3.10).
- 2.3 Claim 1 of the first auxiliary request has been restricted to a process for recovering copper and other metal values and the use of hematite as seeding agent in said pressure leaching process step.

Consequently, the subject-matter of claim 1 is novel compared to D2 which does not specify the type of the iron content in said recycled oxidized material and

which does not recover copper. It is likewise novel with respect to D3 which does not disclose any recovery of copper, either, and which only discloses the addition of jarosite as seeding agent.

Therefore claim 1 of the first auxiliary request meets the requirements of Article 54 EPC.

3. *Procedural matters*

Taking account of points 1 to 2.3 above the Board considers that claim 1 of the first auxiliary request meets the requirements of Articles 54, 84 and 123(2) EPC.

Consequently, the appellant's *provisio* (compare point V, above) for the withdrawal of the main request and the auxiliary request dated 11 September 2007 is fulfilled. Therefore these two requests are considered to be withdrawn, so that the first auxiliary request dated 5 February 2008 becomes the single (main) request on file which shall be the basis for the remittal as proposed by the Board.

4. *Remittal to the department of first instance
(Article 111(1) EPC)*

- 4.1 The impugned decision is silent with respect to inventive step. As apparent from the file the use of hematite as seed material has not been discussed during the examination procedure except during the oral proceedings on 6 December 2005 before the Examining Division. The minutes of said oral proceedings, however, do not contain any statement of the Examining Division

that such a restriction would render the thereby limited claimed method fulfilling the requirement of inventive step. Furthermore, it is also not apparent from the file that the use of hematite as seeding material, this feature having been taken from the description of the application, has been considered during the prior art search of the present application.

Thus, by restricting the process of claim 1 to the recovery of copper and other metal values and by using hematite as seeding agent a fresh case is created, which makes it inappropriate for the Board to further deal with the case in respect of inventive step.

Therefore, in accordance with Article 111(1) EPC, the Board considers it appropriate to remit the case to the department of first instance for further prosecution. Thereby the appellant has the opportunity to have the case further examined with respect to inventive step without loss of an instance.

- 4.2 The Board notes that the description has not been adapted to the amended claims. The compliance of the application with the requirements of Article 84 EPC in that respect is therefore not part of the decision.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders