



Corporación Ambiental
de México, S.A. de C.V.

Morena No. 1059
Col. Narvarte, C.P. 03020.
Mexico, D.F.
Tel. +52 (55).55.38.07.27
Fax: +52 (55).55.38.46.93
mexico@cam-mx.com
www.cam-mx.com

Environmental Impact Statement
Regional Type

**El Boleo
Mining Project**

Municipality of Mulegé, B.C.S.



Prepared for:



MINERA Y METALÚRGICA DEL BOLEO, S.A. DE C.V.

Project 05025

Mexico, D.F., April 2006.

Tampico

Tel. +52 (833).226.47.50
Fax: +52 (833).226.47.51
tampico@cam-mx.com

Monterrey

Tel. and Fax +52
(81).83.44.56.65
monterrey@cam-mx.com

Hermosillo

Tel. and Fax +52 (662)
162.10.05
hermosillo@cam-mx.com

Coatzacoalcos

Tel. +52
(921).211.51.14
Fax: +52
(921).211.51.29
coatza@cam-mx.com

Contents

Document I of VI. Summary

Document II of VI. Regional Environmental Impact Statement (EIS)

- I. General Information Relating to the Project, the Applicant and the Entity Responsible for the Environmental Impact Study
 - I.1. General Project Information
 - I.1.1. Project Code (To be Completed by the Ministry)
 - I.1.2. Project Name
 - I.1.3. Information Relating to the Sector and Type of Project
 - I.1.3.1. Sector
 - I.1.3.2. Sub-sector
 - I.1.3.3. Type of Project
 - I.1.4. Risk Analysis and Method Used
 - I.1.5. Location of Project
 - I.1.5.1. Street and Number or Place Name and/or Reference Geographical Feature, if no Mailing Address
 - I.1.5.2. Zip Code
 - I.1.5.3. Federal Entity
 - I.1.5.4. Municipality
 - I.1.5.5. Town
 - I.1.5.6. Geographical Coordinates and/or the Universal Transverse Mercator (UTM) Projection
 - I.1.6. Dimensions of Project
 - I.2. General Information Relating to the Applicant
 - I.2.1. Company or Business Name
 - I.2.2. Mexican Federal Taxpayers Code (RFC)
 - I.2.3. Name of Legal Representative
 - I.2.4. Position of Legal Representative
 - I.2.5. RFC of Legal Representative
 - I.2.6. Mexican Personal ID Code (CURP) of Legal Representative
 - I.2.7. Address of Applicant for Receiving Notifications or Communications
 - I.2.7.1. Street and Number or Place Name and/or Reference Geographical Feature, if no Mailing Address
 - I.2.7.2. District, Area
 - I.2.7.3. Zip Code
 - I.2.7.4. Federal Entity
 - I.2.7.5. Municipality or District
 - I.2.7.6. Telephone(s)
 - I.2.7.8. Fax
 - I.2.7.8. Email
 - I.3. General Information relating to the Entity Responsible for the Environmental Impact Study
 - I.3.1. Company or Business Name
 - I.3.2. Mexican Federal Taxpayers Code (RFC)
 - I.3.3. Name of the Technical Expert Responsible for Drafting the Study
 - I.3.4. RFC of the Technical Expert Responsible for Drafting the Study
 - I.3.5. CURP of the Technical Expert Responsible for Drafting the Study
 - I.3.6. Professional License of the Technical Expert Responsible for Drafting the Study
 - I.3.7. Address of the Entity Responsible for the Study
 - I.3.7.1. Street and Number or Place Name and/or Reference Geographical Feature, if no Mailing Address
 - I.3.7.2. District, Area
 - I.3.7.3. Zip Code
 - I.3.7.4. Federal Entity
 - I.3.7.5. Municipality or District
 - I.3.7.6. Telephone(s)
 - I.3.7.8. Fax
 - I.3.7.8. Email
- II. Description of the Work or Activities or, if Applicable, the Partial Development Programs or Plans
 - II.1. General Project Information
 - II.1.1. Nature of the Project
 - II.1.2. Justification and Objectives

- II.1.3. Investment Required
 - II.2. Special Characteristics of the Project
 - II.2.1. Minerals Extracted (Ore and Gangue)
 - II.2.2. Description of the Work and Activities
 - II.2.2.1. Description of the Mining and Civil Engineering Work
 - II.2.2.2. Production Type and Technology, for Processing Plants or Other Industrial Processes Applied to the Materials Extracted
 - II.2.2.3. Estimated Production
 - II.2.2.4. Description of Work and Temporary or Related Activities
 - II.2.3. Location of Project
 - II.2.3.1. Total Surface Area Required
 - II.2.3.2. Access Routes to the Area Where the Work or Other Activities are Carried Out
 - II.2.3.3. Description of the Services Required
 - II.3. Description of the Work and Activities
 - II.3.1. General Work Schedule
 - II.3.2. Selection of Site
 - II.3.2.1. Field Studies
 - II.3.2.2. Method(s) Used During the Exploration Phase
 - II.3.2.3. Alternative Sites
 - II.3.2.4. Legal Status of the Project Site(s) or Type of Ownership
 - II.3.2.5. Current Use of the Land at the Project Site and Common Boundaries
 - II.3.2.6. Urbanization of the Area
 - II.3.2.7. Protected Area
 - II.3.2.8. Other Priority Areas
 - II.3.3. Preparation of the Site and Construction
 - II.3.3.1. Preparation of the Site
 - II.3.3.2. Construction
 - II.3.4. Operation and Maintenance
 - II.3.4.1. Operating Schedule
 - II.3.4.2. Predictive and Preventative Maintenance Program
 - II.3.5. Abandoning the Site
 - II.3.5.1. Dismantling the Support Infrastructure
 - II.3.5.2. Abandoning Installations
 - II.4. Requirements for Personnel and Supplies
 - II.4.1. Personnel
 - II.4.2. Supplies
 - II.4.2.1. Natural Renewable Resources
 - II.4.2.2. Water
 - II.4.2.3. Materials and Substances
 - II.4.2.4. Energy and Fuel
 - II.4.2.5. Machinery and Equipment
 - II.5. Generation, Management, and Final Disposal of Solid Waste
 - II.5.1. Generation of Hazardous Waste
 - II.5.2. Generation of Non-Hazardous Waste
 - II.5.3. Management of Hazardous and Non-Hazardous Waste
 - II.5.3. Management of Hazardous and Non-Hazardous Waste
 - II.5.4. Final Disposal Sites
 - II.6. Generation, Management, and Disposal of Liquid Waste, Sludge, and Wastewater
 - II.6.1. Sludge
 - II.6.2. Management
 - II.6.3. Final Disposal (Including Rainwater)
 - II.6.3.1. Characteristics
 - II.6.3.2. Bodies of Water
 - II.6.3.3. Soil and Subsoil
 - II.6.3.4. Drainage
 - II.7. Release, Management, and Control of Emissions into the Atmosphere
 - II.8. Description of the Management System for Waste and Emissions
 - II.9. Pollution Caused by Noise, Vibration, Radioactivity, Heat, or Light
 - II.10. Prevention and Response Plans for any Environmental Emergencies that may Occur During the Various Phases
 - II.10.1. Hazardous Substances
 - II.10.2. Prevention and Response
 - II.10.3. Safety Measures
 - II.11. Identification of the Potential Impacts on the System that are Characteristic of the Type(s) of Project
- III. Compliance with the Applicable Planning Regulations and Legal Texts
- III.1. Information Relating to the Sector
 - III.2. Compliance with the Planning Policies and Regulations for the Development of the Region

- III.3. Analysis of the Regulatory Requirements
- IV. Description of the Regional Environmental System and Outline of the Trends for Development and Damage in the Region
 - IV.1. Delimitation of the Study Area
 - IV.2. Characteristics and Analysis of the Regional Environmental System
 - IV.2.1. Physical Environment
 - IV.2.2. Biotic Environment
 - IV.2.3. Socioeconomic Conditions
 - IV.2.4. Description of the Structure and Function of the Regional Environmental System
 - IV.2.5. Analysis of the Components, Resources, or Relevant and/or Critical Areas
 - IV.3. Analysis of the Regional Environment
 - IV.4. Identification and Analysis of the Change Processes within the Regional Environmental System
 - IV.5. Construction of Future Scenarios
- V. Identification, Description, and Assessment of the Accumulative and Residual Impacts on the Regional Environmental System
 - V.1. Identification of the Impact on the Structure and Functions of the Regional Environmental System
 - V.2. Techniques Used for Assessing the Environmental Impact
 - V.2.1. Methods for Assessing and Justifying the Methodology Used
 - V.3. Environmental Impacts Caused
 - V.3.1. Direct Impacts
 - V.3.2. Indirect Impacts
 - V.3.3. Residual Impacts
 - V.3.4. Synergistic Impacts
 - V.3.5. Assessment of Potential Impacts
 - V.3.6. Networks
 - V.4. Simulation of KSIM Scenarios
 - V.4.1. Description of the Method
 - V.4.2. Results
 - V.4.2.1. Application of the KSIM Model
 - V.4.2.2. El Boleo District Without Project
 - V.4.2.3. El Boleo District with Project
 - V.4.2.3.1. Without Mitigation or Restoration Measures
 - V.4.2.3.2. With Corrective Measures and Restoration Program
 - V.4.2.3.1. Without Mitigation or Restoration Measures
 - V.4.2.3.1. Without Mitigation or Restoration Measures
 - V.4.2.3.1. Without Mitigation or Restoration Measures
 - V.4.2.3.1. Without Mitigation or Restoration Measures
 - V.5. Environmental Deficiencies of the El Boleo Mining Project
 - V.5.1. Assessment of the Environmental Attributes
 - V.5.2. Environmental Quality
 - V.5.3. Knowledge and Establishment of the Environmental Quality of the Relevant Attributes or Environmental Indicators
 - V.5.4. Modeling of the Main Attributes or Properties (Physical, Chemical, Biological, Social, or Economic)
 - V.5.5. Determining the Environmental Deficiencies
 - V.5.6. Environmental Deficiencies and Mitigation Measures
 - V.5.7. Results of the Environmental Deficiencies
 - V.5.8. Conclusions of the Environmental Deficiencies
 - V.6. Delimitation of the Area of Influence
- VI. Strategies for Preventing and Mitigating the Accumulated and Residual Impacts for the Regional Environmental System
 - VI.1. Grouping of the Impacts in Accordance with the Proposed Mitigation Measures
 - VI.2. Description of the Strategy or System of Mitigation Measures
- VII. Regional Environmental Prognoses and, if Applicable, Assessment of Alternatives
 - VII.1. Monitoring Program
 - VII.2. Conclusions
 - VII.3. Bibliography
- VIII. Identification of the Methodological Instruments and Technical Elements that Support the Information Provided in the Previous Sections
 - VIII.1. Location Plans
 - VIII.2. Table Index

Document III of VI. Appendices

- VIII.3. Other Appendices
 - VIII.3.1.a. Title Deeds
 - VIII.3.1.b. Concession Deeds
 - VIII.3.2. Payment of Property Tax 2006

- VIII.3.3. Deed of Incorporation of Minera Curator
- VIII.3.4. Change of Functional Flowchart
- VIII.3.5. Change of Address and Alterations
- VIII.3.6. Change of Business Name
- VIII.3.7. Applicant's Mexican Federal Taxpayers Code
- VIII.3.8. Identification
- VIII.3.9. Migration Status
- VIII.3.10. Mexican Federal Taxpayers Code of Legal Representative
- VIII.3.11. Entity Responsible for the Study
- VIII.3.12. Qualifications of Expert Conducting the Environmental Impact
- VIII.3.13. Conceptual Engineering Project Tailings Dam

Document IV of VI. Appendices

- VIII.3.14.a. Environmental Characterization of Boleo Pilot Plant Products
- VIII.3.14.a. Environmental Characterization of Boleo Pilot Plant Products (Official Translation of Appendix 14)
- VIII.3.16. Material Safety Data Sheets
- VIII.3.17. Modeling of SO₂ Emissions from the Acid Plant
- VIII.3.18. Modeling of Wastewater Discharge
- VIII.3.19. Climate
- VIII.3.20. Geology
- VIII.3.21. Soil

Document V of VI. Appendices

- VIII.3.22. Erosion
- VIII.3.23. Hydrologic and Hydraulic Study for the Area of the Processing Plant
- VIII.3.24. Physical Oceanography
- VIII.3.25. Vegetation in the Mining District of El Boleo
- VIII.3.26. Protected Flora
- VIII.3.27. Chemical and Biological Oceanography
- VIII.3.28. Socioeconomic Study Conducted in 1997

Document VI of VI. Appendices

- VIII.3.29. Socioeconomic Study Conducted in 2005
- VIII.3.30. List of Historical Monuments and Sites
- VIII.3.31. Historic Inactive Cemeteries Located Within the Mining District
- VIII.3.32. Environmental Monitoring Plan Established for the Exploration Phase
- VIII.3.33. Flora Rescue and Transplant Program Established for the Exploration Phase
- VIII.3.34. Fauna Protection Plan Established for the Exploration Phase
- VIII.3.35. Protection Plan for the Prevention of Erosion Established for the Exploration Phase
- VIII.3.36. Rehabilitation Program Established for the Exploration Phase