

Reference No.: EMO-MNL-2023-M-033

**DATE** : 29 November 2023**FOR** : **ENGR. FELIZARDO A. GACAD JR.**  
Regional Director  
Mines and Geosciences Bureau  
**MIMAROPA REGION**  
7/F, DENR By the Bay Building,  
1515 Roxas Blvd., Ermita, Manila**Attention: Mine Safety, Environment and Social Development Division****FROM** : **BENJAMIN ARMAND A. TANSINGCO**  
VP- Environmental Management**SUBJECT** : **Revised Annual Environmental Protection and Enhancement Program  
For 2023 (AEPEP for the Year 2023)**Dear **Director Gacad**,

In compliance to Item No. 2 of the approved Environmental Protection and Enhancement Program (EPEP # 171-2020-14) of CBNC for its Hydrometallurgical Processing Plants Line and Line 2 Project, the Annual EPEP for the Year 2024 that was presented during the 4<sup>th</sup> Quarter 2023 MRFC Meeting last November 14, 2023 is hereby submitted.

The corresponding budget is as follows:

Program	Purpose	2024 Budget (Php)
1. Land Resource	Rehabilitation and Reforestation of Project Areas	11,197,000
2. Water Resource and Quality	Protection of Waters	2,126,158,386
3. Noise	Mitigation of Noise from Plant Operation	2,100
4. Air Quality	Protection of Air	653,404,357
5. Conservation Values	Enhancement and Monitoring of Environmental Program Performance	6,045,958
6. Environmental Research	Activities to Improve Environmental Programs	902,369
7. Others	Administration, Compliance Management and MEPEO Operation	87,283,203
<b>Total</b>		<b>2,884,993,373</b>

Republic of the Philippines  
Department of Environment and Natural Resources  
**MINES AND GEOSCIENCES BUREAU**  
**MIMAROPA Region**

**ANNUAL ENVIRONMENTAL PROTECTION  
AND ENHANCEMENT PROGRAM 2024**

1.0 Project Name: Coral Bay Nickel Corporation (CBNC)  
Hydrometallurgical Processing Plant,  
Line 1 & Line 2

Site Office : Rio Tuba Export Processing Zone,  
Rio Tuba, Bataraza, Palawan

Manila Office : Sumitomo Metal Mining Philippine Holdings  
Corporation, 24th -25th Floor, NAC Tower, 32nd  
Street Bonifacio Global City, Taguig City, Philippines  
1634

Contact Person: Mr. Shiro Imai  
President

Tel No.: 8548-7110/8548-7100

Fax No.: 8856-3930

2024 AEPEP Proposed Budget: Php 2,884,993,373 (18% of the 2024 Estimated  
Milling Expense of Php 16,179,871,615.23)

2.0 Project Description

2.1 Project details

The Coral Bay Nickel Corporation Hydrometallurgical Processing Plant (HPP)  
Line 1 & Line 2 is located at the Rio Tuba Export Processing Zone (RTEPZ)  
which is within the mining areas of Rio Tuba Nickel Mining Corporation  
(RTNMC) in Barangay Rio Tuba, Municipality of Bataraza, Province of  
Palawan.

We are looking forward to your valuable assistance in the successful implementation of our 2024 AEPEP.

Thank you very much.

Very truly yours,

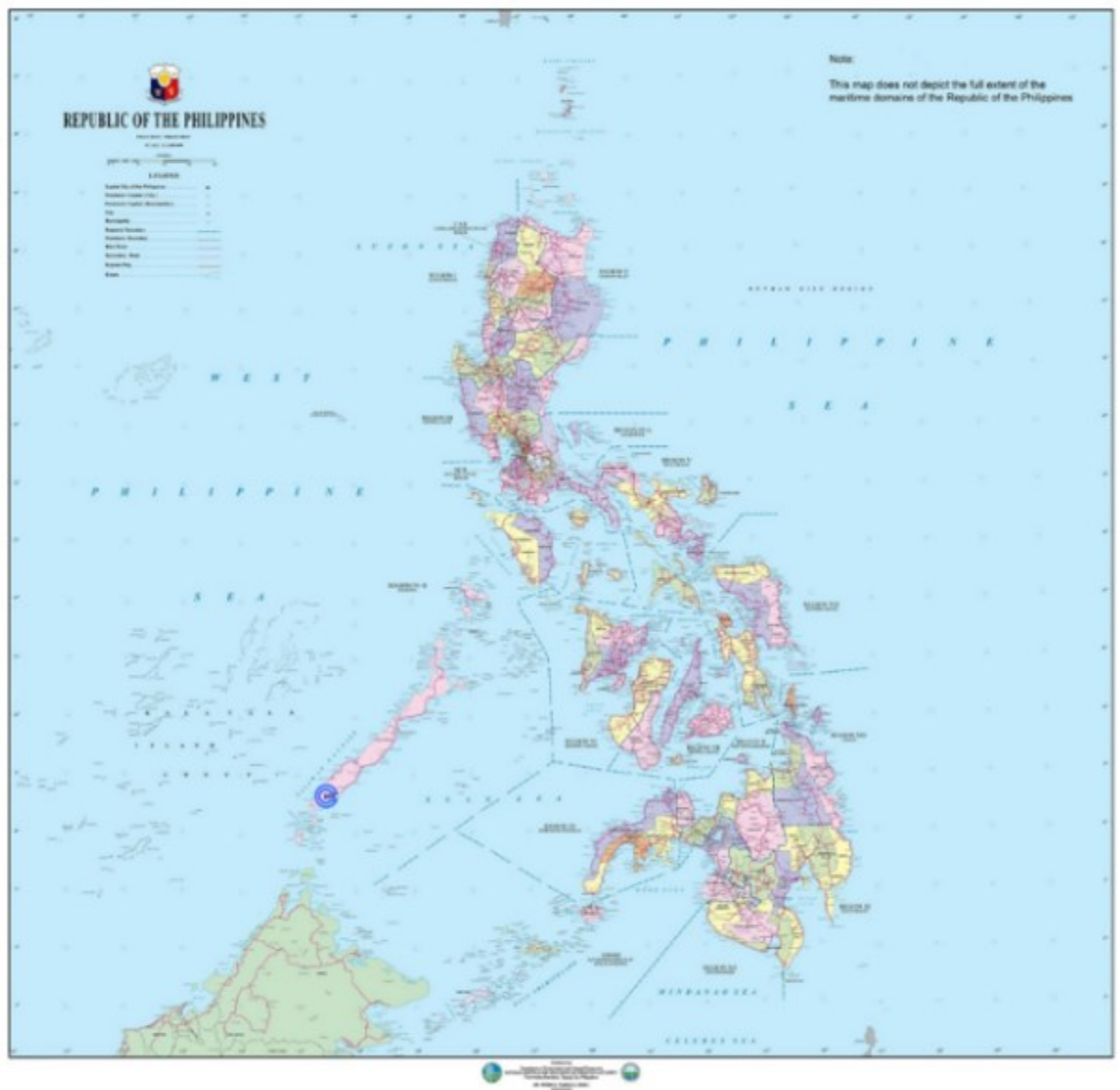


**BENJAMIN ARMAND A. TANSINGCO**  
VP - Environmental Management

Noted by:

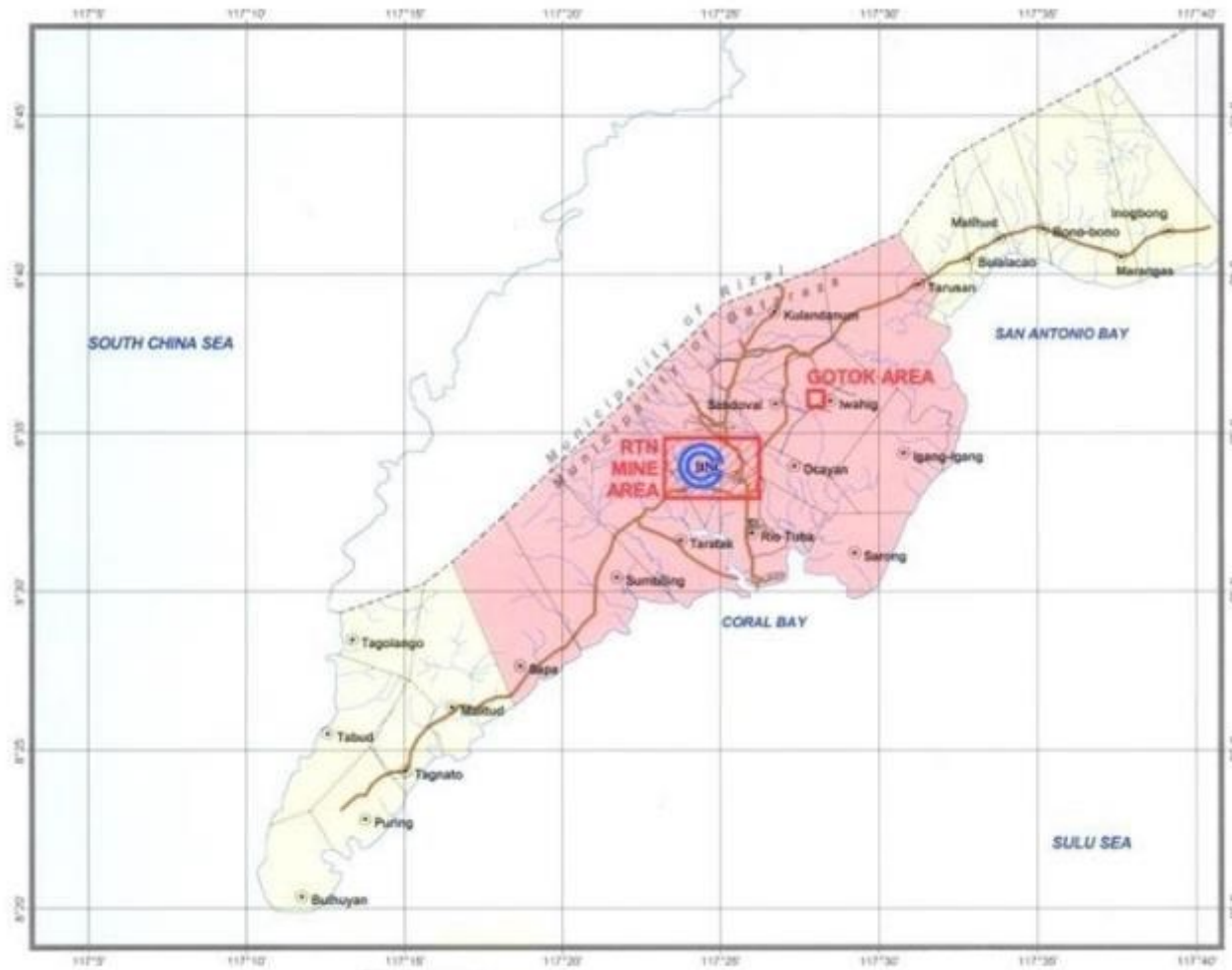


**SHIRO IMAI**  
President



Source: NAMRIA

**Figure 1.** Map showing general location of CBNC HPP Site



**Figure 2.** Map showing location of CBNC HPP Site at the Municipality of Bataraza



**Figure 3. Map showing location of CBNC and its project facilities**

**Table 1. Geographic coordinates of the project components**

Project Component	Perimeter/Boundary points (Based on OCT/TCT/etc.)	Latitude	Longitude
TSF-3 (Proposed)	Corner 1	8° 34' 11.41"	117° 25' 39.73"
	Corner 2	8° 34' 17.12"	117° 25' 39.79"
	Corner 3	8° 34' 19.27"	117° 25' 36.22"
	Corner 4	8° 34' 27.34"	117° 25' 37.33"
	Corner 5	8° 34' 36.62"	117° 25' 35.08"
	Corner 6	8° 34' 43.19"	117° 25' 28.14"
	Corner 7	8° 35' 0.94"	117° 25' 26.62"
	Corner 8	8° 35' 0.79"	117° 25' 45.61"
	Corner 9	8° 34' 41.76"	117° 25' 57.35"
	Corner 10	8° 34' 11.22"	117° 26' 3.18"
TSF- 2 (Existing)	Corner 11	8° 35' 26.78"	117° 24' 30.62"
	Corner 12	8° 35' 23.99"	117° 24' 37.12"
	Corner 13	8° 35' 23.05"	117° 24' 41.12"
	Corner 14	8° 35' 22.52"	117° 24' 48.52"
	Corner 15	8° 35' 16.51"	117° 25' 0.96"



Project Component	Perimeter/Boundary points (Based on OCT/TCT/etc.)	Latitude	Longitude
	Corner 16	8° 35' 9.89"	117° 25' 6.76"
	Corner 17	8° 35' 2.02"	117° 25' 11.83"
	Corner 18	8° 34' 48.24"	117° 25' 15.87"
	Corner 19	8° 34' 46.07"	117° 25' 14.99"
	Corner 20	8° 34' 28.03"	117° 24' 51.34"
	Corner 21	8° 34' 33.24"	117° 24' 32.17"
	Corner 22	8° 34' 28.84"	117° 24' 28.09"
	Corner 23	8° 34' 37.39"	117° 24' 18.36"
	Corner 24	8° 34' 50.79"	117° 24' 19.44"
	Corner 25	8° 34' 55.02"	117° 24' 24.19"
	Corner 26	8° 35' 19.5"	117° 24' 26.74"
TSF-1 (Existing)	Corner 27	8° 34' 26.83"	117° 25' 24.05"
	Corner 28	8° 34' 14.74"	117° 25' 37.40"
	Corner 29	8° 34' 1.35"	117° 25' 37.34"
	Corner 30	8° 33' 52.47"	117° 25' 21.67"
	Corner 31	8° 33' 52.64"	117° 25' 6.5"
	Corner 32	8° 33' 57.93"	117° 24' 59.44"
	Corner 33	8° 34' 10.89"	117° 24' 56.15"
	Corner 34	8° 34' 14.28"	117° 24' 58.55"
HPP Line 1 and 2 (Existing)	Corner 35	8° 33' 48.14"	117° 25' 3.9"
	Corner 36	8° 33' 48.11"	117° 25' 31.78"
	Corner 37	8° 33' 30.95"	117° 25' 31.76"
	Corner 38	8° 33' 30.98"	117° 25' 3.89"
Causeway, trestle and other associated facilities (Existing)	Corner 39	8° 30' 39.76"	117° 26' 36.38"
	Corner 40	8° 30' 43.04"	117° 26' 49.63"
	Corner 41	8° 30' 46.65"	117° 26' 49.07"
	Corner 42	8° 30' 47.96"	117° 26' 58.17"
	Corner 43	8° 30' 42.86"	117° 26' 58.96"
	Corner 44	8° 30' 42.17"	117° 26' 54.50"
	Corner 45	8° 30' 37.24"	117° 26' 56.09"
	Corner 46	8° 30' 30.20"	117° 26' 51.62"
	Corner 47	8° 30' 27.25"	117° 26' 51.62"
	Corner 48	8° 30' 14.88"	117° 27' 00.82"
	Corner 49	8° 30' 12.94"	117° 26' 58.19"
	Corner 50	8° 30' 28.68"	117° 26' 46.48"
	Corner 51	8° 30' 28.95"	117° 26' 39.94"

## Photos of CBNC Project Areas



**Figure 4.** *Rehabilitated Tailings Storage Facility No. 1*



**Figure 5.** *Operational Tailings Storage Facility No. 2*



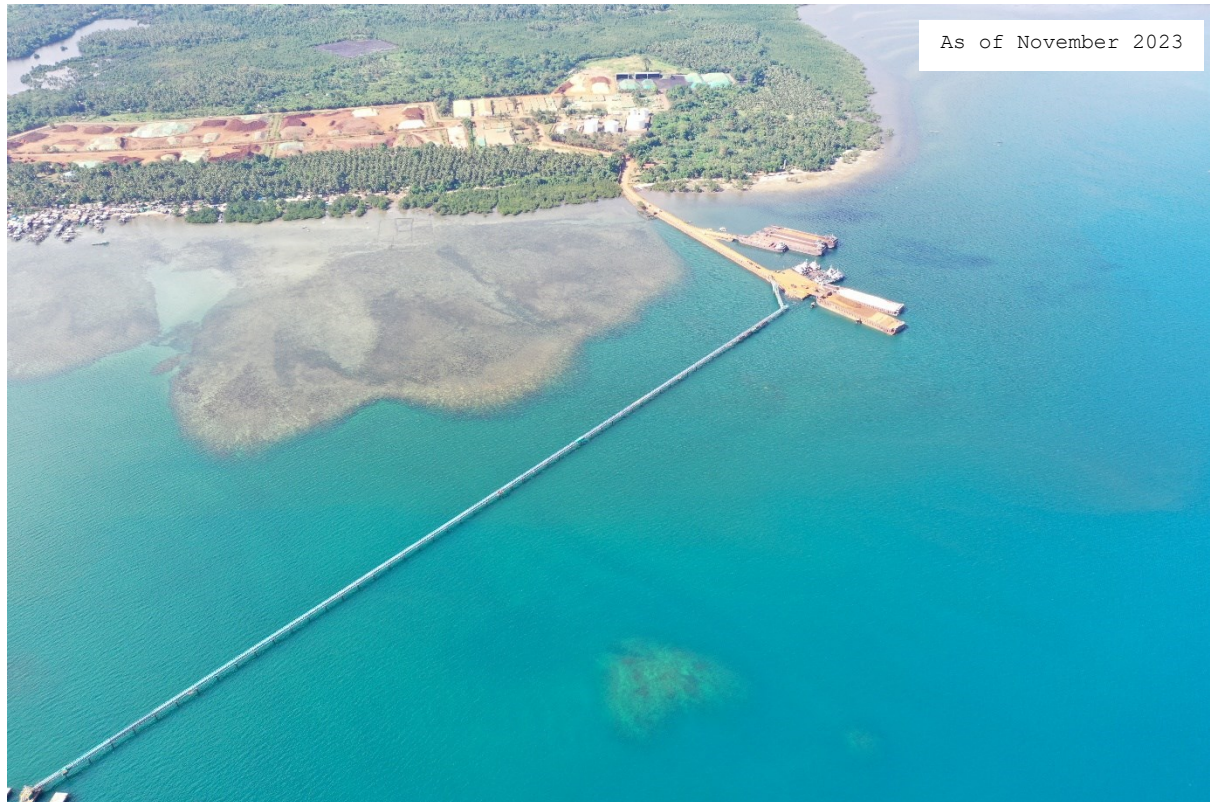


**Figure 6.** *CBNC Line 1 and 2 HPP Complex*



**Figure 7.** *Under Construction Tailings Storage Facility No. 3*





**Figure 8. CBNC Pier site Facilities**

## 2.2. Mineral reserves/resources

The CBNC HPP Lines 1 & 2 Project makes use of the low-grade Ni ore supplied by RTNMC under their MPSA No. 114-98-IV (Amended I).

Based on the disclosure made by Nickel Asia Corporation (NAC), the mother company of Rio Tuba Nickel Mining Corporation, in their 2022 Annual Report released last June 6, 2023, the available ore reserves at Rio Tuba as of December 31, 2022, that could possibly be available for purchase by CBNC and be used as feed material for the HPP Lines 1 & 2 is around 37.0 M DMT.

## Summary of Ore Reserves and Resources

### TOTAL MINERAL RESERVES (1) As of December 31, 2022

OPERATION	MINERAL TYPE	CLASSIFICATION	TONNES (KWMT)	TONNES (KDMT)	%NI	%FE	CONTAINED NI (KT)	REMARKS
Rio Tuba	Saprolite	Proved and probable	37,232	25,190	1.46	14.10	368	Decrease is due to mining operations, modification of AOIs or area of influence (reduction of areas which are deemed no longer economic to mine) and removal of resources within areas assessed to be mined-out, in actual
	Limonite	Proved and probable	37,093	26,138	1.14	35.83	298	

### TOTAL MINERAL RESOURCES <sup>1,2,3,4</sup> as of December 31, 2022

OPERATION	MINERAL TYPE	CLASSIFICATION	TONNES (KWMT)	TONNES (KDMT)	%NI	%FE	CONTAINED NI (KT)	REMARKS
Rio Tuba	Saprolite <sup>5</sup>	Measured and indicated	40,955	26,336	1.53	14.15	403	Decrease is due to mining operations, modification of AOIs or area of influence (reduction of areas which are deemed no longer economic to mine) and removal of resources within areas assessed to be mined-out, in actual
	Limonite <sup>5</sup>		37,825	26,380	1.16	35.72	306	
	Saprolite	Inferred	11,870	7,850	1.49	12.86	117	
	Limonite		2,444	1,705	1.17	33.51	20	

Source: Nickel Asia Corporation 2022 Annual Report pp. 21-22

**Table 2. Total Ore Reserves of Rio Tuba Nickel Mining Corporation as reported in the NAC 2022 Annual Report**

Since additional ore feed material is necessary and could not be obtained from RTNMC, CBNC will source a portion of its ore requirements from other NAC affiliated companies such as Hinatuan Mining Corporation, Cagdianao Mining Corporation, Dinapigue Mining Corporation and Taganito Mining Corporation,

## 2.3. Access/transportation

### 2.3.1. Road

The CBNC HPP project site is accessible from Manila via an hour's travel by commercial aircraft flight or an 18~ 22-hour commercial passenger ship voyage to Puerto Princesa City. From Puerto Princesa City, vans for hire and public utility buses ply the southward Provincial Road passing through

the Municipalities of Aborlan, Narra, Ursula, Sofronio Española, Brooke's Point, and then Bataraza. Land travel from Puerto Princesa City to Brgy. Rio Tuba, Bataraza takes approximately four to five (4~5) hours. At present, there are no other alternative road routes to Bataraza.

### 2.3.2. Air Access

The CBNC HPP Project site may also be accessed by plane from Manila or from Puerto Princesa City. RTNMC maintains an airport at the site (8°32'57" N, 117°26'10" E).

Chartered aircraft flying directly from Manila could reach the Rio Tuba Airport within 1 ~ 1.5 hours depending on the type and speed of the aircraft. Air travel between Puerto Princesa City Airport to Rio Tuba also takes approximately 1 ~ 1.5 hours.

The Rio Tuba Airport is limited only to small aircraft that could land in its 1.7 KM length. Recently, Runway lighting has been installed at the Rio Tuba airport and there is a pending application with the Civil Aviation Authority of the Philippines (CAAP) to allow night landing and take-offs in the future.



Figure 9. *Rio Tuba Airport*

### 2.3.3. Shipping

RTNMC operates a pier with a loading facility that is located at the mouth of Tuba River. Marine vessels that can utilize the facility include ore



transport ships at 12,000-dwt capacity; 6,000-dwt coal barge; and 2,000-dwt slaked lime barge.



Figure 10. *Rio Tuba Pier*

For large equipment and bulk materials like coal, a 14m wide Causeway has been built near the Nagoya Beach Area. This causeway also has a jetty to accommodate ships and barges that have to bring in large equipment and other bulk materials.



Figure 11. *Jetty at Causeway*

For the unloading of bulk chemicals like Sulfuric Acid and Methanol, cargo ships moor at the dolphins at the end of the trestle and unload the cargo through the pipeline that runs through the trestle and causeway to the storage tanks at CBNC stockyard area.

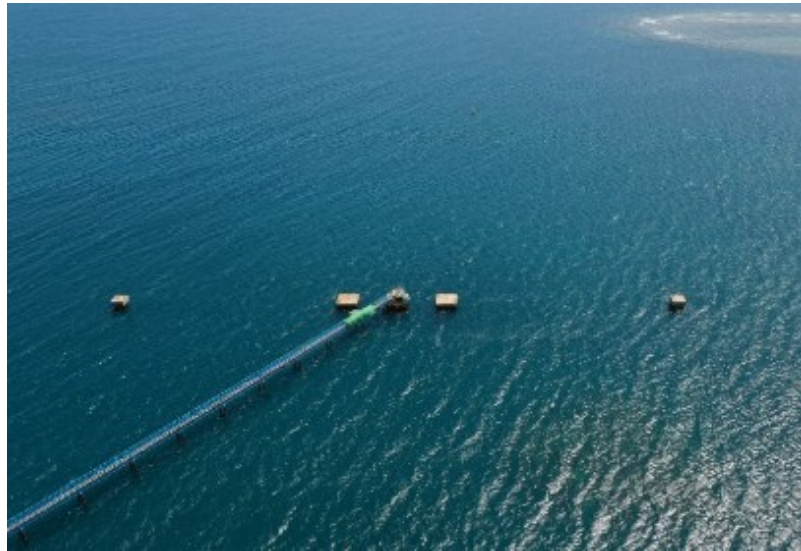


Figure 12. *Dolphins at the end of the Trestle*

#### 2.4. Overview of the HPAL Process

The production of mixed sulfide involves seven (7) stages. The process stages are discussed below:

##### **Ore preparation**

The process involves screening out from the feed ore particles with more than 2 mm size fraction. This is to remove the coarser grain size of low-grade Ni ore, which contains more magnesium oxide (MgO) than the finer grained ore. MgO require higher acid consumption at the autoclave. The -2 mm fraction is slurrified, thickened and stored at the HPAL feed storage tank.

##### **High Pressure Acid Leach (HPAL)**

The ore slurry is subjected to three (3) stages of pre-heating before being fed to the autoclave together with sulfuric acid and steam to selectively leach Ni and Co. After passing through three (3) stages of flashing or depressurization, the pressure-leached slurry from this process is sent to the Counter-Current Decanter.

**Counter-Current Decanter**

The depressurized pressure leach slurry is fed to the seven-stage Counter Current Decantation (CCD) circuit to recover the nickel and cobalt-rich solutions from the barren leached solids. The underflow from the last thickener is discharged to the tailings treatment area at maximum solid density and minimum nickel and cobalt liquor concentration. The pregnant solution or nickel and cobalt-liquor from the first CCD thickener overflow is sent to the neutralization circuit. The washed tailings from CCD 7 are neutralized by limestone and sent to the final neutralization stage.

**Neutralization**

The pregnant solution from the CCD area is sent to the neutralization tanks where limestone is added in the tanks to regulate pH at 3.0 to 4.0 to precipitate Fe and Al. The neutralized solution containing the reaction product gypsum is sent to the neutralization thickener together with the flocculants to improve settling rates and is separated into neutralized solution and neutralized gypsum slurry. The neutralized gypsum slurry is sent to CCD 3, while the neutralized solution is sent to for the Zinc Removal area.

**Zinc Removal**

The neutralization thickener overflow is pumped to the zinc removal tanks and contacted with hydrogen sulfide gas to precipitate Zn and Cu. The entire discharge stream from the zinc precipitation tanks is directed to the zinc-free liquor polishing filters. The zinc sulfide fines sluiced from the polishing filters are re-pulped and then pumped to the final neutralization stage.

**Sulfurization**

The neutralization solution stripped of its Zn impurities is reacted with hydrogen sulfide (H<sub>2</sub>S) in the range of pH 2.5 and 3.0 to recover more than 99% of Ni and Co as Ni/Co mixed sulfide (MS). Impurities such as

manganese (Mn) and magnesium (Mg) remain in the solution. The sulfurized slurry is sent to the sulfide thickener and is separated into sulfurized solution and sulfide slurry. The sulfide slurry is washed and dehydrated by pressure filter and is separated as mixed sulfide slurry. The sulfide slurry is washed and dehydrated by pressure filter and is separated as mixed sulfide (MS) while the sulfurized solution is sent to the Barren Liquor Treatment. MS products are packed in flexible plastic containers.

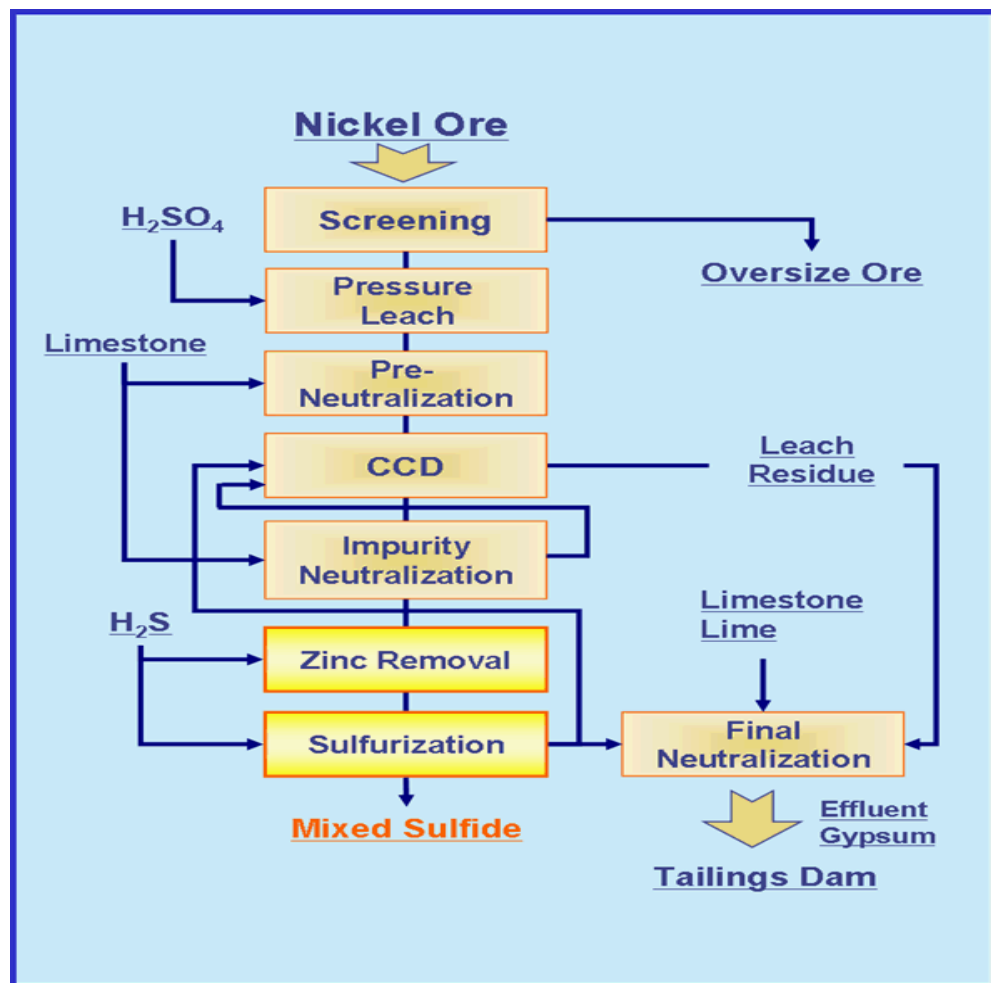


Figure 13. HPAL Simplified Flowsheet

## 2.5. Power Supply

Each HPP Line requires approximately 7.3 MW each or a total of 14.6 MW of electric power. The Town Site and other external facilities require about 300KW. The total requirement for power is 14.9MW.



For HPP Line 1, an 11 MW coal-fired boiler and turbine generator supports the operation. The boiler supplies 30 % of the steam generated for the HPAL process and the remaining 70% is used to drive the turbine for power generation. Three (3) substations distribute power to each of the load facilities in the Plant area. Two (2) 1.5 MW diesel generators provides back up power totaling 3.0 MW for the HPP 1 operations. At the pier site and port facilities, two (2) units of 0.072 MW diesel generators have been installed.

For HPP Line 2, another power plant that is a replica of Line 1's 11 MW coal-fired boiler and turbine generator has been installed. Three (3) 1.64 MW diesel generators or a total of 4.92 MW will provide back-up power. One of the three 1.62 MW diesel generators will be used to provide additional power to the townsite.

In case of maintenance or breakdowns, the power plants of either HPP Line 1 or HPP Line 2 could be used to support the operations of the other plant. A comfortable available power capacity has been incorporated in the design of the power plants.

The HPP's Power Plants are not connected to the Philippine National Power Grid.

## 2.6. Mining Equipment

CBNC HPP is not a mining company but is engaged in the Hydrometallurgical Processing of low-grade nickel ore through the High Pressure Acid Leach process. Mining equipment that are used to feed the low-grade nickel ore for the HPP's operation belong to RTNMC.

Lines 1 and 2 of the HPP each have the following major equipment for the production of Ni-Co Mixed Sulfide:

### **High-Pressure Acid Leach**

Direct heat exchanger	3 sets, SAF 2507 or Ti clad CS
Autoclave	1 set Ti clad, 25.23 m (tangent to tangent length), 29.89 m (overall inside Ti lining), 4.66 mm Ø
Flash tank	3 sets CS + ML (membrane-lined) and brick lined tank
CCD Thickener	27 m Ø x 7 sets

### **Purification**

Neutralization tank	533 m3 capacity x 2 sets 7.7 m Ø
Neutralization thickener	21 m Ø
Zn removal tank height	167 m3 capacity x 3 sets, 4.8 m Ø, 9.1 m height
ZnS filter	Polishing filter x 2 sets

### **Sulfurization**

Sulfurization tank	167 m3 capacity, 4.5 m Ø, 9.0 m height 276 m3 capacity x 1 set, 5.7 m Ø, 8.9 m height
MS filter	Larox filter x 2 sets
BL filter	Polishing filter x 2 sets

### **Barren Liquor Treatment**

Final neutralization tanks	200 m3 capacity x 3 sets, 5.8 m Ø, 7.6 m height 287 m3 capacity x 1 set, 6.8 m □, 9.7 m height
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## 2.7. Workforce Information

As of the end of October 2022 total employment for the two HPP Lines and including personnel at the Manila Office are 702 direct employees and 2,838 personnel from contractors.

Meanwhile, the organizational chart showing the Mine Environmental Protection and Enhancement Office (MEPEO) as of April 2023 is shown in Table 3.

## 2.8. Development Schedule

Since CBNC is engaged in the hydrometallurgical processing of nickel ore and not in mining, instead of a development schedule, it had instead a Work Program from 2020-2024 that was submitted by CBNC to the MGB as part of the requirement of the approved Mineral Processing Permit (MPP) No. 006-2004-IVB (3<sup>rd</sup> Renewal) effective April 26, 2020. The 5-year Work Program that was submitted with the MPP renewal application is shown below and is for reference only.

**Table 4. Production Schedule 2020-2024**

	2020	2021	2022	2023	2024	TOTAL
<b>Projected Output HPP 1 &amp; HPP 2 (Ni DMT)</b>	21,500	21,500	21,500	21,500	21,500	<b>107,500</b>
<b>Ore Consumption (DMT)</b>	2,060,000	2,060,000	2,060,000	2,060,000	2,060,000	<b>10,300,000</b>
<b>Estimated Milling Cost (M-PHP)</b>	11,200	11,200	11,200	11,200	11,200	<b>56,000</b>

The above schedule was submitted in anticipation of the approval and development of RTNMC's Bulanjao Expansion, that would assure a regular and stable supply of ore feed to the CBNC plant. However due to recent events related to the delay in the development of the Bulanjao Expansion the target output in 2023 has been reduced due to deficiency in the supply of suitable ore for processing and the delay in the progress of construction of the TSF3. For the Year 2024, CBNC's management is planning to reduce the target production output to 20,000 DMT.

CBNC's management will also source feed ore of approximately 500,000 WMT from the other affiliate mines of Nickel Asia. This will supplement the shortfall of suitable feed ore from RTNMC.

However, please note that the above schedule may be revised if there are events that would warrant the management of CBNC to revise its projections.



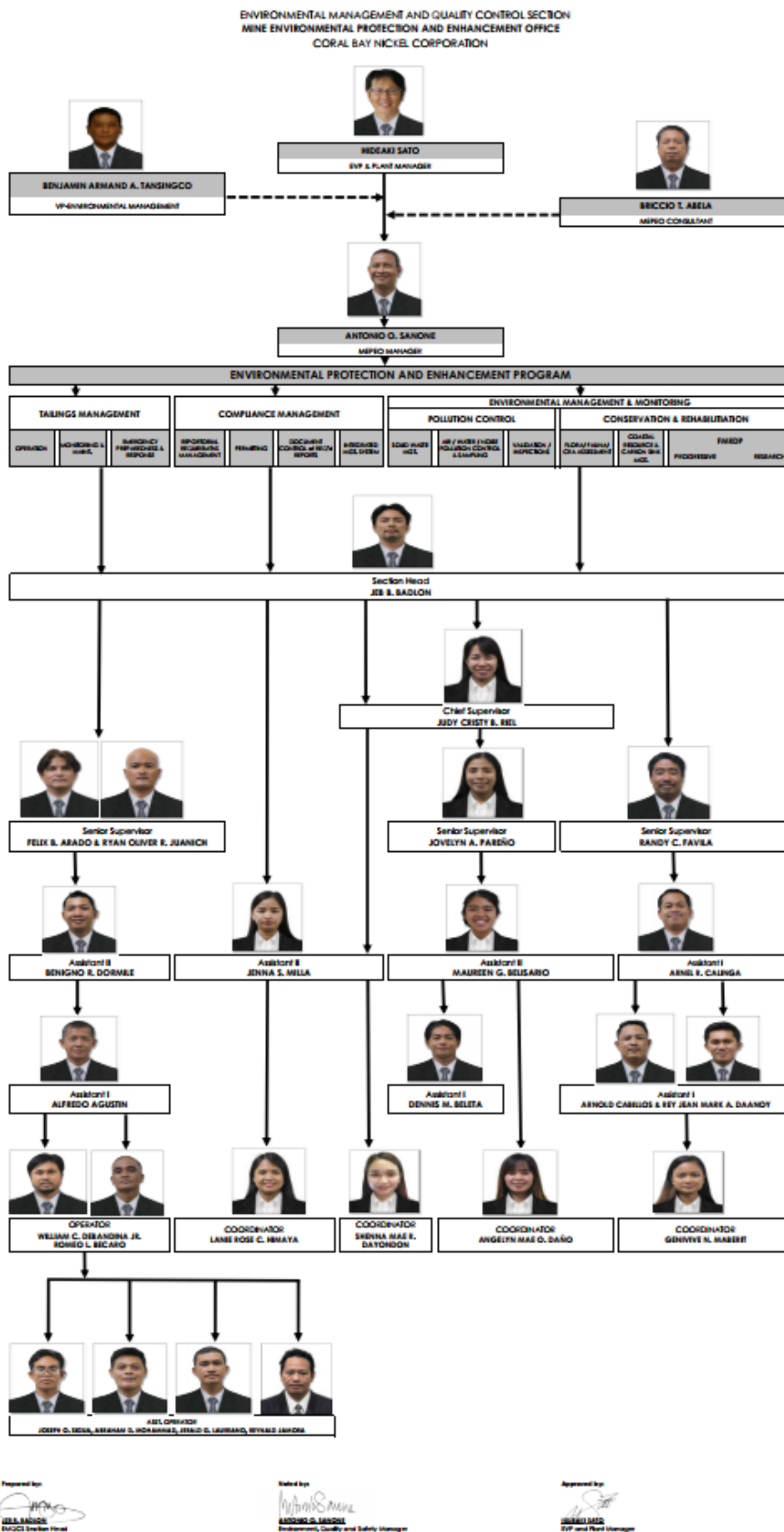


Table 5. Organizational chart showing the Mine Environmental Protection and Enhancement Office (MEPEO) of Coral Bay Nickel Corporation as of April 2023

## 2.8.1 Tailings Storage Facility No. 3 Construction

The December 2018 Environmental Performance Report and Management Plan (EPRMP) of CBNC discussed the project phases of Tailings Dam No. 3 in details.

Basically, the implementation of the project is divided into four (4) major phases: pre-construction phase; construction phase; operational phase; and abandonment phase. The pre-construction and construction phase generally, will involve mobilization, demobilization, site clearing and development for the preparation of the tailings storage facility, and the stockyard construction. The operational phase shall start as soon as TSF3 have been completed and commissioned. As for the abandonment phase, the TSF3 is estimated to have an economic life of five (5) years. After which, the programmed closure activities as indicated in CBNC's Final Decommissioning Plan shall be implemented which is similar to the rehabilitation plan for TSF1.

The timeline of construction schedule of TSF No. 3 as of September 30, 2023 is shown below.

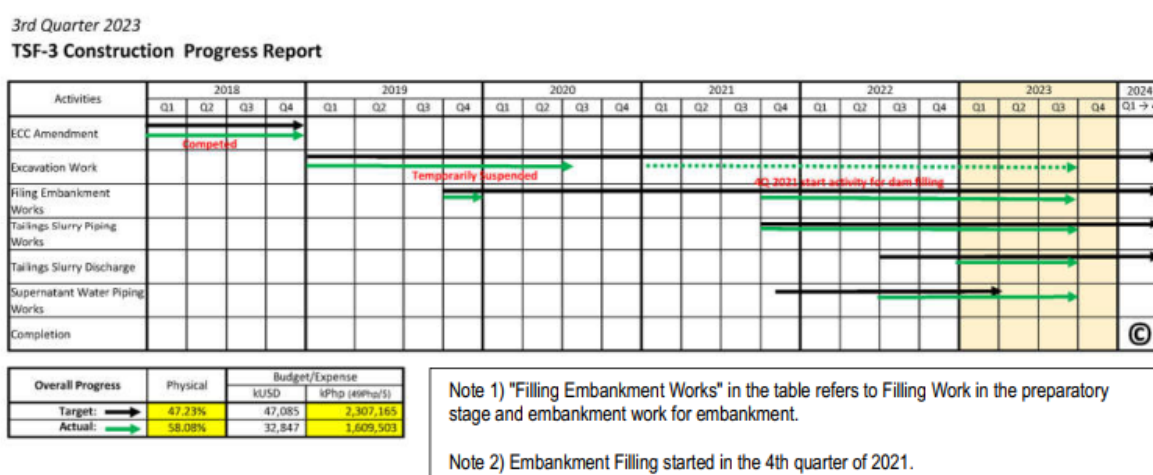


Figure 14. TSF3 Construction Progress as of September 30, 2023



Figure 15. *TSF3 Construction Site as of October 11, 2023*

The TSF3 construction activity was temporarily suspended as a result of MGB-MIMAROPA's order against SMCC dated 18 September 2020 that was received last 22 September 2020. On a letter dated 27 January 2021 from MGB MIMAROPA, SMCC was allowed to re-commence the construction of TSF3 if the activity would not involve the extraction of quarry materials within the MPSA area of RTNMC and/or the use of the mobile crushers. On the later weeks of March 2021, SMCC started foundation preparation only at the areas permitted by MGB MIMAROPA.

On June 30, 2021, MGB MIMAROPA issued the PTO for the two (2) mobile crushers.

On September 14, 2021, MGB MIMAROPA authorized the extraction of the suitable materials and the construction of TSF-3 embankment after CBNC complied with the requested joint topographic surveying activity as baseline data for TSF-3 construction area.

Embankment filing for the TSF-3 started during the 4<sup>th</sup> Quarter of 2021.

The accumulated delay of the TSF-3 construction has made it impossible to finish the entire TSF-3 structure before the TSF-2 reaches its maximum holding capacity as initially scheduled. With the imminent filling of the CBNC's TSF-2 and the need to have a tailings storage area available at the TSF-3 so that CBNC's operations would not be interrupted, it was decided as of the end of 2Q 2022 that the southern half of the TSF-3 would be prioritized to be finished and be used by the end of 4Q 2022.

The construction of Tailings Pipeline from the HPP Plant to TSF-3 has also commenced as of 2Q 2022. This was completed by first week of January 2023 in preparation for the utilization of the TSF-3 south side portion.

TSF-3 embankment construction continued for the 1Q 2023. Tailings discharge to TSF3 South Cell started in January 2023. Supernatant pipeline from TSF3 to TSF2 RWP was already finished. Water level at the TSF3 South Cell by the end of 1Q 2023 was still at elevation 10masl. Pumping of water from TSF2 to TSF2 RWP will only commence when the water level reaches 13masl.

For the 2Q 2023, only installation of pipe supports and other minor finishing work for the pipeline was conducted. Pumping of water from TSF3 to TSF2 RWP has already started.

As of end of September 30, 2023, the water level at TSF3 is at 18.35masl. North Cell construction is still in progress.

#### 2.8.2. Pier Site Material Stockyard Expansion

In order to accommodate additional incoming raw materials, the material stockyard at the Pier Site has been expanded. The expansion area is now

being utilized. This area is included in the PEZA Zone Proclamation No. 1352 dated August 3, 2007.



Figure 16. *Pier Site Storage Expansion as of October 11, 2023*

In order to avoid contamination of materials, especially in the event that outsourced ore is stored, the ground storage area is being concreted in phases. Additionally, concreting would help in the proper drainage of rainwater and prevent puddling.

#### 2.8.3. Application and Acquisition of Permits for the future TSF4

In 2022, CBNC intends to start the process of acquiring the necessary permits for the construction of TSF4. The preliminary design and location of the TSF4 is still being discussed with RTNMC.

In a letter dated October 6, 2022, MGB MIMAROPA interposed no objection to the Bore Sampling and Trial Excavation for TSF-4.



The application and payment for the ECAN Zoning Clearance started in May 25, 2022, while the approval was granted in January 4, 2023.

Additionally, CBNC received the endorsement for the project expansion from the local government units of Rio Tuba and Bataraza respectively on November 11, 2022 and in June 27, 2023. While the Palawan Provincial Board has signified its consent to the proposed amendment through its Resolution No. 18636 that was issued on September 13, 2023.

On June 29, 2023, the documentary requirements for the SEP Clearance application were submitted to the Local ECAN Board. Subsequently, the payment of the evaluation fee, and the endorsement of the Municipal Environmentally Critical Areas Network Board of Bataraza to the PCSDS were done on October 13, 2023.

TSF4 is anticipated to start its operation by 2028, or until TSF3 has been filled-up. Therefore, permitting needs to be completed by 2025 in order for construction to begin in 2026 to 2028.

### 3.0 Specific Strategy to Limit and Control the Impacts

#### 3.1 Land resources

Activity/ Aspect	Description of Impact	Source	Areas Affected	Mitigating Measures	2024 BUDGET (Php)
Development of Areas by RTNMC for	Barren areas can cause silted runoff	Areas opened due to mining operation of	Surface, estuarine and marine water	RTNMC maintains 17 silt traps, 6 siltation ponds	



CBNC Operation	that will pollute water bodies.	RTNMC (Host Mine) and related activities of the CBNC operation.	systems around the mine area and CBNC Project.	The whole site will be rehabilitated after utilization. Included in the FMRDP.	11,197,000
Clearing of areas for operation	Barren landscape due to clearing activities that can cause silted runoff, dust formation and wildlife dispersion.	HPP Project and Ancillary Facilities	CBNC Project Areas, Total 583 hectares. 430 ha is active/utilized. 153 is currently planted for rehabilitation, as of 3Q 2023.	Reforestation and other Landscaping Activities. CBNC engages on Mangrove forest protection and enhancement.	
Closure of TSF-1 after storage capacity was reached last 2010.	After TSF-1 utilization, the area is barren that can cause dust from the dried silty tailings and silted runoff during rain. The barren area is not habitable by wildlife. Embankment is susceptible to erosion.	Exposed embankment	TSF-1 embankment and impounded tailings.	Revegetation and rehabilitation activities for TSF-1 was already conducted and continuously being enhanced.	

Completed TSF-2 construction / TSF-2 operation	Land Disturbance due to operation of Tailings Storage Facility # 2 (TSF-2).	Embankment areas and borrow areas where rock and clay materials for the TSF2 were sourced.	Tailings Storage Facility slopes and areas near the vicinity that were used as material borrow areas.	Stabilization and protection of dam slopes by grass planting. Revegetation and rehabilitation of areas disturbed for its construction in order to control siltation and restore to a visually appealing condition. The whole site will be rehabilitated after utilization. Included in the FMRDP.
On-going construction of TSF-3. Expected to finish on the year 2024.	Dust, silted runoff and noise from the construction site and activity can affect the environment.	Barren Area of the construction site.	The area where TSF-3 is constructed.	Speed limits, regular watering and planting of trees at the buffer zone to mitigate environmental impacts during construction. Site will be rehabilitated after utilization. Included in the FMRDP.

### 3.2 Water

Activity/ Aspect	Descriptio n of Impact	Source	Areas Affected	Mitigating Measures	2024 BUDGET (Php)
Managem ent of Tailings and effluent.	Possible degradatio n of nearby river/marin e waters.	Surface run-offs and effluent from the treated tailings of the HPP operation .	Rio Tuba, Ibelnan, and Ocayan rivers as well as the groundwater wells and coastal areas.	Operation of 17 silt traps and 6 siltation ponds to mitigate silted run-offs.  Operation of water pollution control facilities (Final Neutralization Plant and TSF).	2,126,158,386
Managem ent of Hazardous and Non- Hazardous Waste	Possible degradatio n of nearby river/marin e waters	Surface run-offs and effluent from the treated tailings of the HPP operation	Water bodies in the vicinity of CBNC.	Proper segregation, collection, disposal of non- hazardous wastes  Transport and treatment of hazardous wastes by DENR- EMB accredited HW Transporters and Treaters.	
Managem ent of coal ash.	Possible surface and ground water contaminat ion due to coal ash storage/dis posal.	Coal ash which is waste product of the operation of CBNC's Power Plants.	Water bodies in the vicinity of CBNC.	Coal Ash Pit prepared and maintained. Natural permeability of clay prevents any possible leaching of heavy metals to ground water.	

### 3.3 Noise

Activity/ Aspect	Description of Impact	Source	Areas Affected	Mitigating Measures	20224 BUDGET (Php)
Noise from equipment and transport vehicles needed for HPP operation and activities could cause discomfort to workers and nearby residences.	Increase in noise level.	Plant Equipment & Transport Vehicles	HPP Plant Site, Barangay Rio Tuba and Barangay Ocayan.	<p>Maintain vegetated buffer zone around the HPP Site to diffuse any noise.</p> <p>Reduction of vehicle/equipment speed to reduce engine noise.</p> <p>Regular maintenance of equipment and transport vehicle to assure working condition of noise control devices.</p> <p>Require the use of PPEs to employees and contractors who work at areas with high noise levels.</p>	2,100

### 3.4 Air Quality

Activity/ Aspect	Description of Impact	Source	Areas Affected	Mitigating Measures	2024 BUDGET (Php)
Management of Air Pollution Sources and Control Facilities.	Degradation of ambient air quality.	Coal Fired Power Plant Operation. Production Process Operation.	Vicinity of Rio Tuba, Taratak, Ocayan, Iwahig and Sandoval in the	Operation of HPP's air pollution control facilities.	653,404,357

			Municipality of Bataraza	Annual conduct of Cylinder Gas Audit (CGA) to validate accuracy of the installed Continuous Emissions Monitoring System (CEMS) to determine air quality of emitted air to the Air Pollution Control Facilities (APSCF).  Stack emission sampling of air pollution source and control facilities.	
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### 3.5 Conservation values

#### 3.5.1 Nature issues

Activity/ Aspect	Description of Impact	Source	Areas Affected	Mitigating Measures	2024 BUDGET (Php)
The HPP operation and related activities	Possible degradation of the Coastal Resources (Mangroves, Corals,	Various materials and equipment used in the processing plant and	Rio Tuba, Nagoya beach, Ocayan rivers and nearby coastal areas.	Operation of 17 silt traps, 6 siltation ponds. Operation of HPP's water treatment facilities	6,045,958

	<p>Seagrasses and Fishes).</p> <p>The operation may cause changes in the population and conditions of the plants, corals, sea grass and other marine habitats.</p>	ancillary areas.		<p>Monitoring the effectivity of installed Coral garden to enhance coral population. Operation and maintenance of Water Bio-indicator projects</p> <p>Fish Pen at Causeway and sea grass enhancement at causeway as Marine Water Bio-Indicator</p> <p>Maintenance of Live Fish at Lower Kinurong Siltation Pond as a Fresh Water Bio-Indicator</p>	
The HPP operation and related activities	<p>Degradation of Flora and dispersion of Fauna.</p> <p>The operation may cause changes in the population of wildlife and natural vegetation.</p>	Various equipment used in the processing plant and ancillary areas.	Vicinity of Rio Tuba, Taratak, Ocayan, Iwahig and Sandoval, Bataraza	<p>Operation of HPP's air pollution control facilities</p> <p>Rehabilitation and reforestation of disturbed areas in order to restore lost faunal habitat. Native trees are planted in order to enhance biodiversity</p>	



				Establish buffer zone around CBNC perimeter to defuse noise causing disturbance to wildlife. Monitoring of Bee Colony found living inside HPP as Air Bio Indicator.	
Grounding of barge loaded with coal	Possible degradation of marine ecosystem	Accidental grounding of coal barge.	Vicinity of Ameril and Ursula Islands	Regular monitoring of Ameril and Ursula Islands to allow the natural regeneration of coral reefs. Provide logistical support to all patrol activities of PAMB.	

### 3.5.2 Heritage and Cultural Values

Activity/ Aspect	Description of Impact	Sources	Areas Affected	Mitigating Measures	2024 Budget (in Php)
HPP Operation	Change in the demographics of Brgy. Rio Tuba and the municipality of Bataraza. The operation of HPP generate jobs and many people coming	Employment at CBNC	Barangay Rio Tuba and its	IP communities are given employment at CBNC.  Of the 644 CBNC employees, 393 or 61% are residents of the	Under SDMP

	from other provinces migrate. The migration has direct effects on the population growth of the Barangay		neighboring barangays	Municipality of Bataraza. Another 170 employees (26.4%) are from the other municipalities of Palawan.	
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### 3.6 Environmental Research

Activity/ Aspect	Description of Impact	Source	Areas Affected	Mitigating Measures	2024 BUDGET (Php)
Research for Environmental Mitigation and Rehabilitation Activities.	Improved effectivity and establishment of new technologies and best practices.	Environmental Protection and Enhancement Activities	Scope of CBNC AEPEP	Conduct research to improve the AEPEP	902,369

### 3.7 Others(Administration, Compliance Management and MEPEO Operation)

Activity/ Aspect	Description of Impact	Source	Areas Affected	Mitigating Measures	2024 Budget (in Php)
Administration, Compliance Management and MEPEO Operation	Possible issuance of penalty, NOV or stoppage of operation	Local and National government Rules Regulations, International Guidelines and ISO Standard for Environmental Management.	Entire scope of CBNC MEPEO	PDCA of Environmental Management System in Accordance to Local Regulations, International Guidelines and ISO Standard for Environmental Management.	87,283,203

## 4.0 Strategy for

### 4.1 Monitoring

Sources of Impact, Mitigating Measure	Environmental Monitoring Plan				
	Parameters	Purpose	Station	Method	Frequency
Instabilities along the roads, channels, and slopes of the Project	Subsidence, cracks, ponding or overflows, scouring, extent of slide materials at the toe	To ensure stability of structures	Project area wide	Visual assessment and survey	Weekly
Ground clearings by the Project	Areas cleared or disturbed	To minimize disturbed areas	Project area wide	Area measurement	During clearing
Solid waste	Generated solid waste characterized into recyclables, biodegradables, and residual; individual tonnages measured	To ensure effectiveness of solid waste management	Project area wide	Characterization of solid waste and tonnage measurement	Daily, consolidated into weekly
	Volume of compost generated	To ensure effectiveness of solid waste management	Nursery	Volume measurement	Monthly
Project revegetation activities	Areas planted along buffer zones and other areas	To ensure effectiveness of buffer zone's purpose of minimizing impact	Project area wide	Area measurement and count of seedlings planted	Quarterly
Receiving water bodies (including control stations)					
East Ibelnan Creek (Control)	<ul style="list-style-type: none"> <li>• BOD, Cl<sup>-</sup>, color, DO, fec. col., NO<sub>3</sub>-N, pH, PO<sub>4</sub>-P, temperature, TSS</li> <li>• COD, SO<sub>4</sub><sup>2-</sup>, O&amp;G, NH<sub>3</sub>-N, tot. col.</li> <li>• Mn, As, Cd, Pb, Ni, Se, Fe, Cu, Zn, Hg, B, Cr</li> </ul>	To determine influent water quality	WQ11	Azide modification (dilution technique) - BOD Standard Method (SM) 4500 Cl B (Argentometric method) – Cl <sup>-</sup> Visual comparison method (Platinum cobalt scale) – Color Membrane electrode (DO meter)	Monthly

Sources of Impact, Mitigating Measure	Environmental Monitoring Plan				
	Parameters	Purpose	Station	Method	Frequency
Pinamsan Creek and Tuba River – Sanitary landfill, HPP, power plant, TSF1, TSF2, TSF3; RTNMC; UMPI	<ul style="list-style-type: none"> <li>• BOD, Cl<sup>-</sup>, color, DO, fec. col., NO<sub>3</sub>-N, pH, PO<sub>4</sub>-P, temperature, TSS</li> <li>• COD, SO<sub>4</sub><sup>2-</sup>, O&amp;G, NH<sub>3</sub>-N, tot. col.</li> <li>• Mn, As, Cd, Pb, Ni, Se, Fe, Cu, Zn, Hg, B, Cr</li> </ul>	To monitor water quality of surrounding water bodies and effectiveness of water pollution control programs	WQ9, WQ8, WQ12	Multiple-tube fermentation technique – Fec. and tot. col. Brucine method for saline waters; specific ion electrode meter for freshwater – NO <sub>3</sub> -N Hydrogen ion selective electrode - pH Stannous chloride method – PO <sub>4</sub> -P Thermistor sensor – Temp.	Monthly
					Monthly
Ocayan River (Control) - Community	<ul style="list-style-type: none"> <li>• BOD, Cl<sup>-</sup>, color, DO, fec. col., NO<sub>3</sub>-N, pH, PO<sub>4</sub>-P, temperature, TSS</li> <li>Mn, As, Cd, Pb, Ni, COD, Se, Fe, Cu, Zn, Hg</li> </ul>	To monitor water quality of surrounding water body	WQ2, WQ13	Gravimetric method - TSS SM2540 C (Gravimetric) - TDS Atomic absorption spectrophotometer (AAS) for heavy metals in non-saline water	Monthly
Monitoring wells – TSF1, TSF2, TSF3	pH, temperature, TSS, Mn, As, Cd, Pb, Ni, COD, Se, Fe, Cu, Zn, Hg	To monitor ground water quality	WQ3, WQ6	Inductively coupled plasma mass spectrometry (ICP-MS) with collision cells for heavy metals in saline water	Monthly
Coral Bay (Control) - Community	<ul style="list-style-type: none"> <li>• BOD, Cl<sup>-</sup>, color, DO, fec. col., NO<sub>3</sub>-N, pH, PO<sub>4</sub>-P, temperature, TSS</li> <li>Mn, As, Cd, Pb, Ni, COD, Se, Fe, Cu, Zn, Hg</li> </ul>	To monitor water quality of surrounding water bodies and effectiveness of water pollution control programs	WQ15, WQ16	SM 5220 B (Open Reflux Method) – COD SM4500-SO <sub>4</sub> E (Turbidimetric) - SO <sub>4</sub> Gravimetric method (Petroleum ether extraction) – O&G	Monthly
Coral Bay – Supernatant discharge point, causeway, trestle, community	<ul style="list-style-type: none"> <li>• BOD, Cl<sup>-</sup>, color, DO, fec. col., NO<sub>3</sub>-N, pH, PO<sub>4</sub>-P, temperature, TSS</li> <li>Mn, As, Cd, Pb, Ni, COD, Se, Fe, Cu, Zn, Hg</li> </ul>	To monitor water quality of the effluent's receiving water body	WQ18, WQ19, WQ20, WQ21, WQ22, WQ23, WQ24	SM4500-NH <sub>3</sub> F (Phenate method) – NH <sub>3</sub> -N	Monthly

Sources of Impact, Mitigating Measure	Environmental Monitoring Plan				
	Parameters	Purpose	Station	Method	Frequency
Ameril Island - Control	<ul style="list-style-type: none"> <li>BOD, Cl<sup>-</sup>, color, DO, fec. col., NO<sub>3</sub>-N, pH, PO<sub>4</sub>-P, temperature, TSS</li> <li>Mn, As, Cd, Pb, Ni, COD, Se, Fe, Cu, Zn, Hg</li> </ul>	To monitor water quality of surrounding water body	WQ25		Monthly
Sanitary landfill	pH, Cl, color, NO <sub>3</sub> -N, PO <sub>4</sub> -P, temperature, TSS, COD, SO <sub>4</sub> <sup>2-</sup> , O&G, NH <sub>3</sub> -N, tot. col.	To monitor water quality of landfill's leachate	WQ1	AAS for heavy metals in non-saline water ICP-MS with collision cells for heavy metals in saline water SM 5220 B (Open Reflux Method) – COD SM4500-SO <sub>4</sub> E (Turbidimetric) – SO <sub>4</sub> Gravimetric method (Petroleum ether extraction) – O&G SM4500-NH <sub>3</sub> F (Phenate method) – NH <sub>3</sub> -N	Monthly
HPP, power plant	<ul style="list-style-type: none"> <li>pH, temperature, TSS, Mn, As, Cd, Pb, Ni, COD, Se, Fe, Cu, Zn, Hg</li> <li>Cl, PO<sub>4</sub>-P, SO<sub>4</sub><sup>2-</sup>, B, Cr, O&amp;G</li> </ul>	To monitor water quality of water used for the process	WQ5		Monthly
Sanitary landfill, TSF3, HPP, power plant	<ul style="list-style-type: none"> <li>pH, Cl, color, NO<sub>3</sub>-N, PO<sub>4</sub>-P, temperature, TSS, COD, SO<sub>4</sub><sup>2-</sup>, O&amp;G, NH<sub>3</sub>-N, Tot. col.</li> <li>Mn, As, Cd, Pb, Ni, Se, Fe, Cu, Zn, Hg</li> <li>B, Cr, O&amp;G</li> </ul>	To monitor water quality and effectiveness of water pollution control programs	WQ7		Monthly
TSF1, TSF2	pH, temperature, TSS, Mn, As, Cd, Pb, Ni, COD, Se, Fe, Cu, Zn, Hg	To monitor effectiveness of water pollution control facilities	WQ10		Monthly
Coal stockyard	Color, pH, TSS, NO <sub>3</sub> -N, SO <sub>4</sub> , Mn, Fe, As, Cd, Hg, Pb	To monitor water quality of Coal Silt Pond as pollution control facility	WQ14		Monthly



Sources of Impact, Mitigating Measure	Environmental Monitoring Plan				
	Parameters	Purpose	Station	Method	Frequency
TSF supernatant discharge	pH, temperature, TSS, Mn, As, Cd, Pb, Ni, COD, Se, Fe, Cu, Zn, Hg	To monitor effluent water quality and the effectiveness of water pollution control program	WQ17		
Abstraction of the Project's water requirements from East Ibelnan Creek	Water flow and volume	To determine the volume used for CBNC's Process	WQ11	Flowmeter	Daily
Ambient air quality and noise					
HPP, power plant, coal ash, borrow area, TSF3 dam build-up, sanitary landfill, unsuitable materials disposal, transport, and hauling; RTNMC's surface mine, transport, hauling, stockpiling, ore loading, and generator sets; UMPI; community	TSP, PM10	To determine the effectiveness of Air Pollution Control Program for Particulate Matter	AQ1, AQ2, AQ3, AQ4, AQ5, AQ6, AQ11, AQ12, AQ13, AQ14, AQ15	United States Environmental Protection Authority (USEPA) 40 CFR, Part 50 Appendix B (Gravimetric) – TSP	Monthly (1 hour) for all stations Annually (24 hours) for AQ2, AQ6, AQ14
	SO <sub>2</sub> , NO <sub>2</sub>	To determine the effectiveness of Air Pollution Control Program for Sox and NOx	AQ2, AQ6, AQ14	PM-10 USEPA 40 CFR, Part 50, Appendix J (Gravimetric) Gas Bubbler and Pararosaniline Method (West and Gaeke Method), USEPA 40CFR, Part 50, Appendix A – SO <sub>2</sub>	Monthly (1 hour) Annually (24 hours)
	Acid mist	To determine the effectiveness of Air Pollution Control Program for Acid Mist	AQ7, AQ8, AQ9, AQ10	Gas Bubbler Griess-Saltzman, USEPA 40CFR, Part 50, Appendix F – NO <sub>2</sub>	Monthly (1 hour)
	H <sub>2</sub> S, H <sub>2</sub> , CO <sub>2</sub>	To determine the effectiveness of Air Pollution Control Program for H <sub>2</sub> S, H <sub>2</sub> , CO <sub>2</sub>	Gas detectors at strategic locations inside the HPP complex	SM 4500-S <sup>2</sup> (Distillation, Methylene Blue Flow Injection Analysis Method) – H <sub>2</sub> S	Continuing
	Noise	To determine the effectiveness of Noise Reduction and Control Program	N1, N2, N3, N4, N5, N6, N7, N8, N9, N10	Titration – H <sub>2</sub> SO <sub>4</sub> Noise meter - Noise	Monthly

Sources of Impact, Mitigating Measure	Environmental Monitoring Plan				
	Parameters	Purpose	Station	Method	Frequency
Power plant stack	TSP, PM-10, SO <sub>2</sub> , CO, CO <sub>2</sub> , As, Cd, Cr, Cu, Pb, Hg	To determine the effectivity of Air Pollution Control for the Power Plant's Emission	EP Line 1, EP Line 2	CEMS	Continuing
MS and H <sub>2</sub> S plant	H <sub>2</sub> S	To determine the effectivity of Air Pollution Control for the MS and H <sub>2</sub> S Plant	Gas scrubber Line 1, GS Line 2, GS Backup	CEMS	Continuing
HPAL	Condensed steam pH	To determine the scrubber's effectiveness	Venturi-type scrubber Line 1, VTS Line 2	CEMS	Continuing
Dust, fumes, emissions including noise of the HPP and power plant; dust, noise, and emissions from vehicles of CBNC, RTNMC, contractors, UMPI, and community; natural phenomena and variations	<u>Flora</u> Species composition, importance value, diversity, evenness, endemism, conservation status, dominant tree growth performance, stand density, canopy cover and height, ground/litter/shrub cover, stags, stable soil surface <u>Wildlife vertebrates</u> Species composition, richness, population density, presence or absence of sensitive species, diversity, evenness, endemism, conservation status	To determine the effectiveness of CBNC's Environmental Management Programs to prevent adverse impact to the surrounding flora and fauna		<u>Flora</u> Sample plots, sub-plots, transects, LFA soil and vegetation transects <u>Wildlife vertebrates</u> Transects and mist nets – birds Mist nets – volant mammals Live and snap traps, tracks and signs analyses – non-volant mammals Habitat search, visual and auditory cues, capture methods – amphibians and reptiles	<u>Flora</u> Annually <u>Wildlife vertebrates</u> Annually
CBNC's and RTNMC's coastal operations and community	Coral reefs – Composition and relative cover of hard corals and other benthic features including sediment accumulation	To determine the effectiveness of CBNC's Environmental Management Programs to prevent adverse impact to the	Mooring dolphin reef, Small sandbar reef, Discharge area, Rio Tuba MPA, Maranto Pt., Ameril Island	Intensive photographic surveys of benthic organisms and features on fixed transects	Annually – Same month as that for freshwater biology

Sources of Impact, Mitigating Measure	Environmental Monitoring Plan				
	Parameters	Purpose	Station	Method	Frequency
	and other coral stressors	surrounding Coastal Areas Coral Reefs			
	Reef fishes – Species composition, structure, and biomass	To determine the effectiveness of CBNC's Environmental Management Programs to prevent adverse impact to the surrounding Coastal Areas' Fish Abundance	Causeway, Mooring dolphin reef, Small sandbar reef, Discharge area, Rio Tuba MPA, Maranto Pt., Ameril Island	Fish visual census	
	Plankton - Taxa listing, individual counts, mean densities, biodiversity, evenness, dominance	To determine the effectiveness of CBNC's Environmental Management Programs to prevent adverse impact to the surrounding Coastal Areas' Planktons	Lower Kinurong, Ocayan River, Causeway, Mooring dolphin reef, Discharge area, Tagdalungon	Sample collection using plankton net, placement of subsample in a cell counter and microscopic examination	
	Seagrass – Species composition, percentage frequency and cover, and density	To determine the effectiveness of CBNC's Environmental Management Programs to prevent adverse impact to the surrounding Coastal Areas' Sea Grass Meadows	Tagdalungon, Rio Tuba MPA, Small sandbar reef, Ocayan	Regular quadrat sampling along replicate transects with photo-documentation	
	Mangroves – Species composition, community structure, plant biomass	To determine the effectiveness of CBNC's Environmental Management Programs in preserving or enhancing mangroves	Tagdalungon 1, Tagdalungon 2	Transect line plots with photo-documentation	

Sources of Impact, Mitigating Measure	Environmental Monitoring Plan				
	Parameters	Purpose	Station	Method	Frequency
CBNC Expansion Project	Employment of residents of Bataraza	To determine the effect of CBNC's operation to the employment status	22 barangays	Measurement of proportion of directly employed residents to total direct employment of the Project Number of training programs and number of trainees against number of trainees employed	Annual
	Community programs - SDMP	To determine the community's development as a result of the SDMP's programs	22 barangays and province of Palawan	Measurement of number of alternative means of livelihood created and number of people actually benefited and incomes realized	Annual

## 4.2 Research

Other items for research under the SDMP's MTG program will be proposed and submitted separately to MGB MIMAROPA. For Research on the improvement of CBNC's Environmental Protection and Enhancement Programs, below items will be conducted.

- a. Survival and growth of mangrove species
- b. Conduct Soil Amelioration Study to determine the optimum mixture between biomass and tailings for it to be used as top soil media for future rehabilitation.
- c. Study on the survival of coffee and cacao intercropped plantation.

### 4.3 Reporting

Based on the conditions of CBNC's MPP and as required by Section 270, Chapter XXIX, of the DAO No. 2010-21, the following reports shall be submitted to MGB and MGB4B:

- a. MGB Form 29-05 – Monthly Report on Production, Sales, Inventory of Metallic Minerals and Employment Data - Nickel (Mixed Sulfide)
- b. MGB Form 29-16 – Integrated Annual Report
- c. Quarterly Energy Consumption Report (MGB Form 29-18)
- d. Monthly General Accident Report (MGB Form 15-5)
- e. Semiannual Report on Mine Waste and Mill Tailings Produced, Contained, and/or Utilized (MGB Form 18-1)

Other reports as required by MGB and MGB4B may be submitted upon written advise by the said offices.

Reports for submission to EMB and copy-furnished to MGB are as follows:

- a. Quarterly Self-Monitoring Report (SMR)
- b. Semi-Annual Compliance Monitoring Report (CMR)
- c. Reports for special studies:
  - i. Annual Flora & Fauna Monitoring Report
  - ii. Annual Coastal Resources Monitoring Report



## 5.0 Total Cost of AEPEP

2024 AEPEP Activities	Purpose	2024 BUDGET, Php
1. Land Resource	Rehabilitation and Reforestation of Project Areas	11,197,000
2. Water Resource and Quality	Protection of Waters	2,126,158,386
3. Noise	Mitigation of Noise from Plant Operation	2,100
4. Air Quality	Protection of Air	653,404,357
5. Conservation Values	Enhancement and Monitoring of Environmental Program Performance	6,045,958
6. Environmental Research	Activities to Improve Environmental Programs	902,369
7. Others (Administration, Compliance Management and MEPEO Operation)	Administration, Compliance Management and MEPEO Operation	87,283,203
<b>GRAND TOTAL</b>		<b>2,884,993,373</b>

The 2024 AEPEP is slightly higher than the previous year mainly because of despite stabilized prices, the costs of coal and other sub-materials remains high. The projected price of Nickel remains around \$9/lb.

Please see attachment for the details.

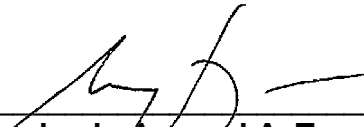
6.0 Name and Signature of Applicant or Person(s) preparing the AEPEP (Specify PRC and PTR numbers)



**Mr. Jeb B. Badlon**  
Pollution Control Officer  
PCO COA No. 2017-R4B-01425

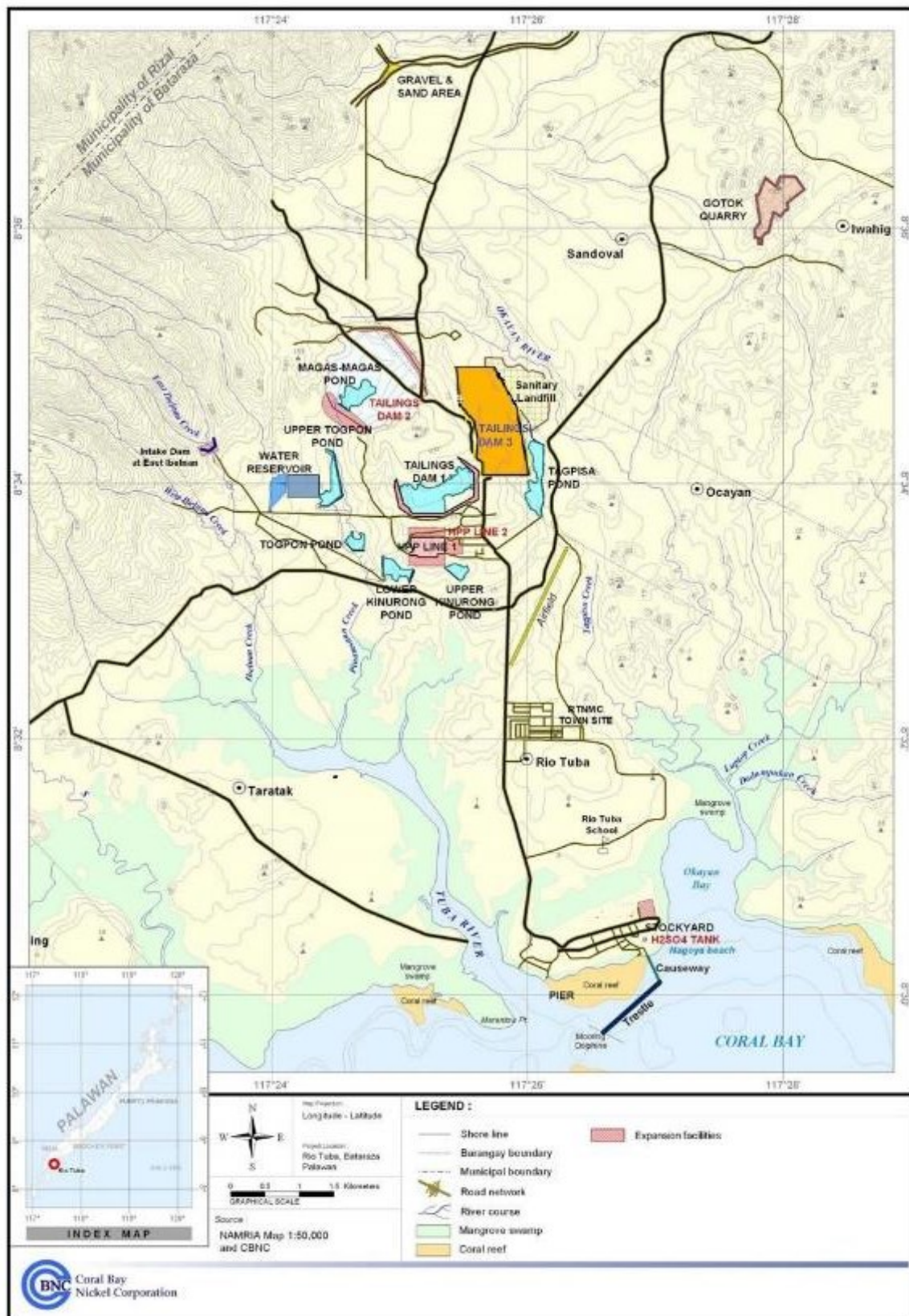


**Engr. Antonio O. Sanone**  
**MEPEO**  
Metallurgical Engineer  
PRC Met. E. - 0000333  
PTR No. 2695864F



**Engr. Benjamin Armand A. Tansingco**  
**VP- Environmental Management**  
Metallurgical Engineer  
PRC Met. E. - 291  
PTR No. A-4768140 Taguig City

7.0 Plan(s)/Map(s) of the Proposed Operations showing location of area(s) subject of operations, access to property, location of works and roads, water courses, working areas, camps and other surface facilities



2024 Target	Nickel, DMT	20,000
	Cobalt, DMT	1913
	Oprtg. Days	328

2024							
2024 AEPEP Activities	Unit of Work Measure (UWM)	Annual Physical / Financial Target, Php	2024 QUARTERLY PHYSICAL/ FINANCIAL TARGET				REMARKS
	Unit Cost, Php		1stQ	2ndQ	3rdQ	4thQ	
1. Land Resource							
a. Progressive Rehabilitation							
a.1 New Area established	Tree Planted (hectares)	2		2			2 has. for tree planting
	₱140,000	₱280,000		₱280,000			
	no. of seedlings planted	13,332		13,332			6,666 seedlings planted per hectare
	Grass Planted (hectares)	2			2		2 has. Ffor grass planting
	₱285,000	₱570,000			₱570,000		
a.2 Maintenance of established areas	Area maintained (hectares/quarter)	149	149	149	149	149	Total area to be maintained is 149 has.
	₱43,000	₱6,407,000	₱1,601,750	₱1,601,750	₱1,601,750	₱1,601,750	
		₱1,601,750					
	no. of seedlings to be replanted	500		500			
	no. of seedling planted for enhancement	30,000		10,000	10,000	10,000	These seedlings are planted in between the originally planted trees. This is in order to increase diversity and density of trees in the area already reforested.
b. Mangrove reforestation							
b.1 New Area established	Area planted (hectares)	15		15			
	₱15,000	₱225,000		₱225,000			
	no. of seedlings planted	37,500		37,500			
b.2 Maintenance of established areas	Area maintained (hectares)	15	15				
	₱3,000	₱45,000	₱45,000				
c. Bamboo Plantation							
c.1 Maintenance of established areas	Area maintained (hectares)	40	40	40	40	40	Maintenance of the current Bamboo Plantation.
	₱30,000	₱1,200,000	₱300,000	₱300,000	₱300,000	₱300,000	
	no. of bamboo propagules to be replanted	500		500			
	Inter-crop of Fruit Bearing Trees	1,020		1,020			
	No. of fruit bearing trees to be replanted	500		500			
d. Nursery Operation							
d.1 Seedlings production for Next Year	no. of seedlings produced	90,000	15,000	15,000	30,000	30,000	
	9	₱810,000.00	₱135,000.00	₱135,000.00	₱270,000.00	₱270,000.00	

2024 AEPEP Activities	Unit of Work Measure (UWM)	Annual Physical / Financial Target, Php	2024 QUARTERLY PHYSICAL/ FINANCIAL TARGET				REMARKS
	Unit Cost, Php		1stQ	2ndQ	3rdQ	4thQ	
d.2 Maintenance of Nursery	Monthly Maintenance	12	3	3	3	3	
	₱105,000	₱1,260,000	₱315,000	₱315,000	₱315,000	₱315,000	
e. Private Public Partnership Planting (NEW)							
e.1 Tree planting with Partner Peoples Organization	No. of Activity	4	1	1	1	1	
	₱50,000	₱200,000	₱50,000	₱50,000	₱50,000	₱50,000	
e.2 Establishment of Arboretum area with WPU Quezon campus	Area to be established, lot	1		1			
	₱100,000	₱100,000		₱100,000			
e.3 Maintenance of established Arboretum project of DENR CENRO Brookes Point and Sumbiling Elementary School	Area to be maintained, lot	2	2	2	2	2	
	₱50,000	₱100,000	₱25,000.00	₱25,000.00	₱25,000.00	₱25,000.00	
SUB Total		₱11,197,000	₱2,471,750	₱3,031,750	₱3,131,750	₱2,561,750	Financial Accomplishment
2. Water Resource and Quality							PHYSICAL
a. Water Pollution Control Facilities							
a.1 Operation of Final-Neutralization Plant	no. of fully operational final neutralization plant	2	2	2	2	2	To treat tailings of CBNC as per Environmental Management Program in the EPEP. Line - 1 & L2 Plant total shutdown days - 37 (Every May and November)
	no. of days operational final neutralization plant	328	90	73	92	73	
	₱6,329,804	₱2,076,175,844	₱569,682,396	₱462,075,721	₱582,342,005	₱462,075,721	
a.2 Operation of Tailings Storage Facilities (TSF)	no. of fully operational TSF	1	1	1	1	1	TSF 2 and 3 Operation, Monitoring and Maintenance 24/7
	no. of days of fully operational TSF	365	90	91	92	92	
	₱105,450.41	₱38,489,400	₱9,490,537	₱9,595,987	₱9,701,438	₱9,701,438	
b. Water Quality Monitoring							
b.1 Water Sampling & Analysis - (Effluent) and Water Bodies	No. of sampling activities	12	3	3	3	3	Analysis Conducted at a 3rd Party DENR Accredited Laboratory. 16 parameters analyzed per sample (pH, TSS, Mn, As, Se, Oil&Grease, Cd , COD, Pb, Cr6+, Cu, Fe, Hg, Ni, Zn. Temp.)
	₱69,952	₱839,429	₱209,857	₱209,857	₱209,857	₱209,857	
	no. of lots of sampling materials/equipment utilized	12	3	3	3	3	
	₱10,175	₱122,100	₱30,525	₱30,525	₱30,525	₱30,525	
	No. of samples	264	66	66	66	66	
b.2 Water Sampling & Analysis - Ground Water Quality Monitoring	No. of samples	24	6	6	6	6	14 parameters analyzed per sample. (pH, TSS, Mn, As, Se, Oil&Grease, Cd , COD, Pb Cr6+, Cu, Fe, Hg, Ni, Zn.)

2024 AEPEP Activities	Unit of Work Measure (UWM)	Annual Physical / Financial Target, Php	2024 QUARTERLY PHYSICAL/ FINANCIAL TARGET				REMARKS
	Unit Cost, Php		1stQ	2ndQ	3rdQ	4thQ	
c. Solid Waste Management							
c.1 Non-Hazardous Waste Management	No. of days of wastes collection	312	77	78	79	78	Segregation, collection and disposal shall comply with the IRR of RA 9003.
	₱19,231	₱6,000,000	₱1,480,769	₱1,500,000	₱1,519,231	₱1,500,000	
	Amount of Residual Wastes Generated (Tons)	2,600	650	650	650	650	Cost for waste collection is for manpower, haul trucks etc. 2023 Actual is the basis for the amount of waste to be generated in 2024.
	Amount of Recyclable Wastes Generated (Tons)	720	180	180	180	180	Mostly cans, replaced metal scraps. More generated wastes during PMS shutdown in 2Q & 4Q
	Amount of Biodegradable Wastes Generated (Tons)	540	135	135	135	135	Mostly, tree branch wood pallettes, waste paper and cardboard.
c.2 Hazardous Waste Management	No. of Transport and Treatment	3	1		1	1	Transport and Treatment shall comply with the IRR of RA 6969
	₱1,333,333	₱4,000,000	₱1,333,333		₱1,333,333	₱1,333,333	
	Liquid Haz-wastes generated (Tons)	90	25	25	20	20	Mostly used oil from plant and mobile equipment PMS. Mobile equipment includes those utilized in TSF3 construction.
	Solid Haz-wastes generated (Tons)	40	10	10	10	10	Filter cloth,contaminated rags and other small materials.
d. Coal ash sampling & analysis	No. of sampling activity	2	1		1		Analysis Conducted at a 3rd Party DENR Accredited Laboratory. 8 parameters to be analyzed per sample (Se, As, Ba, Cd, Cr, Hg, Pb, F).
	₱38,912	₱77,824	₱38,912		₱38,912		
	No. of samples collected	4	2		2		
e. Fish tissue & sediment sampling & analysis	No. of sampling activity	2	1		1		Analysis Conducted at a 3rd Party DENR Accredited Laboratory. Stations for fish tissue 5 stations, water 6 stations, sediment 6 stations. 7 parameters analyzed per sample (As, Cr, Co, Ni, Pb, Hg and Cd.
	₱226,895	₱453,789	₱226,895		₱226,895		
	No. of samples collected	34	17		17		
SUB Total		₱2,126,158,386	₱582,493,225	₱473,412,091	₱595,402,196	₱474,850,875	FINANCIAL

3. Noise							
a. Noise Monitoring Activities	No. of Sampling activity	12	3	3	3	3	10 monitoring stations/Month, 1 noise reading fore each time period (5am-9am, 9am-6pm, 6pm-10pm and 10pm-5am)
	₱175	₱2,100	₱525	₱525	₱525	₱525	
	No. of test conducted	480	120	120	120	120	
SUB Total		₱2,100	₱525	₱525	₱525	₱525	FINANCIAL

4. Air Quality							PHYSICAL
a. Air Pollution Control Facilities							



2024 AEPEP Activities	Unit of Work Measure (UWM)	Annual Physical / Financial Target, Php	2024 QUARTERLY PHYSICAL/ FINANCIAL TARGET				REMARKS
	Unit Cost, Php		1stQ	2ndQ	3rdQ	4thQ	
a. Air Pollution Control Facilities	no. of fully operational Air Pollution Control Facilities	4	4	4	4	4	2 ESP for L1 and Line 2 Boiler + 2 Scrubbers for Line 1 and Line 2 MS Plant To ensure emission to air are within DENR Standard as per Environmental Management Program in the EPEP. <b>Line - 1 &amp; L2 Plant total shutdown days - 37 (Every May and November)</b>
	no. of days operational APCF	328	90	73	92	73	
	₱1,987,434	₱651,878,222	₱178,869,024	₱145,082,653	₱182,843,892	₱145,082,653	
b. Air Quality Monitoring							
b. Air Sampling & Analysis	Monthly Lab. Analysis Cost	12	3	3	3	3	13 Stations for TSP/PM 10 Air Sampling (1hour) 3 Stations for NOx and Sox (1hour) 4 Stations for Acid Mist Inside Plantsite (30 mins) 20 Stations per Month
	₱6,465	₱77,576	₱19,394	₱19,394	₱19,394	₱19,394	
	Monthly Materials/Equipment Cost	12	3	3	3	3	
	₱15,150	₱181,800	₱45,450	₱45,450	₱45,450	₱45,450	
	No. of sampling activity	240	60	60	60	60	
c. Stack Sampling	No. of sampling activity	1			1		13 Stations or Stacks to be sampled. Conducted by a 3rd party EMB accredited stack sampling team and laboratory for analysis. Maximum of 3 parameters per station analyzed.
	₱1,166,759	₱1,166,759			₱1,166,759		
	No. of sampling conducted	13		13			
d. Cylinder Gas Audit (CGA) for Continuous Emission Monitoring System (CEMS)	No. of Activity	1			1		As per Environmental Monitoring Program in the EPEP. Maximum of 3 parameters per station analyzed.
	₱100,000	₱100,000			₱100,000		
	No. of sampling conducted	7			7		
<b>SUB Total</b>		<b>₱653,404,357</b>	<b>₱178,933,868</b>	<b>₱145,147,497</b>	<b>₱184,175,495</b>	<b>₱145,147,497</b>	<b>FINANCIAL</b>

<b>5. Conservation Values</b>							
a. ICRMP	No.of project implemented	1	1	1	1	1	Based on Draft ICRMP WFP for 2024.
		₱1,180,000	₱132,500	₱182,500	₱382,500	₱482,500	
	Progress report prepared	4	1	1	1	1	
b. Carbon Sink Prgm (400 ha. Mangrove Forest Protection & Enhancement)	Established Program	1	1	1	1	1	Creation of TWG and annual plan including support to forest guards in protecting the mangrove forest. The budget allocated per quarter depends on the Plan to be established by the TWG.
		₱1,653,000	₱413,250	₱413,250	₱413,250	₱413,250	
c. Maintenance of Bio Indicators	No.of project implemented	3	3	3	3	3	To maintain and monitor Bio Indicators and its facilities: 1. Fish Pen at Piersite 2. Fish Pen at Lower Kinurong Siltation Pond 3. Butterfly Garden at TSF-1.
		₱225,800	₱56,450	₱56,450	₱56,450	₱56,450	
	Progress report prepared	4	1	1	1	1	
d. Coastal Resource Assessment (CRA)	No. of Activity	1		1			As per Environmental Monitoring Program in the EPEP (April)
		₱682,500		₱682,500			
	Report prepared					1	

2024 AEPEP Activities	Unit of Work Measure (UWM)	Annual Physical / Financial Target, Php	2024 QUARTERLY PHYSICAL/ FINANCIAL TARGET				REMARKS
	Unit Cost, Php		1stQ	2ndQ	3rdQ	4thQ	
e. Fauna Monitoring	No. of Activity	1		1			As per Environmental Monitoring Program in the EPEP (May)
		₱350,000		₱350,000			
	Report prepared					1	
f. Flora Monitoring	No. of Activity	1		1			As per Environmental Monitoring Program in the EPEP (May)
		₱510,191.22		₱510,191.22			
	Report prepared					1	
g. Coastal Resources Protection and Enhancement of Ursula Island	No. of Activity	4	1	1	1	1	Per Ursula Island PAMB WFP 2023. Expenses are base on the PAMB's WFP (621K Php) plus labor (450K Php)
		₱525,867	₱131,467	₱131,467	₱131,467	₱131,467	
h. Piersite Nursery (Mangrove and other Trees)	No. of nursery maintained	1	1	1	1	1	To maintain and establish stocks of mangrove propagules for planting. Includes mats and eqpt. for the activity.
		₱38,600	₱9,650	₱9,650	₱9,650	₱9,650	
i. Support to National and International Environmental Activities							
i.1 Solid Waste Month (Jan)	No. of Activity	1	1				In coordination with LGU, DENR and NGO's
		₱80,000	₱80,000				
i.2 World Wildlife Day (Mar)	No. of Activity	1	1				In coordination with LGU, DENR and NGO's
		₱80,000	₱80,000				
i.3 Earth Hour (Mar)	No. of Activity	1	1				In coordination with LGU, DENR and NGO's
		₱80,000	₱80,000				
i.4 Month of the Ocean (May)	No. of Activity	1		1			In coordination with LGU, DENR and NGO's
		₱80,000		₱80,000			
i.5 Arbor Day, Shokoju Day and World Environment Day (Jun)	No. of Activity	1		1			Participated by all CBNC employees and contractors
		₱400,000		₱400,000			
i.6 International Coastal Cleanup (Sep)	No. of Activity	1			1		In coordination with LGU, DENR and NGO's
		₱80,000			₱80,000		
i.7 World Bamboo Day (Sep)	No. of Activity	1			1		In coordination with LGU, DENR and NGO's
		₱80,000			₱80,000		
SUB Total		₱6,045,958	₱983,317	₱2,816,008	₱1,153,317	₱1,093,317	FINANCIAL
6. Environmental Research							
a. Survival and growth of mangrove species	Research conducted	1	1	1	1	1	New comparative study on the survival and growth of mangrove species between potted seedlings and direct propagule planting.
		₱50,000.00	12,500	12,500	12,500	12,500	
	Progress report prepared	4	1	1	1	1	
b. Soil Amelioration	Research conducted	1	1	1	1	1	Purchase of CRH, Cow Manure and plant inputs and analysis, evaluation and research materials.
	Progress report prepared	4	1	1	1	1	
	Established Plots	5			5		
	₱138,162	₱690,810			₱690,810		
	Research conducted	1	1	1	1	1	
	Treatment	3	3	3	3	3	
	₱53,853	₱161,559	₱40,389.75	₱40,390	₱40,390	₱40,390	


2024 AEPEP Activities	Unit of Work Measure (UWM)	Annual Physical / Financial Target, Php	2024 QUARTERLY PHYSICAL/ FINANCIAL TARGET				REMARKS
	Unit Cost, Php		1stQ	2ndQ	3rdQ	4thQ	
d. Survival of coffee and cacao intercropped in plantation of CBNC	Progress report prepared	4	1	1	1	1	Purchase of seedlings, Planting, Maintenance, protection and data gathering
<b>SUB Total</b>		<b>₱902,369</b>	<b>₱52,890</b>	<b>₱52,890</b>	<b>₱743,700</b>	<b>₱52,890</b>	<b>FINANCIAL</b>

<b>7. MEPEO Administration and Compliance Management (Others)</b>							
a. MEPEO Administration							
a.1 MEPEO Administrative Cost	MEPEO Operationalized	1	1	1	1	1	Manpower costs (Envi. CBNC and Contractors)
	No. of months operated	12	3	3	3	3	
	₱4,697,052	₱56,364,622	₱14,091,155.39	₱14,091,155.39	₱14,091,155.39	₱14,091,155.39	
a.2 Office Management	No. of months managed	12	3	3	3	3	Safety, PPE issuance, transportation, materials & Equipment for Envi. Mgt., training and seminar of MEPEO personnel, etc.
	₱267,447	₱3,209,369	₱802,342	₱802,342	₱802,342.15	₱802,342.15	
a.3 Calibration of Monitoring Instruments	No. of Calibration	1			1		Annual calibration of air and water monitoring equipment by a 3rd party accredited service provider.
		₱67,373			₱67,373		
a.4 Envi. Monitoring Equipment Maintenance & Repairs	No. of maint and repair	12	3	3	3	3	Repair and PMS for MEPEO vehicles, facilities, equipment, access roads and water ways.
	₱279,433	₱3,353,200	₱838,300.02	₱838,300.02	₱838,300.02	₱838,300.02	
b. Maintenance of Integrated Management System	Audit conducted	4	1	1	1	1	Cost for the Internal and External Audits, EDMS maintenance, and other expenses related to IMS.
	₱314,390	₱1,257,558	₱314,390	₱314,390	₱314,390	₱314,390	
c. Permitting and Compliance	No. of quarter w/ activity	4	1	1	1	1	Regulatory Fees, New Permit Application, Amendment and Renewal
	₱4,290,412	₱17,161,647	₱4,290,412	₱4,290,412	₱4,290,412	₱4,290,412	
d. MMT validation and sampling	MMT Monitoring Conducted	4	1	1	1	1	MMT Cost for Honorarium, Travel, Accommodation, Meals of MMT Members and MEPEO Personnel that Assisted/Guide
	₱518,500	₱2,074,000	₱518,500	₱518,500	₱518,500	₱518,500	
e. MRFC Meeting	Meeting conducted	4	1	1	1	1	MRFC Cost for Honorarium, Travel, Accommodation, Meals of MRFC Members and MEPEO Personnel that Attended
	₱453,950	₱1,815,800	₱453,950	₱453,950	₱453,950	₱453,950	
f. EMB Monitoring/Validation	Monitoring conducted	4	1	1	1	1	EMB Validation Cost for (Travel, Accommodation, Meals of EMB Members and MEPEO Personnel that Assisted/Guides
	₱30,000	₱120,000	₱30,000	₱30,000	₱30,000	₱30,000	
g. MGB Inspections							
g.1SHES (RO)	SHES Monitoring conducted	1		1			Schedule depending on MGB RO/CO
		₱83,800.00		₱83,800.00			
g.2 TSHES/MPP (RO)	TSHES/MPP monitoring conducted	1		1			Schedule depending on MGB RO
		₱120,000		₱120,000			
g.3 Mill Tailings Fee Inspection	Inspection conducted	2	1		1		Schedule depending on MGB RO
	5,500	₱11,000	₱5,500		₱5,500		
h. PEZA Annual Inspection for PTO Renewal	Inspection conducted	1		1			Schedule depending on MEZ
		₱180,000		₱180,000			

2024 AEPEP Activities	Unit of Work Measure (UWM)	Annual Physical / Financial Target, Php	2024 QUARTERLY PHYSICAL/ FINANCIAL TARGET				REMARKS
	Unit Cost, Php		1stQ	2ndQ	3rdQ	4thQ	
i. Assistance in the Continuous Air Quality Monitoring System (CAAQMS) inspection by EMB	No. of Activity	1		1			Assistance to EMB personnel during inspection of CAAQMS
		₱43,000		₱43,000			
j. IEC for Stake Holders, Visitors and Workers.	IEC Conducted	8	2	2	2	2	For IEC Team and Audience Meals, Accommodation and Transportation Cost. PMIEA and AMA Awards
	₱177,729.28	₱1,421,834	₱355,459	₱355,459	₱355,459	₱355,459	
SUB Total		₱87,283,203	₱21,700,007	₱22,121,307	₱21,767,381	₱21,694,507	FINANCIAL

GRAND TOTAL	₱2,884,993,373	₱786,635,582	₱646,582,068	₱806,374,363	₱645,401,361	FINANCIAL
						<div>₱16,179,871,615.23</div> <div>Estimated 2024 Milling Expense (PHP)</div> <div>18% % 2024 AEPEP Expenses vs OPEX</div>

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**CORAL BAY NICKEL CORPORATION**  
**BREAKDOWN OF ESTIMATED MILLING EXPENSE 2024**

**Amounts in USD**

**I. SUPPLIES & MATERIALS**

**A. Sub-materials**

Flocculant	5,837,800.00
Sulfuric Acid	26,144,485.12
Lime Stone	8,278,776.24
Sodium Hydroxide (Caustic Soda)	3,782,000.00
Slaked Lime	24,846,593.60
Methanol	3,410,000.00
Sulfur	5,265,000.00
Coagulant	77,600.00
Diesel for H2S	449,400.00
Soda Ash	999,648.00
Other sub-materials	824,966.92
<b>Total Sub-materials</b>	<b>79,916,269.89</b>

**B. Supplies**

Laboratory Supplies	503,441.79
Maintenance Supplies	1,779,653.71
Office Supplies	157,018.69
Mixed Sulfide Bags	702,860.00
Filter Bags	176,350.00
Screen for Ore Preparation	132,940.00
Alumina and Iron Balls	100,000.00
Chemicals and Reagents	216,830.44
Safety Supplies (PPE)	146,225.64
Other supplies	1,971,566.00
<b>Total Supplies</b>	<b>5,886,886.27</b>

**C. Fuel Cost (Production Related)**

Coal and Biomass	51,794,866.53
Diesel	2,353,162.31
<b>Total Fuel Cost</b>	<b>54,148,028.83</b>

**I. TOTAL SUPPLIES & MATERIALS**

**139,951,184.99**

**II. LABOR EXPENSE**

Basic Salaries	7,022,784.70
Overtime	1,643,279.67
Allowances and CBA Benefits	635,261.60
13th Month Pay & Other Incentives	2,260,235.04
Vacation Leave/Sick Leave Conversion	270,642.69
SSS, PhilHealth and HDMF Premiums	355,345.25
Other Employee Benefits	1,726,594.77
Other labor expense	294,999.74
<b>II. TOTAL LABOR EXPENSE</b>	<b>14,209,143.47</b>

**CORAL BAY NICKEL CORPORATION**  
**BREAKDOWN OF ESTIMATED MILLING EXPENSE 2024**

**Amounts in USD**

**III. OTHER EXPENSES**

**A. RENTALS AND LEASES**

Infrastructure Lease PEZA Developer	123,944.97
Machine Lease	112,167.67
Automobile Lease	1,683.63
Other rentals and leases	609,362.83
<b>TOTAL RENTALS AND LEASES</b>	<b>847,159.10</b>

**B. POWER AND WATER SUPPLY**

Water Supply Charges	89,909.09
Gas Supply Charges	24,618.18
Other Power and Water Supply Expenses	10,727.27
<b>TOTAL POWER AND WATER SUPPLY</b>	<b>125,254.54</b>

**C. INSURANCE EXPENSE**

Vehicle Insurance	78,181.82
Fire and Property Insurance Expense	2,011,954.98
Other Insurance Expense	15,963.64
<b>TOTAL INSURANCE EXPENSE</b>	<b>2,106,100.44</b>

**D. REPAIRS AND MAINTENANCE**

Spare Parts Cost	10,908,234.96
Consignment Parts Cost	3,616,748.00
Maintenance Contract Fee	3,336,225.17
Contract Work	5,452,405.00
Consignment Contract Service Fee	519,061.00
Software Maintenance	464,052.28
Vehicle Repairs and Maintenance	92,727.27
Maintenance of Leased Facilities from RTN	754,504.97
Other Repairs and Maintenance	9,406,915.50
<b>TOTAL REPAIRS AND MAINTENANCE</b>	<b>34,550,874.14</b>

**E. TRANSPORTATION EXPENSE**

Gasoline/Diesel Expenses (General Services)	237,982.22
Other Transportation Expenses	7,389.09
Delivery and Handling	752,382.99
Package Expenses	27,472.73
Working Transfer	56,727.27
<b>TOTAL TRANSPORTATION EXPENSE</b>	<b>1,081,954.30</b>

**F. TRAVELLING EXPENSE**

Air Transportation & Charter	3,480,000.00
Official Foreign & Domestic Travel	122,167.54
<b>TOTAL TRAVELLING EXPENSE</b>	<b>3,602,167.54</b>



**CORAL BAY NICKEL CORPORATION**  
**BREAKDOWN OF ESTIMATED MILLING EXPENSE 2024**

**Amounts in USD**

**G. COMMUNICATION EXPENSE**

Telecommunication Provider Charges	263,546.81
Other Communication Charges	5,351.83
<b>TOTAL COMMUNICATION EXPENSE</b>	<b>268,898.63</b>

**H. OUTSOURCING EXPENSES**

Security Provider Services	2,133,614.30
External Manpower Services	2,035,731.18
Outsourcing Cost _ Technical Fees	7,246,062.70
<b>TOTAL OUTSOURCED SERVICES EXPENSE</b>	<b>11,415,408.18</b>

**I. PROFESSIONAL FEES**

Legal Fees	567,385.13
Audit Fees	35,259.25
Advisory and Consultancy Fees	754,557.49
Royalty Fee	3,547,375.56
Other Professional Fees	129,351.55
<b>TOTAL PROFESSIONAL FEES</b>	<b>5,033,928.97</b>

**J. TAXES, DUES AND LICENSES**

Property Taxes	55,557.77
Community Tax - Corporate and Employee	554.55
Occupation/Profession Tax	856.36
Registration Fees	2,690.91
Vehicle Registration Fees	11,381.82
Fringe Benefit Taxes	160,000.00
Other Permits and Fees	80,347.44
<b>TOTAL TAXES, DUES AND LICENSES</b>	<b>311,388.85</b>

**I. GENERAL EXPENSES**

Representation and Entertainment Expenses	30,141.82
Membership and Condominium Dues	7,909.82
Training and Seminar Expense	120,100.00
Books and Other Reference Materials	1,316.56
Bank Charges	9,526.54
Advertising Expense	6,363.64
External Affairs - Govt.	155,318.77
External Affairs - Others	24,942.44
Research and Development	150,000.00
Donation Expense - RTNFI	2,793,837.96
SDMP Devt. Of Host and Neighboring Communities	3,744,955.63
SDMP DMTG	527,272.73
Comrel Assistance and CSR	543,116.36
Information and Education Campaign	747,450.98
Site Rehabilitation Expense	215,818.18
Miscellaneous Expense	44,417.38
<b>TOTAL GENERAL EXPENSES</b>	<b>9,122,488.81</b>

**CORAL BAY NICKEL CORPORATION**  
**BREAKDOWN OF ESTIMATED MILLING EXPENSE 2024**

**Amounts in USD**

**J. DEPRECIATION AND AMORTIZATION**

Depreciation expense - Buildings	3,464,349.93
Depreciation expense - Structures	19,609,638.59
Depreciation expense - Vehicles	723,872.49
Depreciation expense - Building improvements	7,739.94
Depreciation expense - Machineries & Equipment	41,408,991.66
Depreciation Expense - Mechanical Spares	90,493.29
Depreciation Expense - E & I Spares	44,602.63
Depreciation expense - Office equipment	199,907.18
Depreciation expense- Laboratory equipment	214,711.72
Depreciation expense - Furniture & fixtures	8,592.48
Depreciation expense- Tools	91,482.78
Amortization expense - Software	23,894.44
Depreciation expense- LS M&E	350,611.92
Depreciation expense- LS - Land	61,437.84
<b>TOTAL DEPRECIATION AND AMORTIZATION</b>	<b>66,300,326.89</b>

<b>III. TOTAL OTHER EXPENSES</b>	<b>134,765,950.38</b>
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<b>TOTAL EXPENSES (USD)</b>	<b>288,926,278.84</b>
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<b>ASSUMED 2024 EXCHANGE RATE (PHP/USD):</b>	<b>56</b>
<b>ESTIMATED 2024 MILLING EXPENSE (PHP)</b>	<b>16,179,871,615.23</b>