

ENVIRONMENTAL IMPACT STATEMENT SUMMARY FOR THE PUBLIC

The Consolidated Mines, Inc. is company that aims to revive its mining/extraction operation of chromite ore in support with the governments various projects such as the Build, Build, Build Program and the Balik Probinsya, Bagong Pag-asa Program. The Coto Chromite Project of CMI intends to contribute to the economic goals of the national government as well as the local government, by increasing employment opportunities in rural areas promoting countryside development while at the same time, providing sustainable development and growth.

PROJECT DESCRIPTION:

PROJECT TITLE	Coto Chromite Project
PROJECT LOCATION	Sitio Coto, Barangay Taltal, Masinloc, Zambales
NATURE OF THE PROJECT	Mining/Extraction of Refractory Chromite Ore
PROJECT CATEGORY AND TYPE	Resource Extractive Industry – Category A
TOTAL AREA COVERED	618.11 hectares (area under Proclamation No. 313 dated April 24, 1930)
COORDINATES	15.56500 latitude and 120.09630 longitude
RIGHT OVER THE LAND	Permit from MGB, SLUP, FLA
PRODUCTION RATE	87,900 MT of Chromite Concentrate and 10,000 MT of Lumpy Ore annually, using underground mining methods
ESTIMATED MANPOWER	309 employees
PROJECT PROPONENT	Consolidated Mines, Inc.
PROPONENT ADDRESS	Unit 508, State Center II Bldg., Ortigas Avenue, Mandaluyong City, Philippines
SEC REGISTRATION	PW00000389 dated November 18, 1933
AUTHORIZED CAPITAL STOCKS	500 Million Pesos

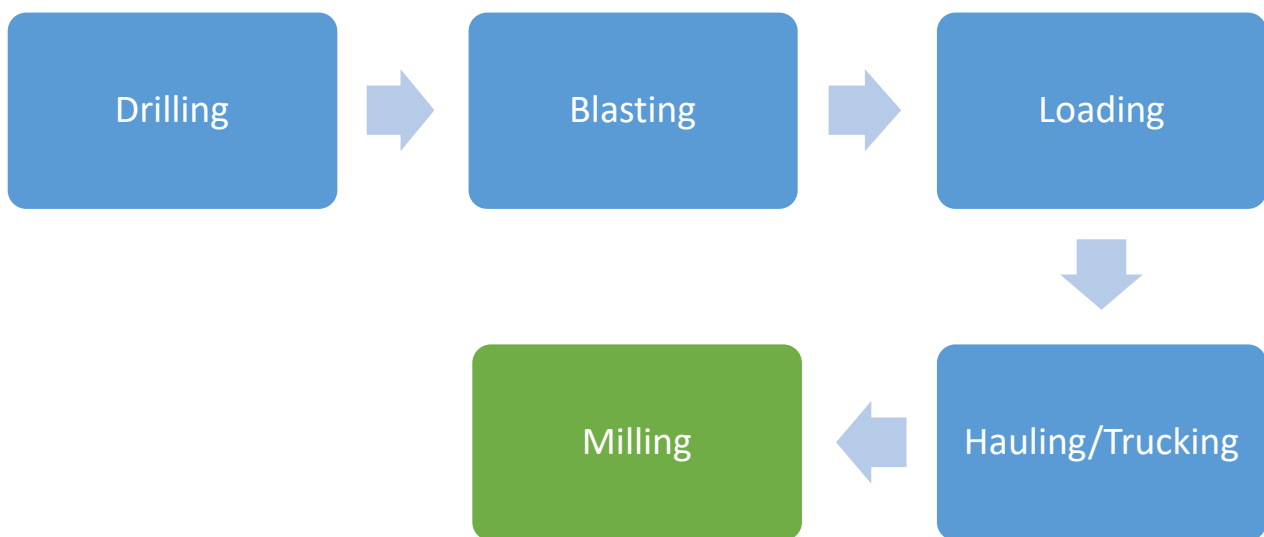
As was formerly instituted in the past, the projects components still include the same type of facilities such as indicated below.

Project Components:

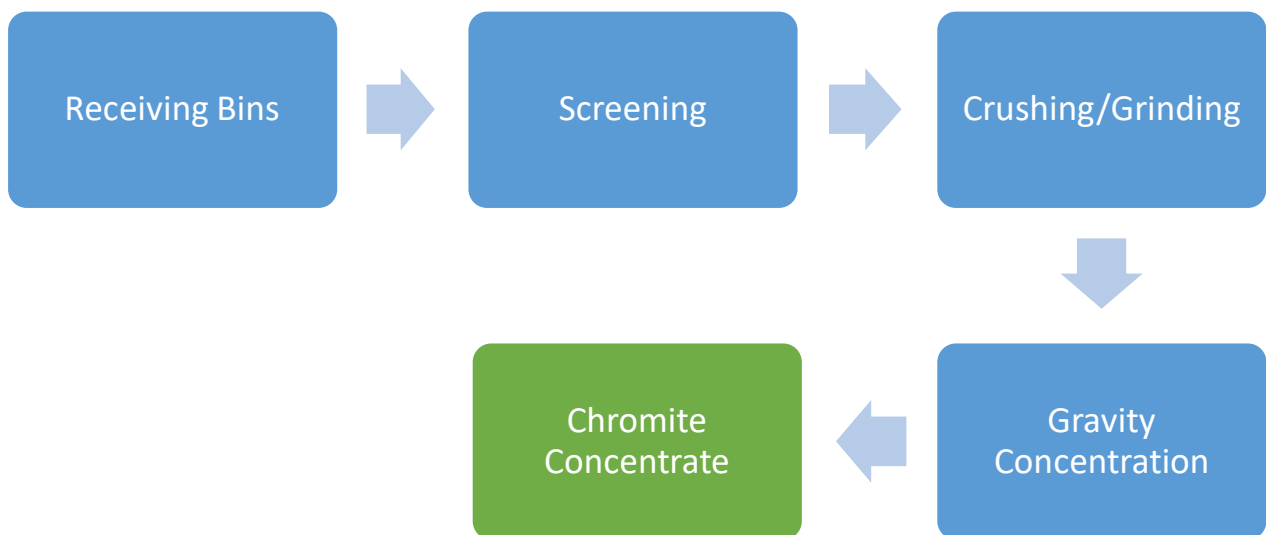
1. Mill Plant
 - Crusher
 - Scale House
 - Assay Laboratory
 - Fine's Plant
2. Water Supply Facility
 - Reservoir
 - Flume Line
3. Power Supply Area
 - Substation
 - Gensets
 - Fuel Storage Area
4. Administration Complex
 - Accounting Office
 - Clinic
 - Personal Office
- Warehouse
- Electrical and Mechanical Office
5. Maintenance Area
 - Motor Pool
 - Carpentry Shop
 - Fabrication Shop
6. Pollution Control Facilities
 - Tailings Storages
 - Drainage System & Sedimentation Control
 - Oil & Water Separator
 - Solid Waste Management Facility
 - Waste Water Treatment Facility

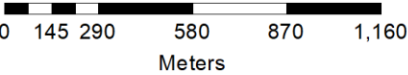
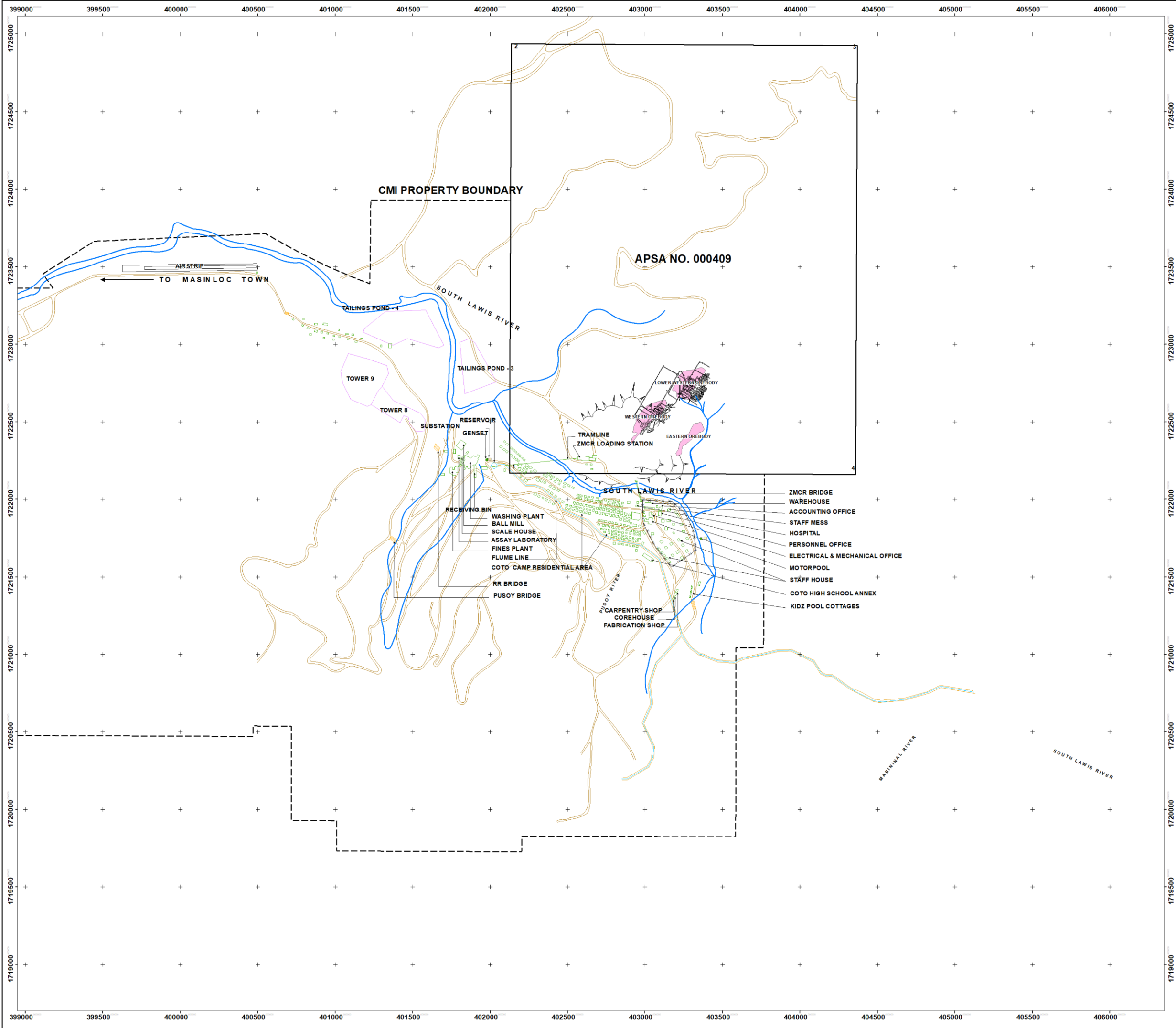
- Hazardous Wastes Storage Facility
- 7. Sand Cement Plant
- 8. Product and Waste Stockpile Area
- 9. Staff Housing
- 10. Nursery Housing Facilities
- 11. Explosives Storage Facility
- 12. Kidzpool/Recreation Area

Mining Process



Milling Process





LEGEND:

- TAILINGS POND / STOCKPILE AREA
- CHROMITE OREBODIES
- BUILDINGS
- SUBSTATION
- GENSET
- RIVER
- CONCRETE FLUME LINE
- ROAD
- BRIDGE
- MINE WORKINGS
- WASTE DUMP
- PERIMETER FENCE

CONSOLIDATED MINES, INC.

UNIT 608, STATE CENTER II BUILDING, ORTIGAS AVENUE, MANDALUYONG CITY

PROJECT:
CMI - COTO CHROMITE PROJECT

TITLE:
GENERAL MINE
COMPONENTS

PREPARED BY: RB PANILAG
CHECKED BY: GF GALANG II
APPROVED BY: ES SANJOSE
MAP CODE: CMI - COTO - SDP MAP1
REVISION:

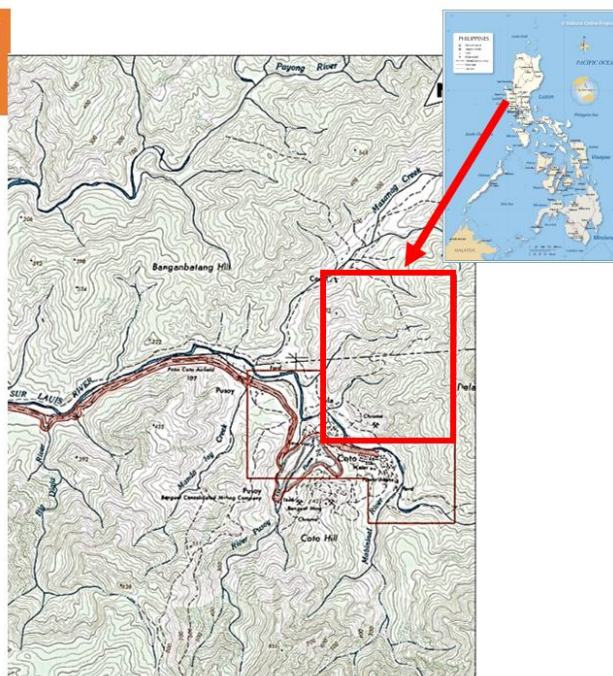
The resources that will be utilized during the operations are as follows:

1. Water – Supply from South Lawis River distal from the mining area will be used for domestic and milling purposes.
2. Power – Sources from either ZAMECO or SMC Global Power will be utilized for mining operations. A back up power source will be rehabilitated to be utilized in the event of power interruption

Boundaries of Coto Chromite Project

Sitio Coto, Barangay Taltal, Masinloc, Zambales

Corner	Latitude	Longitude
1	15° 34' 15"	120° 05' 15"
2	15° 35' 45"	120° 05' 15"
3	15° 35' 45"	120° 06' 30"
4	15° 34' 15"	120° 06' 30"



Construction and rehabilitation will only start after the issuance of the Environmental Compliance Certificate (ECC) from the Office of the Environmental Management Bureau Central Office. The project is expected to be completed by the 1st quarter of 2023 and construction/rehabilitation works will take about one year. Provided that all facilities are in place, commercial production is expected in 2023. The summary of the proposed timetable of activities is shown below:

Phase	Year																
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
Rehabilitation																	
Operation																	
Progressive Rehabilitation																	
Decommissioning																	

The summary of major impacts is indicated in the Table below.

Activity / Resource Likely	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
I. PRE-CONSTRUCTION			
Strategic Planning	No adverse effect on the environment.	- Survey of the previous area of Mine and Mill facilities. - Review previous design to include the environmental aspects like	100% in all of the activities

Activity / Resource Likely	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
Securing Permits	No adverse effect on the environment	ground stability, drainage system, siltation ponds, reforestation. Compliant of documentary requirements related to RA 7942	
Gathering of labor and resources	No adverse effect on the environment	Activate human resources department for the Listing and selection of personnel for possible employment	
II. CONSTRUCTION PHASE			
Clearing of access road, road widening	Land		
	Landslides and deteriorating bridges due to access road rehabilitation	- Installation of traffic measures to minimize accidents and loss of lives and property - Implementation of angle of repose and best engineering structures when cutting through slopes - Include factors of safety in all engineering/geotechnical designs - Conduct thorough geological mapping - Implement appropriate ground failure plan - Train mine personnel to recognize various ground failure modes, hazards warning signs and procedures during events of ground failure - Train personnel to recognize signs of potential instability problems e.g., tension cracks, abnormal water flow/seepages, presence of overhang	100 % No Landslide and No Erosion
Rehabilitation of Mine, Mill Plant and auxiliary facilities	Soil erosion due to loss of topsoil, removal of overburden and removal of vegetation	- Establish sedimentation control facilities and siltation ponds - Re-vegetation of exposed areas - Conduct of rehabilitation activities during the dry season - Cementing of work areas (e.g., in the motor pool area) - The geographical coordinates of proposed silt pond for Mill plant was 15.571269N;120.086253E with an area of 2,641 square meters and capacity of 7,924 cubic meters while for underground sump was 15.568767N ;120.094108E with an area of 122 square meters and capacity of 366 cubic meters. - The reasons for the capacity consider the catchment basin and its environment.	100 % No Landslide, No Sedimentation and No Erosion
Recovery of Chromite ore from tailings pond	Mass movement, flooding, soil erosion and run-offs associated with tailings storage facilities	- Proper management of the tailing's discharges and treatment of effluents. - The geographical coordinates of Tailings pond were 15.571269N	100 % No Flooding, No Erosion and No Run-off

Activity / Resource Likely	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
Rehabilitation and repair of Mine openings, facilities and equipment		;120.086253E with an area of 8.5 has. and capacity of 1,626,000 metric tons.	
	Possible land subsidence due to instability of mine area	- Establishment of proper support and backfill of mined out areas - Conduct geotechnical studies to determine appropriate infrastructure and support systems	100 % No Land Subsidence
Rehabilitation of flume line, kidz pool and campsite housing	Terrestrial Ecology		
	Localized displacement of more sensitive faunal species that are usually forest-restricted	- Incorporate buffer zones and spare existing wooded forested stands not needed for facilities - Establishment of seed banks and tree nurseries for replanting/ re-vegetate with native trees shall be considered to attract diverse assemblage of wildlife - Use of fruiting trees for reforestation to increase local diversity of birds and other wildlife - Establishment of a "Faunal Rescue Plan" that will consider documentation, rehabilitation and release of any trapped/injured wildlife - Proactive monitoring of changes in biodiversity	100 % Implementation of Buffer Zones No Cutting of Trees without Permit to Cut
Consumption of surface water during mine and mill rehabilitation and domestic use	Water Quality		
	Water Supply Exhaustion and Depletion	- Use of river water will be prioritized over groundwater - Proper impounding of used wash water shall be implemented - Conduct studies on recycling of wash water back into the loop, to be used as washing media of chromite ore	100% No Groundwater Extraction and 100% Implement Water Recycling
Rehabilitation of ore stockpile	Siltation and sedimentation of drainage systems due to possible run-off of stockpile materials	- Prevent accumulation of stockpiles near steep slopes or near natural tributaries - Construction of temporary barriers around stockpiles to prevent release of loose materials - Construction of silt traps or small dams across waterways or gullies - Provision of tarpaulin covers for loose materials during heavy rainfall, to prevent erosion	100 % No Siltation and No Sedimentation
Dewatering of Flooded mine	Flooding of waterways due to increased rainfall due to climate change	- Construction of deeper drainage waterways and siltation ponds - Improvement of reservoir to accommodate increased volume of surface water	100 % No Flooding
Rehabilitation of Mill facilities and equipment	Air Quality		
	Air quality effects due to fugitive dust from rehabilitation of milling plant	- Daily water spraying every morning during land development activity. - Replacement of vegetation in non-structure areas	100% Compliant to RA 8749 in terms of air quality standards

Activity / Resource Likely	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
Rehabilitation of openings portal ramp and shaft		- Compacting of exposed soil surfaces - Use of tarpaulin cover on trucks loaded with construction materials - Implementation of motor vehicle maintenance program, including emissions testing - Hauling of spoils/excavated earth materials immediately after excavation - Impose speed limit of 15-20 Kilometer per hour (kph)	
	Air quality effects due to fugitive particulates and gaseous emissions during underground rehabilitation of access tunnel	- Replace vegetation in mined-out areas to minimize wind erosion of topsoil - Compacting of exposed soil surfaces - Introduce air ventilation system and installation of ground support for safety of the workers - Impose underground vehicles speed limit of 15-20 kph - Regular maintenance of heavy equipment and motor vehicles	100% Compliant to RA 8749 in terms of air quality standards
	Noise Level		
Rehabilitation of mill plant facilities and equipment	Increase in sound levels from mill plant	- Maintenance of motor vehicle mufflers - Provision of barriers and shielding stationary vibrating equipment - Provision of ear mufflers to workers - Schedule noisy activities during the day	100% Compliant with Noise Standards
	People		
Pilot testing of Generator set and laboratory analysis of chromite ore	Spills or leaks from Hazardous waste like chemical reagents and oils will endanger the public welfare and safety, harm to plants, vegetation, animals, birds, wildlife, fish or other aquatic life	- Hazardous wastes will be properly identified, labelled and stored. - The hazardous wastes will be for disposal to accredited hauler and treater accredited by EMB.	100% compliance with the RA 6969 and its IRR and DAO 2013-22 and its Revised Procedural Manual
Employee and community households waste	Domestic waste generation will contaminate quality of groundwater from leachate, offensive odor which leads to diseases and epidemics	- Implement an ecological solid waste management plan for disposition of residual waste through conservation, segregation, recycling, re-use, recovery and composting - MRF capacity was 67 cu.m.	100% compliance with RA 9003 and its IRR
Hiring of manpower for mine and mill rehabilitation and repair of mine and mill equipment and facilities	Possible growth of population because of employment opportunities	- Coordination & assistance with the municipality & barangay officials to monitor, identify & prevent entry of new informal settlers in the populated areas in compliance with the Urban Development & Housing Act - Prioritization of qualified local residents in employment	100% Compliance to SDP in terms of local employment
Regulations of payments of taxes and permits	Enhance industrial development of the area & increase in local revenues of the LGUs from their share of taxes & other permits & licenses	Prompt payment of taxes & other permits/licenses	100% Compliance to Local Permits

Activity / Resource Likely	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
Transportation of workers, materials and supplies	Increased traffic movement	• Proper positioning of equipment and lay down areas • Putting up of appropriate traffic signs • Formulation of traffic management plan	100% Implementation of Traffic Management Plan
II OPERATION PHASE			
Road maintenance, Mine Development, Mining and Milling operation	land		
	Landslides and deteriorating bridges due to access road improvement	• Inspection of traffic measures to prevent accidents and loss of lives and property • Implementation of standard gradient or inclination of access tunnel suited to underground equipment • Implement factors of safety in all engineering/geotechnical designs • Conduct daily geological mapping on development and mining works • Implement appropriate ground failure plan • Frequent orientation of mine personnel to recognize various ground failure modes, hazards warning signs and procedures to minimize ground failure • Orientation of personnel to recognize signs of potential instability problems e.g., tension cracks, abnormal water flow/seepages, presence of overhang	100 % No Landslide and No Erosion
	Tailings generated from milling chromite ore	• Monitoring of established sedimentation control facilities and siltation pond. Conduct de-siltation when needed. • Monitoring of tailings pond taking into consideration the stability and eventual siltation of the main Lawis River • Proper management of the tailing's discharges and treatment of effluents	100 % No Flooding, No Erosion and No Run-off
Mining chromite ore underground	Possible land subsidence due to instability of mine area	• Establishment of proper support and backfill of mined out areas • Implement appropriate infrastructure and support systems based on geotechnical studies	100 % No Land Subsidence
Monitoring of water source, flume line, and kidz pool	Terrestrial ecology		
	Localized displacement of more sensitive faunal species that are usually forest-restricted	• Incorporate buffer zones and spare existing wooded forested stands not needed for facilities • Monitoring of seed banks and tree nurseries for replanting/ re-vegetate with native trees shall be considered to attract diverse assemblage of wildlife • Continue use of fruiting trees for reforestation to increase local diversity of birds and other wildlife • Maintenance of a "Faunal Rescue Plan" that will consider	100 % Implementation of Buffer Zones No Cutting of Trees without Permit to Cut

Activity / Resource Likely	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
Consumption of surface water for industrial and domestic use		- documentation, rehabilitation and release of any trapped/injured wildlife - Proactive monitoring of changes in biodiversity	
	Water quality		
	Water Supply Exhaustion and Depletion	- Use of river water will be prioritized over groundwater - Proper impounding of used wash water shall be implemented - Conduct studies on recycling of wash water back into the loop, to be used as washing media of chromite ore	100% No Groundwater Extraction and 100% Implement Water Recycling
Hauling of chromite ore to stockpile area	Siltation and sedimentation of drainage systems due to possible run-off of stockpile materials	- Prevent accumulation of stockpiles near steep slopes or near natural tributaries - Monitoring and clearing of constructed temporary barriers and silt traps - Provision of tarpaulin covers for loose materials during heavy rainfall, to prevent erosion	100 % No Siltation and No Sedimentation
Pumping of water from underground	Flooding of waterways due to increased rainfall due to climate change	- Construction of deeper drainage waterways and siltation ponds - Improvement of reservoir to accommodate increased volume of surface water	100 % No Flooding
Rehabilitation of milling equipment	Air quality		
	Air quality effects due to fugitive dust from rehabilitation of milling plant	- Daily water spraying every morning during ore hauling activity - Replacement of vegetation in non-structure areas - Compacting of exposed soil surfaces - Implementation of motor vehicle maintenance program, including emissions testing - Impose vehicle speed limit of 15-20 kph	100% Compliant to RA 8749 in terms of air quality standards
Mining extraction of chromite ore	Air quality effects due to fugitive particulates and gaseous emissions during extraction of chromite ore	- Re-vegetation in mined-out areas to minimize wind erosion of topsoil - Compacting of exposed soil surfaces - Impose vehicle speed limit of 15-20 kph - Regular maintenance of heavy equipment and motor vehicles - Proper scheduling and conduct of blasting operations	100% Compliant to RA 8749 in terms of air quality standards
Processing of ore at mill plant	Noise level		
	Increase in sound levels from mill plant	- Maintenance of motor vehicle mufflers - Provision of barriers and shielding stationary vibrating equipment - Provision of ear mufflers to workers - Schedule noisy activities during the day	100% Compliant with Noise Standards
Laboratory analysis of chromite ore	people		
	Spills or leaks from Hazardous waste like chemical reagents and oils will endanger the	Hazardous wastes will be properly identified, labelled and stored.	100% compliance with the RA 6969 and its IRR

Activity / Resource Likely	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
Garbage from employee, dependents and community	public welfare and safety, harm to plants , vegetation, animals, birds, wildlife, fish or other aquatic life	This will be due for collection to accredited hauler and treater.	
	Domestic waste generation will contaminate quality of groundwater from leachate, offensive odor which leads to diseases and epidemics	- Implement an ecological solid waste management plan for disposition of residual waste through conservation, segregation, recycling, re-use, recovery and composting - MRF capacity was 67 cu.m.	100% compliance with RA 9003 and its IRR
Underground workers, inspectors and visitors to visit underground operations	Work-Related Hazards and Injury / fatality due to access to the mine	- Conduct of safety training programs for all new workers - Provision and use of workers of adequate protection devices - Compel Contractors to maintain their heavy equipment & vehicles in good condition - Provision of proper sanitation and water supply facilities - Use retired miners/workers on site as trainers for new employees - Development of an Underground Safety Manual detailing all safety aspects - Training personnel for the type of work they are required to perform - Provision of access restrictions - Provision of signs in dangerous areas (such as caving areas and tailings dams) - Conduct of public consultations to make the public made aware of the dangers	100% Compliant to PPEs and Zero accident
Hiring of manpower for the whole mine operation	Possible growth of population because of employment opportunities	- Coordination & assistance with the municipality & barangay officials to monitor, identify & prevent entry of new informal settlers in the populated areas in compliance with the Urban Development & Housing Act - Prioritization of qualified local residents in employment	100% Compliance to SDP in terms of local employment
Regulations on payments of taxes and permits	Enhance industrial development of the area & increase in local revenues of the LGUs from their share of taxes & other permits & licenses	Prompt payment of taxes & other permits/licenses	100% Compliance to Local Permits
Transportation of employee, dependents and community	Increased traffic movement	- Proper positioning of equipment and lay down areas - Putting up of appropriate traffic signs - Formulation of traffic management plan	100% Implementation of Traffic Management Plan
ABANDONMENT PHASE – Implement Final Mine Rehabilitation and Decommissioning Program (FMR/DP)			
Road maintenance	Land		
	Soil erosion, landslides, river siltation	- Inspection and grading of roads to maintain accessibility	100 %

Activity / Resource Likely	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
Recovery of mine and mill equipment, lumbers and roofing to temporary stored into the warehouse prior disposal	Endanger workers, spills of motor oils and lubricants	- Implement proper procedure of dismantling considering safety of the workers - Ensure that all underground openings be backfilled and properly closed and that post appropriate signages be in place for the safety of local residents	
Remaining employee and its dependents, community	Generation of solid waste	Proper disposal of solid waste outside the mine site	
Water			
	Possible leaching of heavy metals and minerals into the water bodies	Ensure stability of tailings pond to prevent seepages and leakages	100%
Air			
Tailings monitoring pond	Reduction of generation of particulate matter and noise in the impacted area	No mitigation necessary	100%
People			
Implement FMRDP activities	Local benefits	Proper coordination with the LGU to enhance local benefits	100% Compliant to RA 8749

The concerned stakeholders that were identified in connection with the on-going application of the ECC are enumerated as follows:

1. Municipal Government of Masinloc
2. Local Barangay of Taltal
3. Mines and Geosciences Bureau (Region III and Central Office)
4. Environmental Management Bureau (Region III and Central Office)
5. CENRO
6. Catholic Church of Coto
7. Born Again Church of Coto
8. Coto Elementary School
9. Coto High School
10. Senior Citizen Association of Coto
11. Local residents and business owners of Coto

As part of our continuous support to sustainable development and responsible mining, our commitment is to ensure that the Coto Chromite Project is administered in a manner that provides opportunity to stimulate countryside development and sustainability that protects the environment. CMI vows to appoint competent professionals in order to better uphold up-to-date environmental measures to avert its negative effects. Lastly, we pledge to support the development of local economy by providing employment opportunities to the nearby communities that would lead to more possible gratuities.

For more information on the Environmental Impact Statement (EIS) of Coto Chromite Project, you can acquire the full copy of the EIS through the EMB website.

Thank you