STATE OF CONSERVATION REPORT 2014

City of Potosí (C 420)

Submitted by the Plurinational State of Bolivia

As follow up to Decision **37 COM 7B.91** adopted at the 37th session of the World Heritage Committee in Phnom Penh, 2013, the Plurinational State of Bolivia undertook the following actions:

I. RESPONSE FROM THE STATE PARTY TO DECISION 37COM 7B.91:

4. Reiterates its requests the State Party to:

a) Clarify whether Article 6 of Supreme Decree 27787 of October 2004 has been modified and if the moratorium on all exploration, extraction and any other interventions under and above ground between altitudes 4400m and 4700m is currently enforced,

Supreme Decree 27787, issued on October 8, 2004, regulates clause c) of Article 44 of the Mining Code approved by Law No. 1777 of March 1, 1997, which stipulates mining activities in the Cerro Rico of Potosí.

Article 6 of Chapter III refers to the exploration and exploitation over the surface, has NOT suffered any amendment whatsoever to date. Meanwhile, its application was beneficial for some mining operators such as the Manquiri mining company that performed removal of cuttings since June 2008 to October 2009 from 4400 m of bound elevation under contract and supervision of COMIBOL.

Having conducted an analysis of the 27787 D.S. we deduce that the norm does not guarantee the preservation of the Cerro Rico because instead of restriction, it allows exploration and exploitation in surface and groundwater from 4400m to 4700 m of bound elevation. With COMIBOL authorization and in compliance with this norm, the MANQUIRI mining company carries out removal of cuttings under contract significantly affecting the geomorphology of the Cerro. Because of this, the Ministry of Mining and Metallurgy intervenes and emanating to the Board a Resolution (RD No 4218/2009) that INSTRUCTS to move mining operations of Manquiri Mining Company Manquiri below 4400m bound elevation.

The Law project drafted and concluded by the Ministry of Mining and Metallurgy, has enrolled to the fourteen member institutions of the "Comité Interinstitucional para la Preservación del Cerro Rico" for analysis and suggestions. These suggestions will be presented at next meeting to be defined.

The legal processes developed by COMIBOL to cooperatives in conflict with the rule are:

1. Proceeding against Mario Delgado and others

Office, Court or Tribunal: Departmental prosecution of Potosi, Magistrate's Court and the 2nd precautionary in the criminal court.

Crime: Aggravated robbery, destruction and deterioration to property of State Art.332 and 225 CPE.

Description of the allegation: Process started from the identification of illegal mining exploitation without any leasing contract of the Manquiri Mine located at an altitude of 4,510m of the Cerro Rico in risk area by members of the Villa Imperial Cooperative.

- Starting date: February 14, 2013
- Process status: it's in preparatory stage.
- Last resolution; abbreviated procedure to Mario Delgado
- Last procedural action; formal request to the investigator assigned to the case

2. Proceedings against author and authors

Office, Court or Tribunal: Departmental Attorney of Potosi, magistrate's court and 3rd Precautionary in the criminal court.

Crime: Aggravated robbery, destruction and deterioration of state assets and national wealth Art. 332, CPE 223

Description of the allegation: Process started from the fact and made known of the Regional Management under public complaint by CONCIPO of subtraction of oxidized mineral from the "Mulares" cuttings located above 4400 m elevation.

- Starting date, October 2nd, 2013
- Process status, it's in preliminary investigation stage.
- Last resolution; application requirement of capture of a vehicle identified in the commission of the act reported.
- Last procedural action; formal imputation request and application of precautionary measures once identified the author.

b) *Provide further details on the scope and extent of operations foreseen for interventions at the summit of the Cerro Rico,*

The “Sinking Stabilization at the Peak of Cerro Rico de Potosí " project was awarded to the Q&Q Construction Company under International bidding process costing 16,799,973.35 Bs , and has a deadline of 270 days and an order of proceeding, issues monitoring on November 19, 2012 for the implementation of the following items according to the original contract:

- Installation of faenas Mobilization and Demobilization. = 1 Glb.
- Lightened Concrete Type H60 C / ADI. = 1368 m3.
- Reinforced Concrete Type "A" H = 0.35 M. = 75.60 m3.
- Lightened Concrete Type H30. = 7641 m3.
- Shaping the Peak with placed material. = 1440 m3.
- Metallic Reinforced in the lightweight concrete. = 140000 kg.

Product of the sinking occurred on February 25, 2013 at the base of the crater that generated a 450 m3 gap, a modifying contract that modifies the fourth claus e (finis hing time) of the original contract with an extension of 84 days is signed making a total of 354 days, also modifying the fifth claus e (contract amount) of the original contract, with an increase of Bs 1,567,401.88 at 9.33% of the modifying contract, making a total of Bs 18,367. 374.23. With the contract modified, the stabilization project has the following items:

- Installation of faenas. = 1 Glb.
- Lightened Concrete placement Type H60 C/AD. = 5188.6 m3.
- Reinforced Concrete placement Type "A" H = 0.35 M. = 75.00 m3. Shaping of the Peak with placed material. = 1600.00 m3.
- Metallic Reinforced in the Lightened Concrete. = 190,000.00 Kg
- High Density “Casetonado” = 3820.00 m3.
- Road Improvement. = 1 Glb .
- Rock cutting with machinery. = 244.84 m3
- Rock cutting with machinery widening of platform. = 256.00 m3. Fractured Rock Cutting with machinery. = 979, 38 m3.
- Road Graveling. = 250.00 m3.
- Lightened Concrete (M) Vacuumed H60 polystyrene. = 250.00 m3. Metallic shuttering at the base of the crater (top). = 1 Glb.

The project has a physical progress of 33% and 26% financial progress, stopped since December 9, 2013 by determination of the monitoring caused by the sinking on October 25, 2013 , to date this collapse has a height of 2.20 meters, inclined length of 55 meters and width 22 meters that makes 1530m3 gap, leaving the stabilization project at a stop in the upper part. At the time a detailed report on the sinking by COMIBOL and the Ministry of Mining and Metallurgy are expected.

The construction of the road passes through three stages:

1. Opening of Road; executed by SEDECA - Potosí from San Luis platform (elevation 700) to a high of 430, a length of 450 meters at a cost of 296,056.04 Bs, begins work on April 17 2012 and ending on October 30, 2012 .

2. Extension of road; executed by the Q&Q Company with working order a length of 450 mts . Up to 4730 m a.s.l.

3. Opening of Road; executed by the Manquiri mining company from level 4730 to 4768 a.s.l. sinking brow, a length of 170 m by working within the signed contract for the execution of the stabilization of the sinking.

The opened road and extend to the brow of the sinking , only used for supervision access, to monitor mining operations, for movement of material and lightweight concrete on implementation of the project . Afterwards this road, once concluded the implementation of the project, may be projected as access and tourism at Cerro Rico.

c) Finalise the scientific studies for Cerro Rico and develop a comprehensive strategy for its stabilization and monitoring,

Scientific studies done for the Cerro Rico, consists of:

3. **Geotechnical Survey,** conducted by the eco-engineering consultant, completed the first phase in September 2010 at a cost of Bs 607 077. This report recommended that a detailed Topographic and Geophysical study be made. On August 17, 2012 the consultant presents conclusions and recommendations of the study:

   a) Conclusions on the stability of the Cerro Rico of Potosi:

   The overall stability of the solid mass above and below the altitude 4,400 is severely compromised by the weakening of the rock structure.

   The main inductors of damage and instability are the many abandoned sectors of underground work without fortification measures

   The weakening is also due to decomposition process of the solid rock and rock mass, especially in the area of the summit.

   Current work induces secondary damage from intensive use of explosives without meeting the technical standards of blasting:

- Selection of the explosive according on the type of rock
- Explosive Dosage according on the type of rock mass
- Completely random arrangement of the galleries, tunnels and other underground excavations

From a technical point of view, in areas of high geological risk THERE SHOULD NOT BE MINING ACTIVITIES, in safeguarding of the physical integrity of the mine operators. There were callapos detected which fortified sectors were intense, without any indication of Personal damage.

Damage was observed in the fortification systems due to the shape of the rock of producing pushing (rock anisotropy).

The cross sections of the excavations in general do not follow a determined guideline.

For the safety of workers and the preservation of the shape and stability of the Cerro Rico drastic measures must be taken such as:

Limitations with seat belts for work zones with simultaneous blasting and remediation. Relocation of the new excavations and development under a strict supervision and technical control.

b) Recommendations :

Design of fortification systems technically developed for abandoned excavations or under service using appropriate methods.

Parallel to the activity of mining cooperatives should perform sustaining of rock masses permanently, with priority in the large cavities (saloneos). For this reason it is suggested to consider the formation of a Committee for Industrial Safety with all mining stakeholders in the Cerro Rico.

This committee will have the authority to approve the action plan, once identified the activities to be addressed about 4,400 elevation.

c) Possible Solutions:

Advanced reinforcement systems:

- Anchored Concrete
- Passive anchoring consisting of bolts and / or rock studs
- Use of electro welded mesh
- Use of sticks or steel trusses

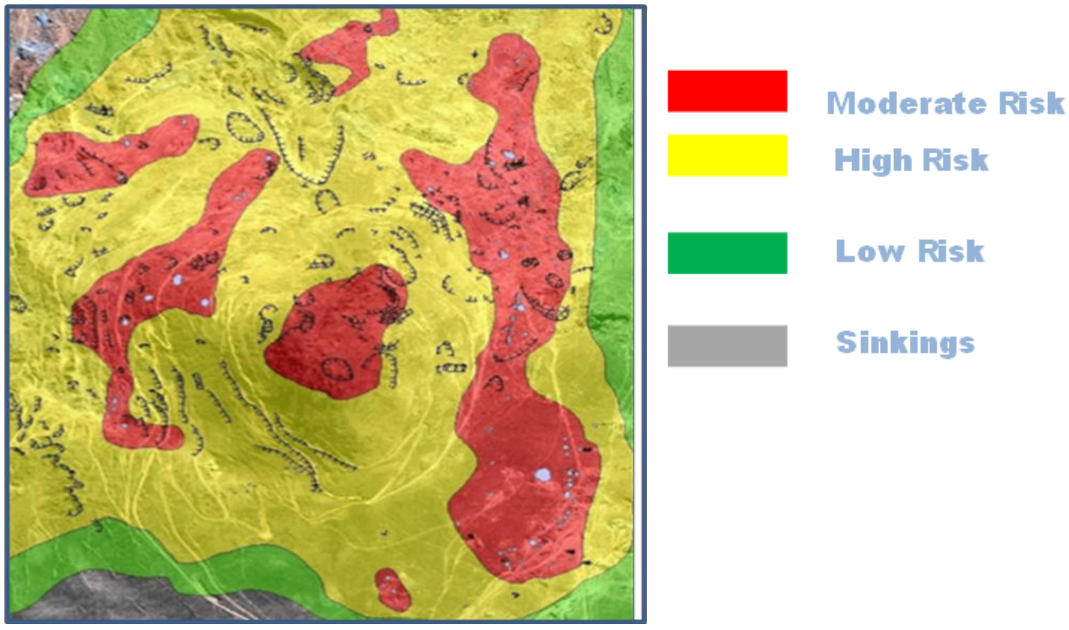
- Combine methods where necessary. For massif in high risk areas:
- Filling of gaps using inert material with previous verification that the weight will not cause further damage
- Filling of gaps using lightweight materials such as concrete with Styrofoam spheres
- Filling of gaps with alveolar concrete (foam concrete)
- For the summit:
- Filling of the gaps using inert material with previous verification that the weight will not cause major damage to lower levels
- Filling of the gap using lightweight materials such as concrete with Styrofoam spheres
- Fill the gap with alveolar concrete (foam concrete)
- Reinforcement prior to filling by using post-tensioned belts cables under control of strains.

4. **Land Survey,** for its execution, COMIBOL hired SGT Ldta Consultant. it concluded January 20, 2011 at a cost of 666000 B , obtaining 623 mine shafts and about 130 sinkings.

5. **Geophysical Survey,** carried out by the Consultant GECOH Exploration Bolivia at a cost of 675,000 B concludes August 1, 2011. This study determined the vertical and horizontal sections through images of both resistivity and as of seismic showing high risk, little risk and no risk areas.

   The work of data integration was performed by SERGEOTECMIN and presents August 31, 2011 which identifies five areas of high geological risk, as the map shows:

RISK AREAS



The implemented project for the Preservation of Cerro Rico , corresponds to the project Stabilization of Sinking at the Peak of the Cerro, which has been generated in the technical meetings of the Interagency Committee from proposals submitted by different institutions, to date the project is product of the collapse on 25 October 2013.

d) Provide details on the current arrangements for the management system for the property, including information on provisions and timeframes for conservation and rehabilitation works, proposals for public use and plans for risk management;

Regarding the actions of industrial safety in mining operations of the different cooperatives concentrated in the Cerro Rico, there is NO security at all, because he generated resources are not enough, neither they're used to implement safety equipment, not even inside the risk zone.

Meanwhile, the current conditions in the Cerro Rico de Potosí are worrying, due to the constant sinking resulting from extraction of mineralized outtake in the areas at risk by some mining operators from different cooperatives, despite having talked the urgent need to halt mining operations within the danger zone to preserve the Cerro Rico declared National Monument by Law

The work schedule for the Preservation of Cerro Rico vested initially in three actions:

1. **Technical inspection process of finishing mines that carry mining operations within risk area;** in the technical section the following institutions would participate : Minis try of Mining and Metallurgy, COMIB OL , Governor of Potosi, and Deptal FEDECOMIN Assembly. The inspection schedule is as follows :

   a) January 23, 2014. Mina Esperanza and Mina Copacabana.

   b) January 24, 2014. Mina Moropoto . c . January 30, 2014 . Mina Bolivar.

   c) January 31, 2014 . Mina Santa Barbara. e . February 4, 2014. Mina San José.

   d) February 5, 2014. Mina Caracoles.

2. **Socialization and Approval of the project "Exploitation and Preservation Law of Cerro Rico de Potosi ".**

   a) December 24, 2013. Delivery of the law project to institutions for analysis and suggestions.

   b) February and March 2014. Interagency Committee Meetings for receiving suggestions, contributions on the law project, seeking consensus.

   c) April 2014. Complementation of suggestions and contributions to the law project

d) May 2014. Referral to the Ministry of Mining and Metallurgy for the law project consented for its treatment and approval in the Legislatorial Order

3. Inspection of work areas for mining operators who are within the risk areas.

a) Medium-term:

i. January 20, 2014. Mina Triunfadora.

ii. February 4, 2014 . Mining Concession Don Pablo de Chillcani. iii .

iii. June 6, 2014. Jayaquila Kari- Kari Area.

iv. October 10, 2014. Colavi mining district. b .

b) Long-term:

i. 2014 to 2015. Management and Rehabilitation of Drainage of Cuadro Bolívar.

ii. 2014 to 2015. Project of Acid Water Treatment.

iii. 2014 to 2016. Trimming Project " Pailaviri 2" .

II. OTHER CURRENT CONSERVATION ISSUES IDENTIFIED BY THE STATE PARTY

[Note: conservation issues which are not mentioned in the Decision of the World Heritage Committee or any information request from the World Heritage Centre]

Apart from the above actions there are developing projects related to:

The lagoons that surround the Cerro Potosi and the Historic City that are part of a hydraulic and architectural complex from the seventeenth century and is still used today, the Municipal Government of Potosi and the Water Company AAPOS of Potosi implemented the "PROJECT OF CONSERVATION, EXPANSION AND IMPROVEMENT OF HYDRAULIC WORKS IN THE DAMS OF THE KARI KARI MOUNTAINS OF - Potosi." The overall objective of the project is to conserve, restore and enhance the importance of the colonial structures that make up the dams of the range of Kari Kari, from the point of view of their historical and cultural contribution to our national identity.

In this sense they will develop:

Surveying and valuation of archaeological heritage and architectural documentation of following dams:

- San José.

- Planilla
- San Pablo
- San Idelfolso,
- Lobato,
- Ulistia,
- Chalviri
- La Cachaca.

This work includes a graphic and photographic survey , at a convenient scale of each and every one of the structures of dams , as well as all the architectural elements associated with them and therefore the conservation and restoration of masonry structures of dams and architectural elements that have an heritage value associated with it , such as: water tanks , chapels, channels, etc. .

In the year2012 the Spanish Cooperation AECID in Bolivia and the Honorable Municipal Government to Potosí presented the "Master Plan for Rehabilitation of Historic areas of Potosi ', which proposes management tools, plans, programs and projects aimed to stabilize and strengthen strategies tourism and social and economic development. The municipality of the city has taken up this initiative is creating a Unit for Historic Monuments leaded by the architect Francisco Poma, in the proposed development plans it begins the development of the following component:

Recovery of the Urban Image of the Historical Centre.

In the context of the urban environment in the city of Potosí, you can define a visual structure of the urban image. The Historical Center has three representative areas:

The Spanish checkerboard, the extension of the checkerboard area built in the eighteenth century and the area of indigenous neighborhoods. The Built Heritage Unit has started a experimental work of restoration in some streets at: Module Flooring, facades, painted houses and removal of wiring.

It is in the design stage: MASTER PLAN OF THE BANK OF WITS

It involves the inclusion of a central urban park in the area of Bank of Wits by building a linear park in 15km, following the procedure of Master Rehabilitation Plan Bank of Wits

For his part, Hon President Juan Evo Morales Ayma committed to the sum of 160 million Bolivianos to implement all the projects.

III. OPERATIONAL GUIDELINES

In conformity with paragraph 172 of the Operational Guidelines, please describe any potential major restorations , alterations and/or new construction(s) within the protected are a and its buffer zone and/or corridors that might be envisaged.

The projects listed on 2 are not yet implemented, but will be implemented from this year, and they do not alter the protected area.