

Ministry of the Environment.

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On June 7th 2008.

Department Head of User Services

Confederación Hidrográfica del Guadalquivir (CHG)
(Guadalquivir Public Water Authority)
Groundwater service
(Waters under Public Domain)

{SIGNATURE}
FRANCISCO REGALADO SANTOS
ADDRESSEE

Reference number 41045/1298/2002/10

Date April 3, 2008

Matter: Cobre las Cruces, Proposal to

Suspend the Authorization of October 30, 2003

(Drainage-Reinjection system)

**MATTER: PROPOSAL TO SUSPEND THE AUTHORIZATION FOR DRAINAGE INJECTION OF
OCTOBER 30, 2003.**

Back on February 27, 2008 (sent by registered mail on February 29, 2008), the Department Head for groundwater produced the INFORME ANUAL DE EVALUACION DE LA ACTIVIDAD DE COBRE LAS CRUCES EN RELACION CON LA AUTORIZACION DEL PRESIDENTE DE LA CONFEDERACION HIDROGRAGICA DE FECHA 30/10/2003. (*Annual evaluation report of the activities of Cobre Las Cruces with regard to the authorization from the president of the Public Water Authority date October, 30, 2003.*)

This report, which is transcribed below, analyzes the degree of compliance with the October 30, 2003 authorization which enables mining activities under the authority of this Body, reaching the conclusion that the manifest non-compliance of practically all of the conditions laid out in this document is unacceptable.

“INFORME ANUAL (2007) DE EVALUACION DE LA ACTIVIDAD DE CLC EN RELACION CON LA AUTORIZACION DE DRENAJE REINYECCION DE 30 OCTUBRE DE 2003.

“*Annual evaluation report (2007) of the activities of CLC with regard to the authorization of drainage injection of October 30, 2003.*

BACKGROUND

On July 15, 2002, the Cobre Las Cruces corporation requested project authorization for the construction of facilities and drainage and injection operations in the municipalities of GERENA, Guillena and Salteras (Seville),

On October 30, 2003, the President of the Guadalquivir Public Water Authority authorized the project based on the technical documentation presented by Cobre Las Cruces.

On July 8, 2005 Cobre Las Cruces presented a new hydrogeological and management model different from the one that was the basis for the authorization and a new construction project.

On September 16, 2005, Cobre Las Cruces initiated exploratory drilling for the drainage and injection system without having obtained the mandatory authorization from this Body, despite having carried out modifications to the project that had been presented.

On July 7, 2006, Cobre Las Cruces began water extraction and its injection in the aquifer without the inspection certificate for the project, thus being in non-compliance with the third general condition.

On July 4, 2007 the CHG carried out a visit to the facilities and issued the following report that reveals the following:

- The work that was carried out has undergone a series of changes, some that were included in the construction project of 2005 and others that were carried out later on.
- The position of resident hydrogeologist must be a natural person.
- It has been proven that the re-injection system does not fully address what was laid out the estimates and this requires a resolution.

On November 5, 2007 there was a meeting at the CHG offices with a representative of CLC Mr. Gobain Ovejero and the resident hydrogeologist in which the CLC was informed of the unacceptable difficulties that CHG technicians have had when auditing the extracted and injected water:

- the standardization documents for the meters are not available.
- CLC has not collaborated by sealing the meters.
- there has not been a verification of the reliability of the computer data vis-a-vis the real measurements of the meters.
- CHG does not have access to the computer data history.

On December 14 there was a meeting at the CHG offices that was attended by Mr. Mark Doyle, Mr. Antonio Garcia, Mr. Rafael Fernandez Rubio and Ms. Maria Jose de los Reyes Garcia, in which technicians from the CHG carried out an analysis of the degree of compliance of the authorization by the CLC, reaching the conclusion that it is unacceptable.

On February 14 the CLC presented a document at the CHG registry with new explanations.

INTRODUCTION

The project presented by the CLC on July 15, 2002 is a project of unusual technical complexity.

The exploitation of an open pit mine that intersects the Niebla-Posadas aquifer requires implementing a system of water management, called sistema de drenaje e inyección (drainage and injection system) (initialism SDR in Spanish), of a size and characteristics that make it an unprecedented operation anywhere in the world.

It is difficult to find a similar operation of the same order of magnitude anywhere in the world.

The complexity of the operation increases when taking into account the differing degrees of water quality in the different intervention zones.

An event of significant complexity occurs at the moment when water comes in contact with the mineral.

The authorization granted on October 30, 2003 was based on a hydrogeological and drainage and injection system management model presented in 2002, and was conceived given that intrinsic difficulty of the project, with clear, unequivocal and strict conditions to preserve waters under public

domain affected by operation of the mine.

However, at the very beginning of the operation of the mine, unexpected circumstances arose that cause non-compliance with the authorization and actions were taken that put into question the fundamentals of the project.

The upwelling detected in the specific surveying at the Matahijas farm, is not only non-compliant with the third specific condition, but also puts into question the viability of the system, as the viability is based in the reintegration to the aquifer of the extracted water volumes.

More so, the upwelling at the Matahijas farm was not contemplated in the hydrogeological model, despite it occurring a few months after the beginning of the injection activities and at a time of the year when rain is not particularly abundant.

It of great concern that a system of such high complexity, the safety of which depends on the capacity to predict, through its hydrogeological model, what will happen in the future based on the actions that are put into effect, presents a failure at the very beginning of its functioning over an issue that does not merit being categorized as complex.

Additionally, the facts show that CLC does not have a reasonable amount of concern to fulfill the conditions that were demanded as part of the authorization.

For example, it is not reasonable that the project that is being carried out does not fulfill a basic and essential requirement, which is its term of operation. The viability of a project is inherent to its term of operation. Not only economic viability but technical viability as well are inextricably linked to the term of operation.

However, CLC has not respected the premise that it has an authorization for only 20 years, making projects for longer terms than that.

We are definitely now at a moment at when it is necessary to carry out a balance of the actions of CLC with respect to the authorization that went into effect on October 30, 2003.

ANALYSIS OF COMPLIANCE WITH THE AUTHORIZATION

The resolution to authorize drainage-injection in the mining activities carried out out by Cobre Las Cruces is mainly based on the following basic concepts:

- a) The extraction-injection of resources must be in accordance to the eight pumping and injection areas that were planned. (CE. 2a) (2nd specific condition)
- b) The authorization term is 20 years. (CG. 4a) (4th general condition)
- c) The resident hydrogeologist will be the guarantor of compliance with the conditions set forth. (CE. 1a) (first specific condition)
- d) Water from a given extraction area cannot be injected in another area, except with express authorization from the Watershed Body. (CE. 2a) (2nd specific condition)
- e) The viability of the mining operation is based on the reintegration into the aquifer of the extracted water volumes. (CE 3a) (3rd specific condition).
- f) The Contingency Plan must foresee alternatives that can be taken under any scenario that would make it impossible to reintegrate the extracted water volumes to the aquifer. (CE 3a) (3rd specific condition).
- g) The daily extracted and injected volumes will conform to established projections. (CE 4a) (4th specific condition)
- h) The daily extracted and injected volumes will be monitored by adequate and standardized devices. (CE 5a y 6a) (5th and 6th specific conditions)
- i) The daily extracted and injected volumes will be forwarded to the Watershed Body on a daily basis. CE 5a) (5th specific condition)
- j) The injection pressure will be limited to 12 bar. (CE 7a) (7th specific condition)

- k) Water from the drainage of the bottom of the mining pit can never be part of the drainage-injection system, so they will not be pumped nor re-injected later into the aquifer. (CE 8a) (8th specific condition)
- l) The Monitoring and Control Plan will define the controls to be carried out with the aim of verifying and ascertaining piezometric and quality evolution. (CE 9a) (9th specific condition)
- m) There will be a complete analysis of the water in each area with aim of ascertaining if there is an apparent alteration of the conditions foreseen in the Hydrogeological Model that served as the basis for the Authorization. (CE 11a) (11th specific condition)
- n) A bond of 231,426.75 euros is set. (CE13a) (13th specific condition).

An analysis of the actions carried out in 2007 has reached the following conclusions with respect to the specified points:

a) The extraction-injection of resources must be in accordance to the eight pumping and injection areas that were planned.

As of January 15, 2008, it has not been possible to obtain from CLC the definition of the polylines that make up the closed polygons that would serve as boundaries for the sectors, making it impossible as of that date to fully verify the second specific condition.

Once this is provided, an analysis is needed to carry out a validation, if applicable and based on this, resolve the other issue that affects this aspect, such as the request to incorporate eight drainage surveys that was done on February 8, 2008.

b) The maximum authorization term is 20 years.

In the documents presented by Cobre Las Cruces with respect to the temporary management of water from the aquifer, this maximum limit has not been honored.

Despite what is laid out in the 4th General Condition, the different models for aquifer management that have been presented have always surpassed these limits.

In the 2005 update to the Hydrogeological Model, there is a projected operations of 37 years.

On June 29, 2007, Cobre Las Cruces was asked to present certain documents, among them the forecast tables for daily extracted and re-injected volumes with regard to the updated Hydrogeological Model, taking into account the maximum term for the authorization, which is 20 years.

When the requested document was presented, the timeframe for aquifer management was changed once again, this time to 25 years, without mentioning or justifying the change itself and without conforming to the authorized term.

On February 14 of 2008 CLC anticipated a definitive duration for the SDR Drainage and Injection System of 31 years and says that it will file a request to address the situation that has arisen.

It is significant that the problem of going 11 years beyond the term that was authorized (going from 20 to 31) by more than 50%, is defined as the need to “address the situation that has arisen.”

c) The resident hydrogeologist will be the guarantor of compliance with the conditions set forth.

Despite the verification of an improvement in the duties of the Resident Hydrogeologist HR (by its initials in Spanish), since this role was designated on September 9, 2007 with the commitment of having a continuous presence at the site, in response to the demand that this Body presented on June 29, 2007, the complete fulfillment of all the duties that were assigned has not been realized, duties that

this person accepted through the designation document mentioned above.

As an example we will cite some on the case in which the HR has not explicitly stated that there has been non-compliance of the conditions of the authorization:

- The non-conformity of the mining work with the project that was authorized by the Resolution granted by this body.
- Surpassing the terms of the project beyond the timespans set in the authorization.
- Not providing the reports that are specified in the Monitoring and Control Program.
- The lack of daily communication from CLC with respect to extracted and injected volumes.
- Non-compliance with the 4th specific condition as the extracted and injected volumes do not coincide with those that were forecasted.
- The upwelling at Matahijas.
- The lack of communication to the CHG of CLC's actions at the ancient quarry in the summer of 2007.
- Their lack of a statement about the significance of the diversion of the extracted volumes.

This is significant and thus we transcribe the report HR's report from February 12, 2008 about the Matahijas upwelling, after the requirement to stop the upwelling.

“In the Matahijas sector, we have noticed a continuous rise since March of 1997, in asymptotic form towards the height of 10 MASL (meters above sea level) (fig. 2 and fig 3), being artesian since december of 1997.”

{figure 2}

{figure 3}

It is absolutely unacceptable for this report to state that this aquifer is artesian since December of 1997, in contradiction of the data that was supplied. And it neglects to state that since the beginning of SDR exploration ,the piezometric levels increased in PZ25 from 10 MASL To 37 MASL and at PZ34 from 10 MASL to 80 MASL, making moot the need to comment with respect to non-compliance with the authorization and the requirement from the Commissioner to stop the upwelling dated January 18, 2008.

The authorization itself indicates that his person is responsible for the self-monitoring of the drainage-injection operations as a COMPLIANCE GUARANTEE of the terms set forth in this authorization as well of those in the documentation provided by the person who bears this title, a fundamental duty that the Resident Hydrogeologist generally fulfills by simply providing information of the actions and works carried out and recommendations about certain actions given to Cobre Las Cruces to improve their management.

Furthermore, we raise the question an instance of incompatibility of the duties of FRASA as an engineering consultancy for CLC (CLC document dated February 14, 2008, section three. Report about the hydrogeological model, section six). Actualización del Plan de Contingencias (Update to the contingency plan) and its involvement in the role of Resident Hydrogeologist (document from September 14 of 2007).

d) Water from a given extraction area cannot be injected in another area, except with express authorization from the Watershed Body.

The categorical nature of the 2nd Specific Condition indicates that water from one area will not be injected in another area, except in extraordinary circumstances and with the express authorization of the this Watershed Body. In spite of this, in response to the first incident (the upwelling at Matahijas) the only response from Cobre Las Cruces was precisely to inject water from one area into another area.

There are also different documents request an area change for specific surveys to another one, which highlights the continuous need to modify the Project that was presented as a basis for the Authorization.

On February 14 of 2008 CLC presented a document in which it explains that **“to be able to establish a more detailed framework that will allow the justification of the aforementioned actions (re-injection to sectors different to where the water was extracted) CLC will provide a series of documents:**

- **A report on the chemical compatibility of the water that is to be injected.**

Estimated delivery date: February 18-22, 2008

- **Definition of the concept of evident deterioration of quality**

Estimated delivery date February 18-22, 2008

- **Information about the hydrogeological model.**

Estimated delivery date March 31 – April, 2008

It is concluded that CLC recognizes that it doesn't even have a documented framework that allows the justification of re-injection areas different to those of extraction and that it needs to contract that task to external consultants, which happen to be FRASA, who are precisely those in charge of verifying that those contracted reports are correct.

Furthermore, there is the fact that these CHG requested these reports from CLC on June 29, 2007, surpassing reasonable deadlines to provide these.

But in fact, the Section for Management of Waters Under Public Domain made a pronouncement on January 15, 2008 about the unacceptability of changing areas.

And this pronouncement is completely justified on one hand by the spirit and letter of the authorization that indicate it and on the other hand by the **unpredictability of the system**. If the management tool has not been able to predict that the injection in sector 5 would cause an upwelling such as the one that had happened, **there is no certainty** of what will happen if there is injection at any other site.

For example, examining the table in section 1), makes evident the **absolute divergence between forecasts and reality**.