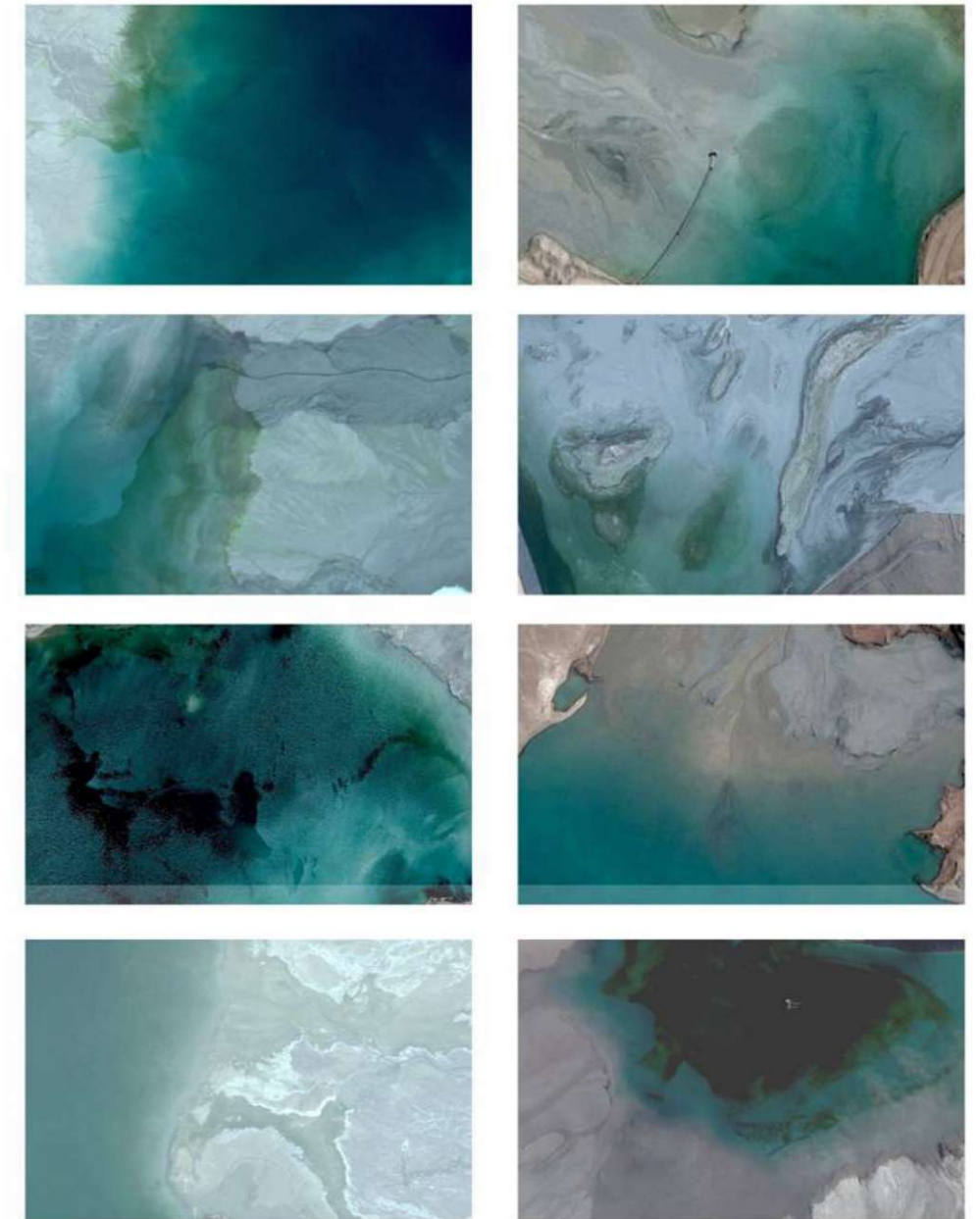




MINING WASTE AND THE CONSTRUCTION OF A SUBLIME LANDSCAPE

OBSERVATION ITINERARY OF LAS TÓRTOLAS TAILINGS DAM



Tailings dams are invisible landscapes that have unexposed aesthetic qualities that could be triggers for new experiences and perceptions of these places. The concept of the sublime is the extreme tension experienced by the mind in perceiving the vastness or limitlessness of the most extraordinary conceptions, a kind of tranquility tinged with terror

Country / City SANTIAGO, CHILE
University / School PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE
Academic year 2017
Title of the project MINING WASTE AND THE CONSTRUCTION OF A SUBLIME LANDSCAPE
Authors ANDREA LATRILLE FRITSCH

TECHNICAL DOSSIER

Title of the project	Mining Waste and the Construction of a Sublime Landscape
Authors	Andrea Latrille Fritsch
Title of the course	Taller de Investigación y Proyectos de Arquitectura del Paisaje
Academic year	2017
Teaching Staff	Danilo Martic · Francisca Salas
Department/Section/Program of belonging	Magister en Arquitectura del Paisaje (MAPA)
University/School	Pontificia Universidad Católica de Chile



This proposal deals with the issue of mining tailings dams from the perspective of their perceptual invisibility, their non-existence as part of the collective cultural construction and the impacts they generate in their environment, taking as a case study Las Tórtolas tailings dam, located 45 km away from Santiago.

The tailings dams are developed according to the mining production, some of them are not being subject to any regulation, generating serious environmental consequences. Nowadays, the tailings projects or proposals, aim to remedy or compensate the damage already produced, and in some cases they have to improve the production system to reduce its impacts. However, these waste remain outside human perception, becoming invisible landscapes.

The purpose of this project research is to make tailings dams visible, as a building and shaping element of landscape, positioning them within our collective cultural construction. This statement is based on the idea of raising awareness about the invisibility of mining waste, changing the perception of it, in order to establish possible intervention strategies. The visibility of Las Tórtolas Tailings Dam is intended through an itinerary of observation of the sublime landscape as an aesthetic experience. The project seeks to unveil the productive, resulting and existing landscapes of the place, through the strategies of water containment, definition of edge and building up of views, in order to generate a sublime aesthetic experience, and then open the discussion on possible processes of regeneration and reclamation.



CLIMATE CHANGE AGAIN

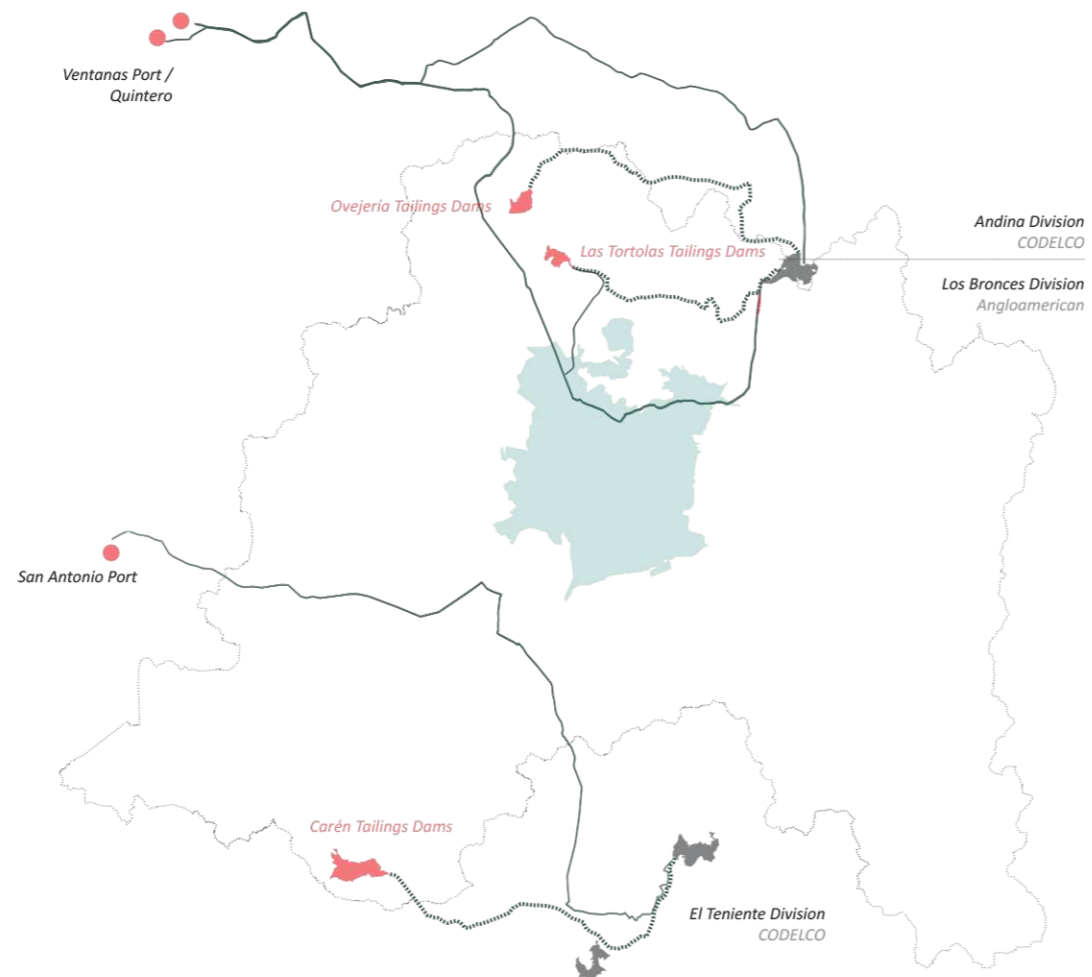
11th International Biennial Landscape Barcelona

For further information
Máster d'Arquitectura de Paisatge -DUOT - UPC

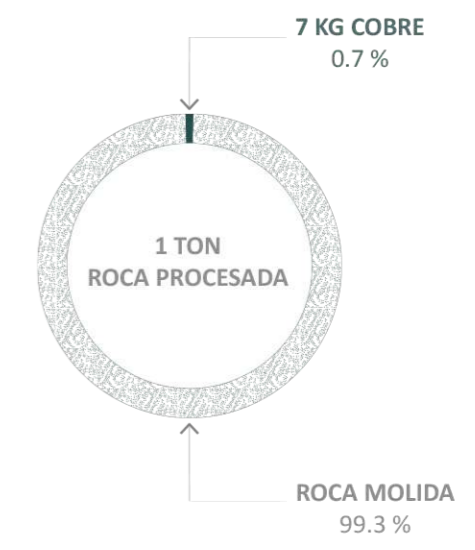
T: + 34 93 401 64 11 / +34 93 552 0842
Contact via email at: biennial.paisatge@upc.edu

Máster d'Arquitectura de Paisatge -DUOT - UPC
ETSAB- Escola Tècnica Superior
d'Arquitectura de Barcelona
Avenida Diagonal, 649 piso 5
08028 Barcelona-Spain

Barcelona September 2020
SCHOOL PRIZE



Producción de Cobre
Año 2017
5.55 millones de Ton

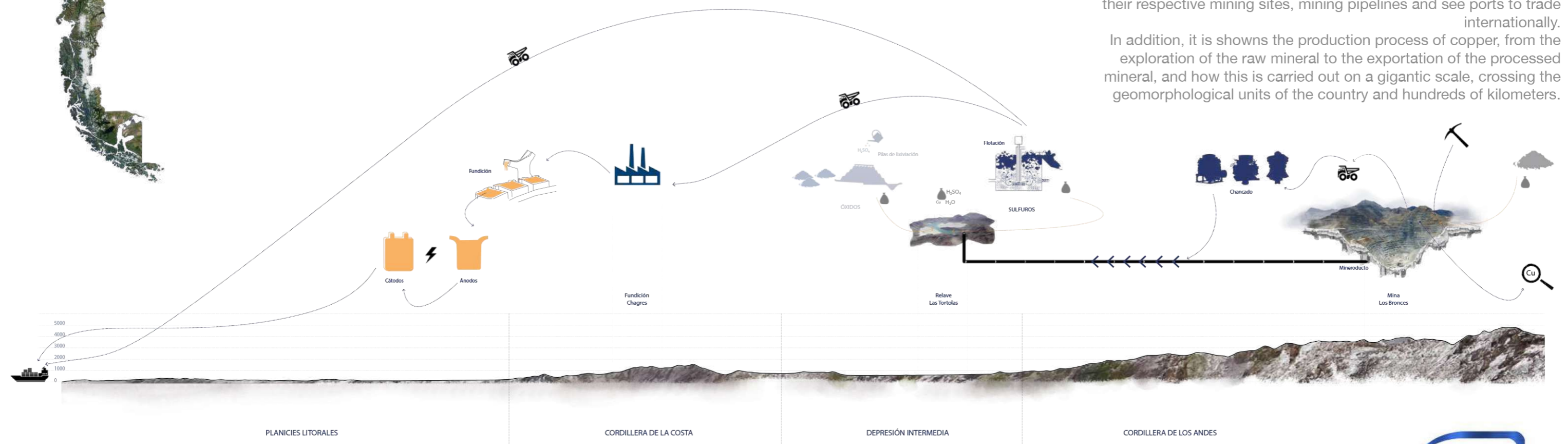


MINING AND DISTURBANCE OF TERRITORY

Currently in Chile the copper grade is 0.7%, that is to say that for every ton of rock extracted, there are 7 kilos of pure copper, leaving 99.3% of waste.

The image shows Ovejería, Carén and Las Tórtolas tailings dams, with their respective mining sites, mining pipelines and sea ports to trade internationally.

In addition, it is shown the production process of copper, from the exploration of the raw mineral to the exportation of the processed mineral, and how this is carried out on a gigantic scale, crossing the geomorphological units of the country and hundreds of kilometers.

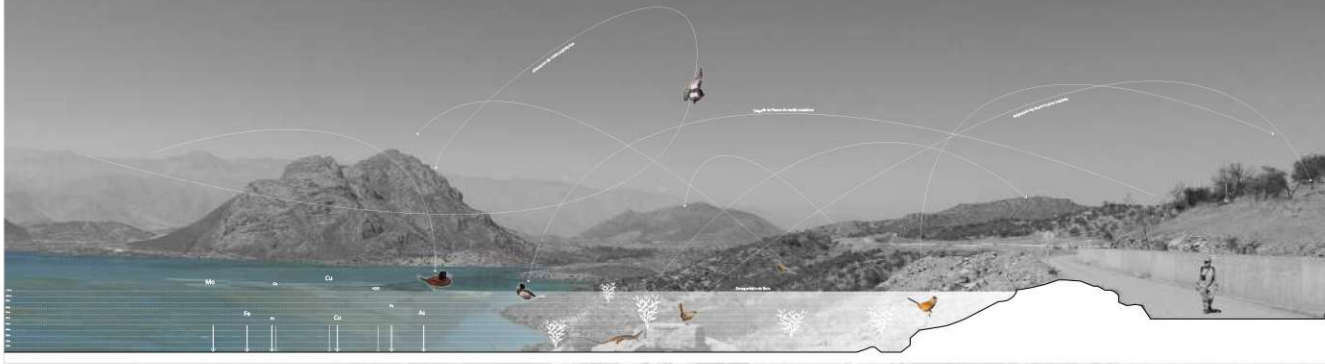




Ground view from of Las Tortolas tailings dams

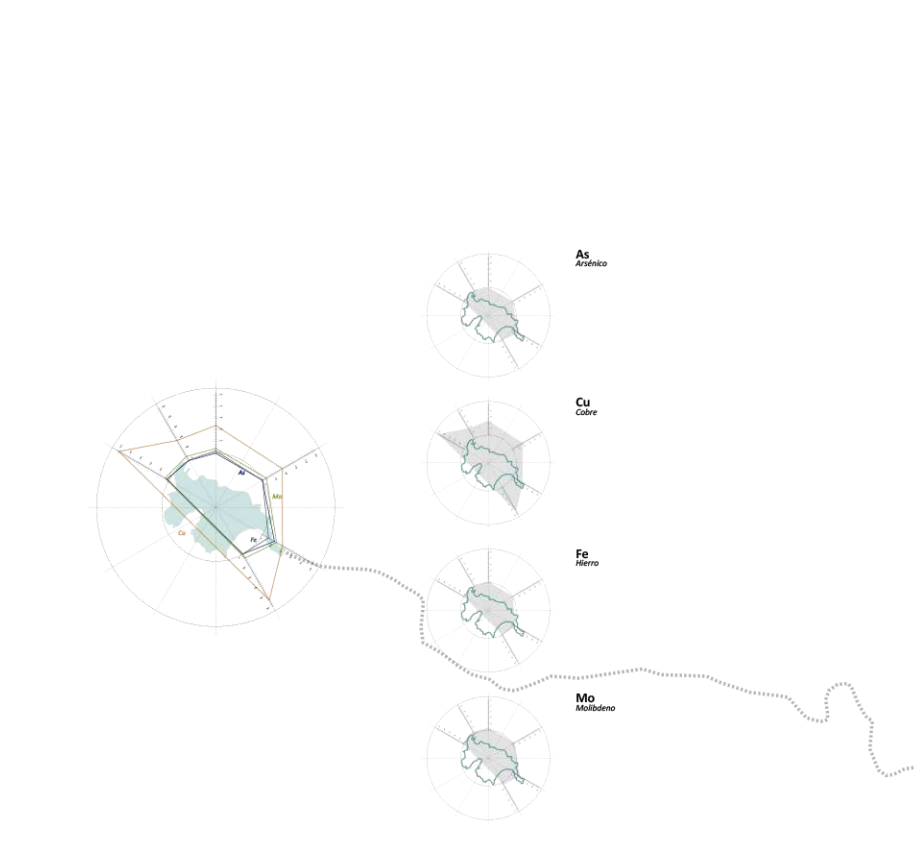
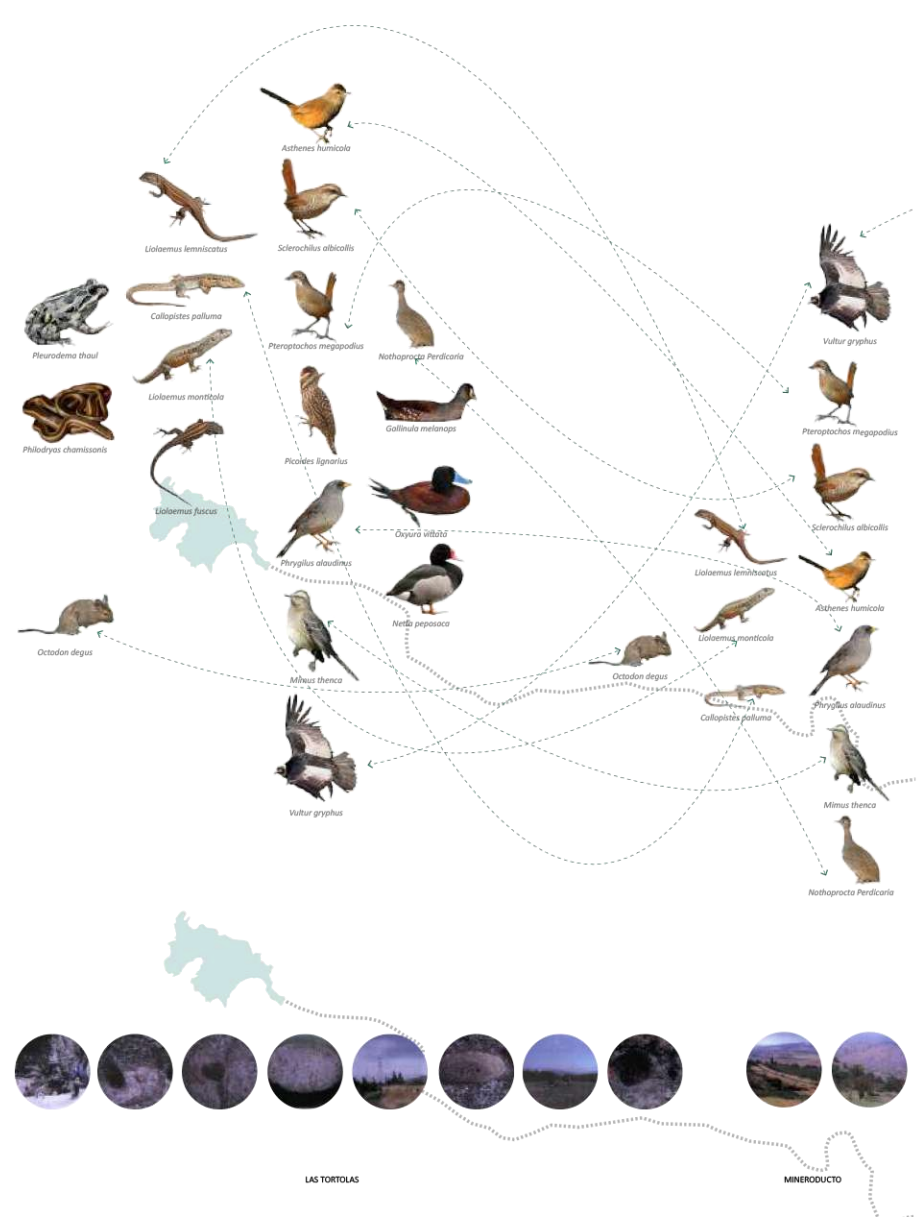


Aerials view from of Las Tortolas tailings dams



CONSTRUCTION OF AN INVISIBLE LANDSCAPE

Las Tórtolas is a tailings storage dam built in 1992. It is located in Colina district, 45 km away from the city of Santiago, and is connected to its extraction site, Los Bronces, through a 56 km underground pipeline. It is a kind of lagoon composed mainly of ground rock, water and small amounts of other minerals, a mixture from which the copper fraction has been extracted, forming a thick pulp of liquids and solids, rather chemically harmless. Despite its aesthetic singularities, the problem that is identified in this place is its condition of invisibility, appreciated from three points of view: collective cultural construction, scale and accessibility. This causes an unawareness of this type of landscapes, becoming invisible.



THE EXPERIENCE OF A SUBLIME LANDSCAPE

The visibility of the Las Tórtolas tailings dam is proposed through an itinerary of observation of the sublime landscape as an aesthetic experience, through the strategies of water containment, construction of edge and build-up of views, in order to generate a sublime aesthetic experience .

The project is framed in a determined period of time, so that it works in parallel to the development of the expansion of the tailings capacity.

A 5-kilometer-long route system (pedestrian and bicycle), articular of observation points and stops is proposed. These, expose the productive, resulting and existing landscape, revealing the visual qualities of the place, and are accompanied by a water collection system, which is programmed to anticipate a future recovery project for the site.

This thesis investigated new interpretations of tailings dams, which have unexposed aesthetic qualities that could be triggers for new experiences and perceptions of these places. The relevance of considering the role of aesthetic environmental experiences in human consciousness is raised, since they reveal previously unperceived relationships between the processes of human life and its environment.

In this context, the thesis has attempted to reverse the negative perception of tailings, where usually only the conflicts and alterations that it produces in the territory stand out, forgetting that they are a reflection of our culture and identity and that they can be understood from other areas.

