

# *Project Description for Scoping (PDS)*

## Semirara Molave Coal Expansion Project

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January 2019



**SEMIRARA  
MINING & POWER  
CORPORATION**

### SEMIRARA MINING AND POWER CORPORATION

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## PROJECT BACKGROUND

<b>Project Proponent</b>	<b>SEMIRARA MINING AND POWER CORPORATION (SMPC)</b>
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Contact Address and Numbers	<u>Mine Site:</u> Sitio Bagong Barrio, Barangay Semirara, Semirara Island, Municipality of Caluya, Antique  <u>Manila Office:</u> 2nd Flr., DMCI Plaza, 2281 Don Chino Roces Avenue Makati City +632 888-3055
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The Semirara Molave Coal Project is envisioned to simultaneously operate the existing Molave and Narra (East Panian) pits while implementing the accelerated rehabilitation activities for the mined out Panian pit. The proposed expansion area is in the Molave and Narra pits located northwest and east of the panian pit respectively.

The Environmental Compliance Certificate (ECC) for the Panian Mine (ECC Ref. Code 9805-009-302) issued on August 12, 1999 stipulated an annual production capacity of 1.7 million metric tons (MT). An amendment for an increase in annual production capacity to 2.7 million MT was applied for by SMPC and was duly approved on May 31, 2002. A subsequent application for an increase to 4 million MT annual production capacity as applied for and approved by the DENR Secretary on May 26, 2005. On May 27, 2009 the ECC (Ref. Code 9805-009-302A) for the East Panian Expansion Project was issued by DENR increasing the total annual production capacity to 8 million MT.

In 2015, SMPC applied for an ECC amendment to expand its operations by opening a new mine pit called the "Molave Pit" with an estimated resource of 38 MMT. The annual coal production was proposed to be increased from 8 MMT to 12 MMT. The expansion project was named as Semirara Molave Coal Project which includes the simultaneous operation of the Panian, Narra (East Panian) and the new Molave pit. On April The ECC application for the Semirara Molave Coal Project covers an annual production capacity of 12 million MT. The ECC for the Semirara Molave Coal Project (Ref. Code ECC-CO-1601-0005) was issued last February 12, 2016. An amended ECC was consequently issued which allows a larger total annual production rate of coal of 16 million metric tons; expands the area of the Molave Pit at West Panian from 300 hectares to 400 hectares; the number of housing units the company is permitted to build from 700 to 1,100; and increases reservoir



capacity to 10 million cubic meters from 8.98 million cubic meters. An amendment to the Coal Operating Contract (COC) No. 5 of SMPC was also issued by the Department of Energy (DOE) last August 06, 2018 (Refer to Annex A).

## 1.1. PROJECT RATIONALE

### NATIONAL ECONOMIC DEVELOPMENT

As part of the mandate of the Department of Energy (DOE), created under Republic Act 7638; the Philippine Energy Plan (PEP) was conceived and prepared for the period 1996 to 2025. The PEP was constituted to address the upsurge in economic growth and energy requirements. The plan intends to ensure the following:

- Sustain the momentum of indigenous energy resources and assure self-sufficiency and energy security of the country
- Promote fuel substitution and diversification in power generation. Diversification of indigenous power generation will decrease dependency on oil-based power generation and decreasing operating costs and improving reliability of power supply for the country.

In line with the PEP objectives, several new coal power plants have been initiated in the Philippines. The project shall supply fuel coal to the CALACA 2x300MW power plant with estimated 1.6 to 2.2 million metric tons per year consumption of Semirara coal as stipulated in the Coal Supply Agreement. Aside from the power sector, other industries like cement manufacturers are also shifting to coal, given the volatile costs of diesel or bunker fuel.

### REGIONAL AND LOCAL ECONOMIC & SOCIAL DEVELOPMENT

At the local level, the Project will continue to provide employment opportunities to the residents of the Island. The Project directly or indirectly contributes additional income to the three barangays (Semirara, Alegria and Tinogboc) within the island and also to the municipal (Caluya) and provincial (Antique) government. The accrued direct benefits are taxes and employment, the improvement and development of local infrastructure, and the provision of basic services such as subsidized electricity. Indirect benefits include enhancement of economic activities in the area (big and small scale businesses).

## 1.2. PROJECT ALTERNATIVES

### SITING

No other sites were considered for the expansion project. The Molave and Narra Pits expansion is site specific as coal extraction can only be undertaken in areas where economic coal deposits occur. Unlike other natural resources, there is no opportunity to consider other alternative sites in mineral development and utilization projects. Widening of the sea barrier is also needed for safer mining operation and better control of sea water seepage. Also, this will also provide access to SMPC to conduct confirmatory and exploratory drills within the surrounding areas.

## TECHNOLOGY SELECTION

The current mining method of “Open Pit” using Excavators matched with 100-Tonner Dump Trucks” shall be continued employed to the project due to the similarity of geological formation of the newly discovered deposit with the Panian and Narra mine areas. Subsequent detailed drilling within the 138-hectare most promising area of Molave Pit has confirmed a substantial coal resource suitable for open pit mining.

## RESOURCES

Coal deposits are scattered over the Philippines but the largest deposit is located in Semirara Island, Caluya, Antique making the Semirara Mining and Power Corporation the largest coal producer in the country contributing about 92% of the local coal production. The entire Semirara Island has been classified as a coal mining reservation by virtue of Proclamation 649 of 1940.

## NO PROJECT ALTERNATIVE

The no project alternative is the option of not proceeding with the proposed expansion of the project. This option would result to the continuation of the Molave and Narra pits sites’ current state. The safety and control of sea water seepage will still be managed by SMPC, however the potential additional 34 MMT estimated coal resource will not be utilized.

### 1.3. PROJECT LOCATION AND AREA

The Semirara Molave Coal Expansion Project (the Project) is located within Brgy. Semirara, Municipality of Caluya, Antique. This project is an expansion to the existing Molave and Narra pits of SMPC. Thus, the Semirara Molave Coal Expansion Project includes the mined out Panian pit and the Narra and Molave pits coal mine operations.

The proposed expansion area is located at the north northwestern part of Semirara Island. The Project expansion area is covered by the amended Coal Operating Contract (COC) No. 5 within coal blocks No. 28-G-214, -215, -254, -255, -256, -257, -295, -296, -297, -335, -336, -337 and 376 (**Figure 1**) of Sheet No. XI-10 with geographic coordinates indicated in **Table 1**. **Figure 2** presents the location of the project relative to the other islands of Caluya, province of Antique and the neighboring provinces of Mindoro.

The area bound by the geographic coordinates of COC No. 5 for Semirara Island (Project Area) includes both coastal and land areas. The total area covered by the amended COC No. 5, including the coastal areas is 13,000 hectares (a total of 13 COC blocks with 1,000 hectares per block).

**Table 1: Amended Geographic Coordinates of COC No. 5**

Corner	North latitude	East longitude
1	12° 10' 00" N	121° 19' 30" E
2	12° 10' 00" N	121° 22' 30" E
3	12° 08' 00" N	121° 22' 30" E
4	12° 08' 00" N	121° 25' 30" E
5	12° 02' 00" N	121° 25' 30" E
6	12° 02' 00" N	121° 24' 00" E
7	12° 00' 00" N	121° 24' 00" E

Corner	North latitude	East longitude
8	12° 00' 00" N	121° 22' 30" E
9	12° 02' 00" N	121° 22' 30" E
10	12° 02' 00" N	121° 21' 00" E
11	12° 06' 00" N	121° 21' 00" E
12	12° 06' 00" N	121° 19' 30" E

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#### SITE ACCESSIBILITY

Semirara Island may be accessed by taking an airplane trip or bus trips via Batangas to the Municipality of San Jose, Mindoro Occidental located at the southern tip of Mindoro Island. Daily boat trips ferry passengers to and from Semirara Island from the town of San Jose. The boats have a capacity of 6-10 tons and travel time is more or less three (3) hours depending on the sea and weather conditions.

The company also charters planes from Royal Star Aviation to service guests and employees to and from Manila. Manila-Semirara flights are usually scheduled on Mondays, Wednesdays and Fridays while Semirara-Manila flights are scheduled on Tuesdays, Wednesdays and Sundays.

Once in Semirara, company vehicles ferry passengers from the airstrip to various destinations via the existing road network. Outside the project area, tricycles are also available for hire to go around the island.



*Semirara Mining and Power Corporation*

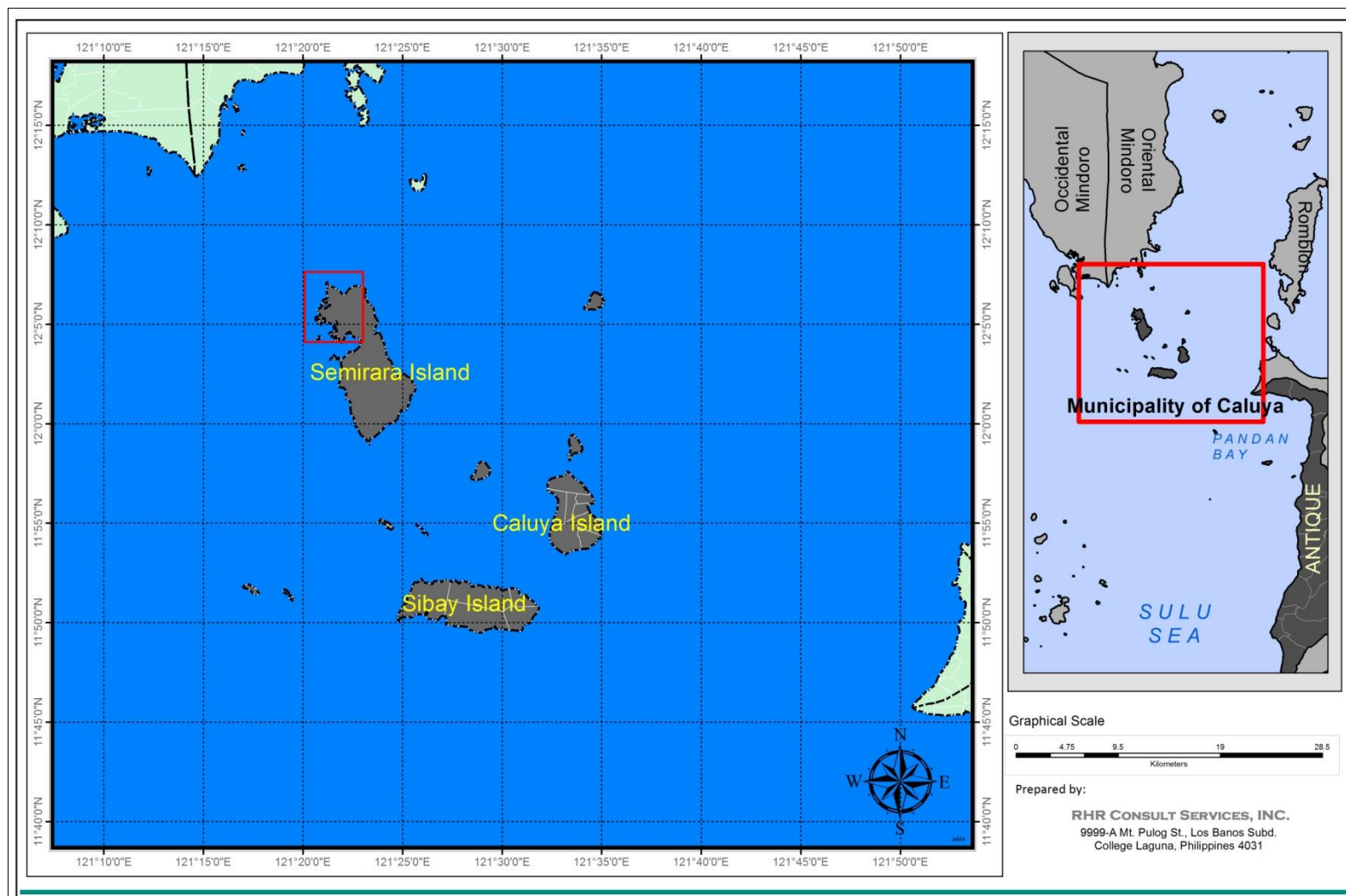


Figure 2: Project Location Map

## 1.4. PROJECT COMPONENTS

Project major components are summarized in the table below. Major amendment is the increase of the total mining complex area from 3,369.25 hectares to 4,369.25 hectares.

Table 2: Major Components

MAJOR COMPONENTS		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Mine Pit	Combined annual capacity = 16 MMT	No changes
	<u>Molave Open Pit</u> Status: Active <ul style="list-style-type: none"> <li>Total Pit Area = 400 ha</li> <li>Ultimate Pit depth = 300 mbsl</li> <li>Resource = 76 MMT</li> <li>Mineable Reserve = 68.5 MMT</li> <li>West Dike</li> </ul>	<u>Molave Open Pit</u> Status: Active <ul style="list-style-type: none"> <li>Total Pit Area = <b>680 has</b></li> <li>Ultimate Pit depth = <b>350 mbsl</b></li> <li>Resource = <b>120 MMT</b></li> <li>Reserve = <b>91MMT</b></li> </ul>
	<u>Panian Open Pit</u> Status: South Panian Accelerated Rehabilitation Backfilling & Planting of trees	No changes. Continue Accelerated Rehabilitation Backfilling & Planting of trees
	<u>Narra Open Pit ("East Panian")</u> Status: Active <ul style="list-style-type: none"> <li>Total Pit Area = 400 ha</li> <li>Ultimate Pit depth = 300 mbsl</li> <li>Resource = 72.7 MMT</li> <li>Estimated Reserve = 58.2 MMT</li> <li>East Dike Extension</li> </ul>	<u>Narra Open Pit ("East Panian")</u> Status: Active <ul style="list-style-type: none"> <li>Total Pit Area = <b>550 has</b></li> <li>Ultimate Pit depth = <b>350 mbsl</b></li> <li>Resource = 72.7 MMT</li> </ul> Reserve = <b>69.7 MMT</b>
	Mining Complex = <b>3,369.25 hectares</b> Pit area 3pits = <b>1,200.00 hectares</b> (Panian Narra & Molave)	Add'l Mining Complex = <b>1,000 hectares</b> Add'l Pit Area = <b>430 hectares</b>  Total Mining Complex = <b>4,369.25 hectares</b> Total Pit Area = <b>1,630.00 hectares</b> (Panian Narra & Molave)  Mining Complex expansion is due to: <ul style="list-style-type: none"> <li>widening of sea barrier for safer mining operation and better control of sea water seepage.</li> <li>increase in pit area by 1,630 Has</li> <li>increase in coal reserve by 34 MMT</li> <li>Confirmatory &amp; exploratory drills</li> </ul>
Coal Auxiliary Stockpile	Panian Auxiliary stockpile with a capacity of 2.5 MMT (Area 16Has.)	To be relocated once conveyor lines are shifted toward Panian pit.
	Puntod Auxiliary Stockpile with coal capacity of 1.3 MMT	To be relocated once conveyor lines are shifted toward Panian pit.



MAJOR COMPONENTS		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Coal Washing Plant (CWP)	600 MT/hr located at Panian	No changes. Shared facility
Coal Conveyance System	<p>Conveyor system: Line 1 &amp; 2 from Panian Auxiliary Stockpile to CBS with 4 BWEs &amp; 2 stackers Belt Width =1.4m Belt Length = 12.5 kms</p> <p>Proposed Line1 &amp; Line2 rear extension toward Panian Pit area (Molave Auxiliary stockpile). Line1 Extension=1.8km, Line2 Extension =2.3km.</p> <p>Total belt length (Existing +Ext'n) = 16.6 km</p>	No changes. Shared facility
Loading Pier	<p>Dapdap Pier major components: 3 Shiploaders 4 Reclaimers 11.87km conveyor lines Set of crushers, sampling units and water spraying system</p>	No changes. Shared facility
	Dapdap Wharf, East dike wharf	
Coal Blending Stockpile (CBS)	<p>Capacity = 140,000.00 MT Area = 7 hectares</p> <p>Major components: 2 stackers Coal Shed Product, Mechanical &amp; Electrical Office Sampling shack Electrical Main Station Coal Silo 1 and 2 for Power Plants</p>	No changes. Shared facility

## SUPPORT FACILITIES

The matrix below summarizes the proposed enhancement/expansion of the support facilities of the Project.

**Table 3: Project Support Facilities**

SUPPORT FACILITIES		
Project Component / Aspect	Description / Specifications	
	Existing / Approved	Proposed Modification / Expansion
Water Supply	<p>Desalination Plant:</p> <p>7,000 cu.m/day existing capacity out of</p>	Add'l capacity of 4,000 cu.m/day

SUPPORT FACILITIES		
Project Component / Aspect	Description / Specifications	
	Existing / Approved	Proposed Modification / Expansion
	the approved 10,000 cum/day	Total Desalination plant capacity (approved +Add'l) = <b>14,000 cu.m/day</b>
	<ul style="list-style-type: none"> <li>▪ <b>Reservoirs:</b> Sanglay 1&amp; 2, Himalian, Binaroto</li> <li>▪ <b>Springs/Deepwells:</b> Bunlao Spring, Panian DeepWells and fresh water (FW#4) at spring</li> <li>▪ Water Filtration Facilities</li> <li>▪ Water Tanks at Wild B (Total 15.5 Million Capacity)</li> </ul>	No changes
Power Supply	Generator set <ul style="list-style-type: none"> <li>▪ Mirrlees 1x 4.2 MW</li> <li>▪ Wartsila 1x5.7 MW</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Wartsila 3x6.3MW = 18.9 MW</b></li> </ul>
	Coal Fired <ul style="list-style-type: none"> <li>▪ 2x7.5 MW Stoker type.</li> <li>▪ 1 x 15MW CFBC (1<sup>st</sup> unit)</li> </ul> <p>The second unit 1x15MW CFBC shall be built to supply power for the growing demand of electricity. This is covered by existing ECC for a 30 MW-capacity CFBC power plant.</p> <p>Total Projected Capacity (Coal-fired): 45MW</p>	<ul style="list-style-type: none"> <li>▪ <b>Recondition existing 2x7.5 MW</b></li> </ul>
Pit Shop	<ul style="list-style-type: none"> <li>▪ Pitshop at Narra Pit</li> <li>▪ Pitshop at Molave Pit</li> </ul>	<b>To be relocated as the need arises within the mining complex area.</b>
Housing	<ul style="list-style-type: none"> <li>▪ 300 housing units (Panian,Narra)</li> <li>▪ 400 housing units (Molave)</li> <li>▪ 400 housing units (Molave Expansion)</li> </ul> <p>Total Housing Units = 1100</p>	<p><b>Construct add'l 500 housing units to cater increase in manpower.</b></p> <p><b>Total Housing Unit = (Existing/approved + Additional) = (1100+500) = 1600</b></p>
Laboratory	<ul style="list-style-type: none"> <li>▪ Coal analysis</li> <li>▪ Oil, fuel, soil, CaO &amp; H<sub>2</sub>O analysis</li> </ul> <p>Upgrading of facilities to accommodate increase in Coal, Oil, Fuel, Soil, CaO &amp; H<sub>2</sub>O samples</p>	No changes
	<ul style="list-style-type: none"> <li>▪ Geotechnical Laboratory and core sampling facility</li> </ul>	No changes
Main Work Shop (MWS)	<ul style="list-style-type: none"> <li>▪ Tire Shop</li> <li>▪ Admin and HRD Bldg.</li> <li>▪ Warehouse &amp; Extension</li> </ul>	No changes
Plants	<ul style="list-style-type: none"> <li>▪ Oxy-ace Plant</li> <li>▪ Batching Plant/Aggregate Stockpiles/Culvert fabrication</li> <li>▪ Proposed Cement Plant with approved ECC</li> </ul>	No changes



SUPPORT FACILITIES		
Project Component / Aspect	Description / Specifications	
	Existing / Approved	Proposed Modification / Expansion
Infrastructures and other facilities	Other Supports (Mining, Shipping and Environment) <ul style="list-style-type: none"> <li>Hazmat</li> <li>Marine Hatchery and Laboratories</li> <li>Aviary</li> <li>Siltation Ponds and pocket sumps</li> <li>Fuel Farm</li> <li>Fabrication Area/Sandblasting Facilities, Gantry, Shipping office</li> <li>Slipway/Drydocks, and Ship Building</li> <li>Pottery</li> <li>Humic Acid Plant</li> <li>Limestone Crush and Lime plant</li> <li>Dynamite Magazine</li> <li>Cell Site Towers</li> <li>Pinagpala Pier</li> </ul>	<ul style="list-style-type: none"> <li>Pottery and other facilities to be relocated as the need arises</li> </ul>
	Community Supports <ul style="list-style-type: none"> <li>Divine Word School of Semirara Island Incorporated</li> <li>Semirara Training Center</li> <li>K-12 school bldg.</li> <li>Community Pier</li> <li>Ice Plant</li> </ul>	<ul style="list-style-type: none"> <li>To be relocated &amp; expanded as the need arises</li> </ul>
	<ul style="list-style-type: none"> <li>Sewerage Treatment Plant</li> <li>Hospital</li> <li>Sports Complex @ 42 has</li> <li>Air strip and Hangar @ 23 has</li> <li>Semirara Market, Bus Terminal, Churches, Foodcourt and Mess hall/Plaza</li> <li>Multi-purpose gyms</li> <li>Library</li> </ul>	No changes



## 1.5. PROCESS/TECHNOLOGY

There are no changes to the current mining method of “Open Pit using Excavators matched with 100-Tonner Dump Trucks” being employed to the Molave and Narra Pits due to the similarity of geological formation.

The production flow of the project is illustrated in **Figure 5**.

### MINE DESIGN PARAMETERS

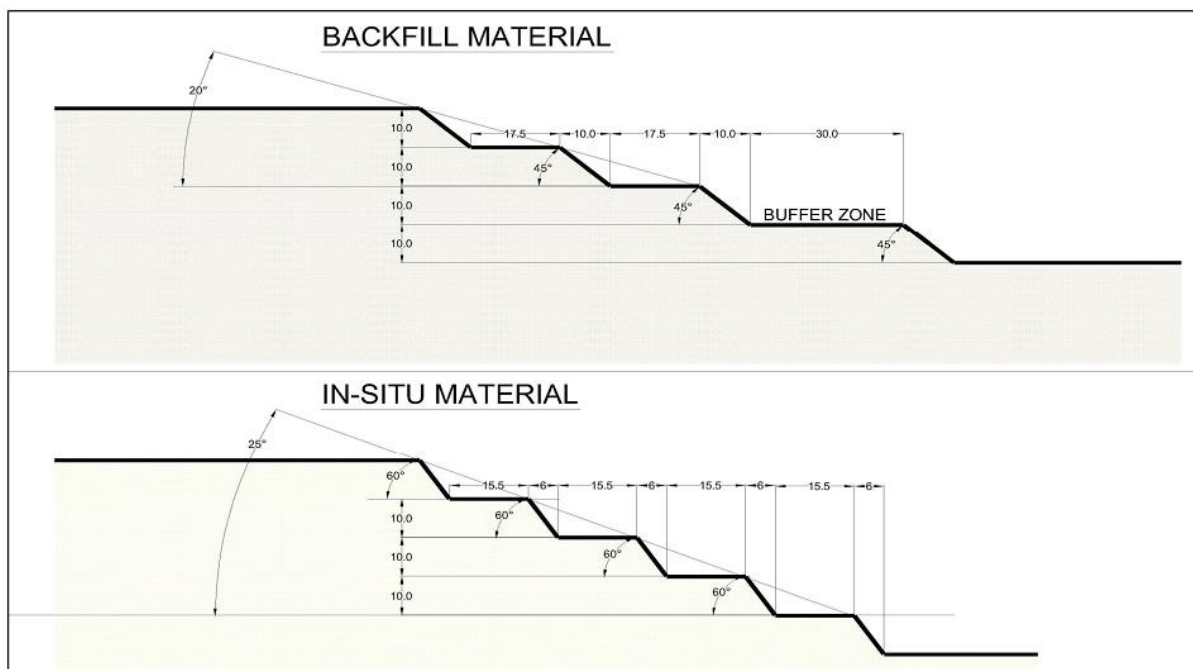
The similarity of geological formation of the newly discovered deposit's with the Panian, Bobog; and adaptation of the same mining method “Open Pit using Excavators matched with 100-Tonner Dump Trucks,” basically, the mining parameters to be employed is the same with that of the existing ones. These are:

#### OVERALL SLOPE

Several studies had been conducted by different rock engineering consultants to determine the overall slopes of the existing and proposed pit in the island and came up with a maximum slope of 39 degrees. However with the latest study done by Geotecnica Consultants on Panian pit after the July 2015 incident, they recommended to place a maximum of 25 degrees overall pit slope for in-situ while maximum 20 degrees pit slope for backfill materials, which shall be adopted for all mining operations of the Semirara Molave Coal Project.

#### WORKING BENCHES

Bench slope shall have maximum of 60 degrees slope for in-situ while maximum 45 degrees slope for backfill materials, this shall be adopted for all mining operations of the Semirara Molave Coal Project. The figure below presents the new slope parameters to be adopted by the Semirara Molave Coal Project.



**Figure 4: Geometry Incorporating New Slope Parameters**

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## HAUL ROADS

In the same way as Panian, ramp design for Molave pit is essentially the same having a width of 30 meters and with a maximum slope of 10 degrees.

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## SURFACE DEWATERING & DRAINAGE SYSTEM

As usual, drainage canals are directed toward the shore passing through a settling pond similar to the discharge of surface dewatering pumps. It is expected that phase of excavation “pushbacks” will be faster compared to the present capacity, hence, catchment area for rain water become bigger. With this condition, there is also a need to enhance the dewatering system such as pumps, motors, pontoon, pipeline and other accessories.

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## SLOPE STABILIZATION MEASURES

Slope stabilization programs play a major role in the safety & productivity mine. The program focuses on the identification, control measures and monitoring of potential hazard associated with the pit walls.

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## CUT-OFF WALLS

This wall consists of a trench outside the pit limit cutting through the coral layer and filled with impervious material (clay) in order to block the entry of sea water. This shall continue to be implemented during project expansion.

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### ES.4.2.2 SUB-SURFACE DEWATERING WELLS

Deep dewatering wells (DWs) are installed in a ring around the open pit excavations to lower the water level and maintain a safe, dry site. Dewatering wells are driven up to 200 meters in depth. Drilling a pilot hole of 9 & 7/8 inch tricone-type rock bit to have diameter hole of about 200 mm for the slotted PVC casing and a final of 14 & 3/4 inch reaming borehole is conducted.

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### ES.4.2.3 PIEZOMETERS (PZS)

Water levels in the piezometer are measured with a water level indicator. The water level indicator consists of a probe, a graduated cable or tape, and a cable reel with built-in electronics. The probe is lowered down the standpipe until it makes contact with water. This is signaled by a light and a buzzer built into the cable reel. The depth-to-water reading is taken from the cable or tape.

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### ES.4.2.4 SLOPE & CRACK MONITORING SYSTEM

In the last quarter of 2013, the company acquired a Robotic Total Station (RTS), a theodolite to monitor movements of walls in an hourly basis with the aid of prisms installed strategically on pit walls. This system will be maintained in Panian not only after its production period but as well as during the backfilling of the pit. It will be removed only, once the pit gets stable. The same process will be undertaken on Narra pit (East Panian) as initially planned.

To enhance slope monitoring, SMPC implemented a Stability Radar (SSR) with the aim of (1) monitoring the movement of slopes especially in open pit mines, (2) give an alarm of impending accelerated slope movement



prior to slope failure, and (3) improve mine planning and design. This system shall be continued and implemented for the Semirara Molave Coal Project.

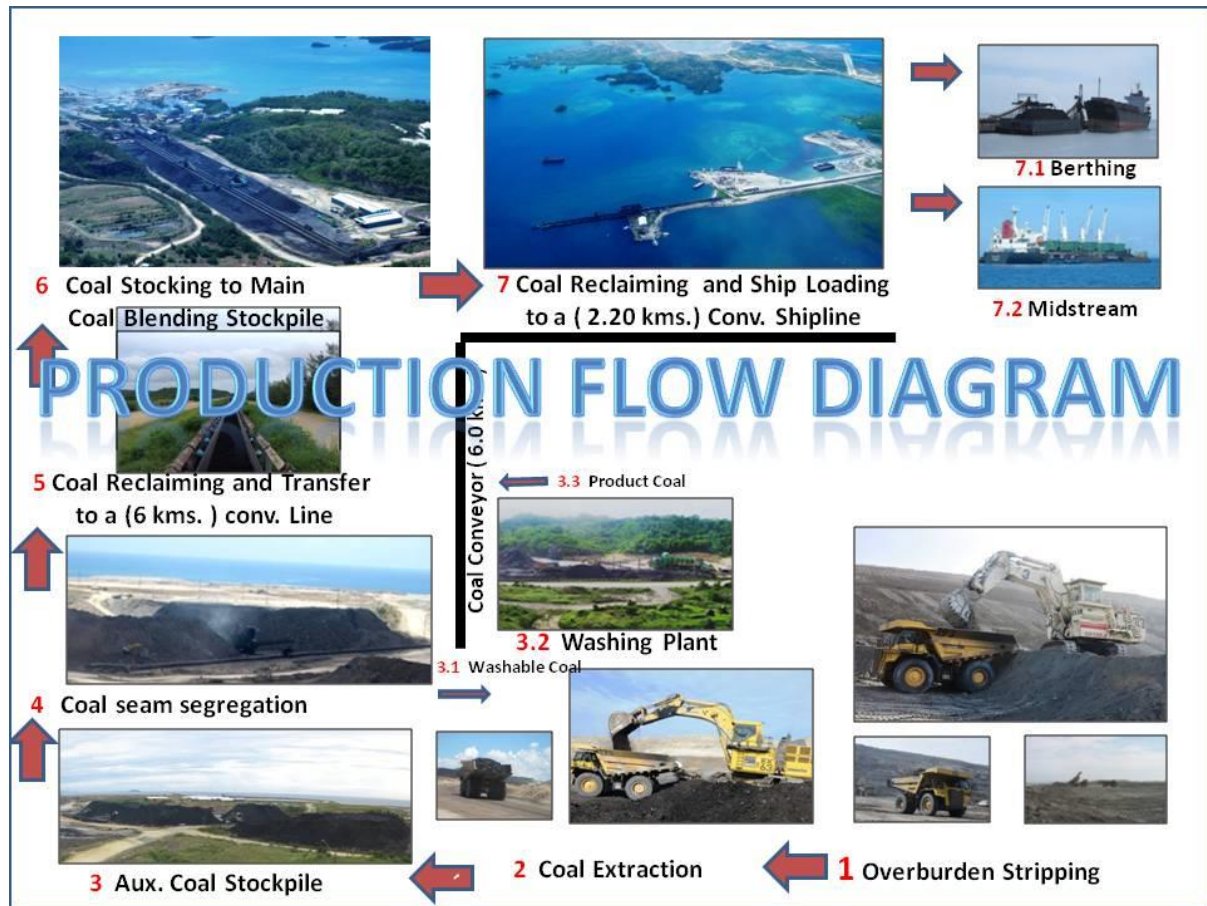


Figure 5. Production Flow Diagram

## 1.6. PROJECT SIZE

The five-year combined production target for Molave and Narra Pit will be at 14 Million MT for the first two years (2018-2019) and will increase to 16 Million MT in the succeeding years (2020-2022). In SMPC's previous Work Program 2018-2022 submission, SMPC was slated to produce 16MMT beginning 2018, however, due to the directive of the DOE to rehabilitate the southern portion of Panian, SMPC has redirected its equipment towards the accelerated backfilling of South Panian. Presented below is the 5-year (2018-2022) production forecast of SMPC.

## FIVE YEAR PRODUCTION FORECAST (2018-2022)

Period Year	Molave				Narra				Combined Total			
	Total Material (bcm)	Overburden (bcm)	Total Coal (mt)	Strip Ratio	Total Material (bcm)	Overburden (bcm)	Total Coal (mt)	Strip Ratio	Total Material (bcm)	Overburden (bcm)	Total Coal (mt)	Strip Ratio
<b>2018</b>	142,722,458	134,672,466	11,269,989	11.95	27,205,044	25,090,028	2,961,022	8.47	169,927,501	159,762,493	14,231,011	11.23
<b>2019</b>	148,351,544	140,430,481	11,089,489	12.66	30,244,764	28,117,696	2,977,896	9.44	178,596,308	168,548,177	14,067,385	11.98
<b>2020</b>	127,809,752	118,881,180	12,500,000	9.51	46,874,426	44,374,426	3,500,000	12.68	174,684,177	163,255,606	16,000,000	10.20
<b>2021</b>	110,712,551	102,855,408	11,000,000	9.35	66,108,012	62,536,584	5,000,000	12.51	176,820,564	165,391,992	16,000,000	10.34
<b>2022</b>	111,608,940	103,966,083	10,700,000	9.72	68,086,264	64,300,550	5,300,000	12.13	179,695,204	168,266,633	16,000,000	10.52
<b>Total</b>	641,205,245	600,805,618	56,559,478	10.62	238,518,510	224,419,283	19,738,918	11.37	879,723,755	825,224,901	76,298,396	10.82

### 1.7. MANPOWER

Manpower requirement per year is presented below.

**Table 4: Manpower Requirement**

	MANPOWER					
	2017	2018	2019	2020	2021	2022
Accounting	15	15	15	15	15	15
Admin Division	36	42	42	48	48	48
Analytical Laboratory	20	23	23	27	27	27
Civil Works Department	82	96	96	109	109	109
Electrical	99	116	116	132	132	132
Geology	329	384	384	439	439	439
Human Resource	16	16	16	16	16	16
TTSP	4	4	4	4	4	4
Internal Audit	39	39	39	39	39	39
Security	110	128	128	147	147	147
Materials Control	93	109	109	124	124	124
Mechanical Services	241	281	281	321	321	321
Mine Planning and Engineering	25	27	29	30	33	33
Mine Truck and Shovel Operation	936	1,025	1,100	1,123	1,217	1,217
Mobile Maintenance	448	491	526	538	582	582
Power Plant	123	144	144	164	164	164
Product	110	128	128	147	147	147
Resident Manager's Office	9	9	9	9	9	9

	MANPOWER					
	2017	2018	2019	2020	2021	2022
Safety	59	69	69	79	79	79
Shipping	54	63	63	72	72	72
<b>TOTAL</b>	<b>2,848</b>	<b>3,208</b>	<b>3,321</b>	<b>3,582</b>	<b>3,723</b>	<b>3,723</b>

AERIAL PHOTOGRAPHS









## **ANNEX A : AMENDED COAL OPERATING CONTRACT (COC)**





Republic of the Philippines  
**DEPARTMENT OF ENERGY**  
(Kagawaran ng Enerhiya)

SEMIRARA MINING AND POWER CORPORATION

**RECEIVED**  
AUG 06 2018

LEGAL DEPARTMENT  
TIME \_\_\_\_\_ SIGN *Chen*

06 August 2018

**MR. VICTOR A. CONSUNJI**

President and CEO  
Semirara Mining and Power Corporation (SMPC)  
2/F DMCI Plaza, Don Chino Roces Avenue Ext.  
Makati City

Dear **Mr. Consunji**:

We are pleased to transmit the copy of the 2018 Amendment to Coal Operating Contract (COC) No. 5 and its Annexes (Technical Description and COC No. 5 Map) approved by Secretary Alfonso G. Cusi on 03 August 2018.

Please acknowledge receipt hereof. Thank you.

Very truly yours,

*Melita V. Obillo*  
**MELITA V. OBILLO**

OIC-Director  
Energy Resource and Development Bureau

Cc: **Nelly M. Zabala**  
DOE Records Management Division



## 2018 AMENDMENT TO COAL OPERATING CONTRACT NO. 5

### KNOW ALL MEN BY THIS PRESENT:

This 2018 Amendment to Coal Operating Contract (COC) No. 5, is made and entered into this 30<sup>th</sup> day of August, 2018, in Taguig City, Philippines, by and between:

The **GOVERNMENT OF THE REPUBLIC OF THE PHILIPPINES**, hereinafter referred to as "Government" represented in this Amendment Contract by the **DEPARTMENT OF ENERGY (DOE)** with principal office at Energy Center, Rizal Drive, Bonifacio Global City, Taguig City, through its Secretary, **ALFONSO G. CUSI**, hereinafter referred to as the "**DEPARTMENT**";

- and -

**SEMIRARA MINING AND POWER CORPORATION**, a corporation organized and existing under the laws of the Republic of the Philippines with principal address at 2/F DMCI Plaza, Don Chino Roces Avenue Extension, Makati City, represented by its President, **VICTOR A. CONSUNJI**, hereinafter referred to as the "**OPERATOR**".

The DEPARTMENT and the OPERATOR are hereinafter referred to individually as "Party" and collectively as "Parties."

WITNESSETH: That

WHEREAS, on November 12, 2009, COC No. 5 was amended in order to expand its original area by including the onshore portions of the islands of Caluya and Sibay, Municipality of Caluya, Province of Antique;

WHEREAS, on December 27, 2016 and February 2, 2017, the OPERATOR requested for the amendment of its contract area to optimize the development and production of coal resources in Semirara Island ;

WHEREAS, on May 08, 2017, the DOE Audit Team recommended the approval of the amendment of COC No. 5 contract area subject to certain conditions, which recommendation was approved by the Secretary;

WHEREAS, the above-mentioned conditions, consistent with existing laws and the 1987 Philippine Constitution, have been substantially complied with as follows, to wit:

1. Relinquishment of the islands of Caluya and Sibay under the amended Contract Area to follow the blocking system that will include all existing and future mining operations pursuant to Department Order No. DO2014-08-0017 that will optimize the development and production of coal resources in Semirara Island;
2. Submission of amended 5-year Work Program and Budget, which includes the accelerated rehabilitation of the Southern Portion of the Panian Mine, for the optimization of development and production to meet growing domestic demand; ✓



3. Full settlement of the arrears on government shares including interests and surcharges pursuant to the existing accounting procedures;
4. Submission of the Social Development Program;
5. Establishment or posting of performance guarantee bond;
6. Conformity and compliance by the OPERATOR with the existing Accounting Procedures under Department Circular No. DC2017-09-0010 consistent with this contract and with the existing rules and regulations issued by the DEPARTMENT including payment of penalties for unpaid financial and other obligations;
7. Establishment of DOE Project Management Office in the mining site and conduct of regular audits and conferences between the OPERATOR and DEPARTMENT's representatives; and,
8. Regular conduct of boundary survey to monitor the mining site development and expansion.

WHEREAS, the amendment of the COC No. 5 contract area is in accordance with Department Order No. DO2014-08-0017;

NOW, THEREFORE, in view of the foregoing premises, the Parties stipulate and agree as follows:

Section 1. Section 2.1 of COC No. 5, as amended, is hereby further amended to read as follows:

2.1 Coal Contract Area means at any time the area subject of this Contract and defined in conformity with the blocking system established in the Act consisting of thirteen coal blocks as determined by the DEPARTMENT to be available for coal operating contract identified as *Coal Block (CB) Nos. 28-G-214, -215, -254, -255, -256, -257, -295, -296, -297, -335, -336, -337, and -376.*

The abovementioned Contract Area is outlined and more particularly described in a map attached as *Annex "A"* hereof.

Section 2. All applicable laws, rules and regulations as may be issued by the DEPARTMENT shall be considered as forming part of the provisions of Coal Operating Contract No. 5 and its amendments.

Section 3. All other provisions of Coal Operating Contract No. 5 and its amendments not inconsistent herewith shall remain in full force and effect.

**IN WITNESS WHEREOF**, the Parties have executed this 2018 Amendment of Coal Operating Contract No. 5 in the City of Taguig, Metro Manila, Philippines on the date indicated above.

DEPARTMENT OF ENERGY

SEMIRARA MINING AND POWER CORPORATION

By:

ALFONSO G. CUSI  
Secretary

By:

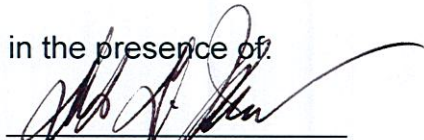
VICTOR A. CONSUNJI  
President and Chief Operating Officer




AUG 03 2018



Signed in the presence of:

  
Witness

  
Witness

### ACKNOWLEDGMENT

REPUBLIC OF THE PHILIPPINES }  
METRO MANILA } S. S.

AUG 06 2018

BEFORE ME, a Notary Public for and in the City of Manila, this \_\_\_\_ th day  
of \_\_\_\_\_, 2018, personally appeared:

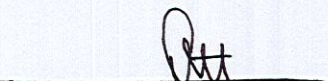
Name	Passport No./Driver's License No.	Place Issued	Valid Until
Alfonso G. Cusi	EC1383530	DFA, Manila	10 June 2019
Victor A. Consunji	POO 14627A	DFA, MANILA	21 Aug 2021

known to be the same persons described in the foregoing instrument, who acknowledged before me that their signatures on the instrument were voluntarily affixed by them for the purposes stated therein, and who declared to me that they executed the instrument as their free and voluntary act and deed as well as the free and voluntary act and deed of the corporation herein represented.

This instrument consisting of three (3) pages, including the page on which the acknowledgment is written, is signed on each and every page thereof by the parties and their instrumental witnesses and sealed with my notarial seal.

WITNESS MY HAND AND SEAL on the date and at the place first above-written.

Doc. No. 802 ;  
Page No. 12 ;  
Book No. 71 ;  
Series of 2018.

  
ATTY. SIDRO V. ALMENTEROS  
NOTARY PUBLIC  
Until December 31, 2018  
1626 Estrada Street, San Andres Bukid, Manila  
IBP OR No. 1022345 / MLA / October 25, 2016  
(Cover Calendar Years 2017 and 2018)  
PTR (2017) No. 5989208 / MLA / December 29, 201  
MCLE COMPLAINT No. V, May 4, 2015  
Attorney's Roll No. 34272

f 9

for 162 9<sup>3</sup>

for 162





Republic of the Philippines  
**DEPARTMENT OF ENERGY**

Annex "A"

**SEMIRARA MINING AND POWER CORPORATION**  
Caluya, Antique

Technical Description

A parcel of Coal Operating Contract area being described as follows:

<u>Corner</u>	<u>Latitude</u>	<u>Longitude</u>
1	12° 10' 00" N	121° 19' 30" E
2	12° 10' 00" N	121° 22' 30" E
3	12° 08' 00" N	121° 22' 30" E
4	12° 08' 00" N	121° 25' 30" E
5	12° 02' 00" N	121° 25' 30" E
6	12° 02' 00" N	121° 24' 00" E
7	12° 00' 00" N	121° 24' 00" E
8	12° 00' 00" N	121° 22' 30" E
9	12° 02' 00" N	121° 22' 30" E
10	12° 02' 00" N	121° 21' 00" E
11	12° 06' 00" N	121° 21' 00" E
12	12° 06' 00" N	121° 19' 30" E

Situated in the municipality of Caluya, province of Antique.

Bounded on all sides by free areas.

More particularly described on Sheet No. XI-10 as blocks 28-G-214, 28-G-215, 28-G-254, 28-G-255, 28-G-256, 28-G-257, 28-G-295, 28-G-296, 28-G-297, 28-G-335, 28-G-336, 28-G-337 and 28-G-376 of the DOE coal blocking system.

Containing an area of **THIRTEEN THOUSAND (13,000) HECTARES**, more or less.

Subject to the provisions of PD 972, as amended, and BED Circular No. 81-11-10.

Prepared by:

*Raul Calup Drapete*  
**Raul Calup Drapete**  
Geodetic Engineer

PRC Reg. No.: 7178 Date: Dec. 7, 2005  
PTR No.: A-3783290 Date: Feb. 22, 2018

Validated by:  
Date :

*R. S. Añano / A. A. Policarpio*  
**R. S. Añano / A. A. Policarpio**  
July 20, 2018

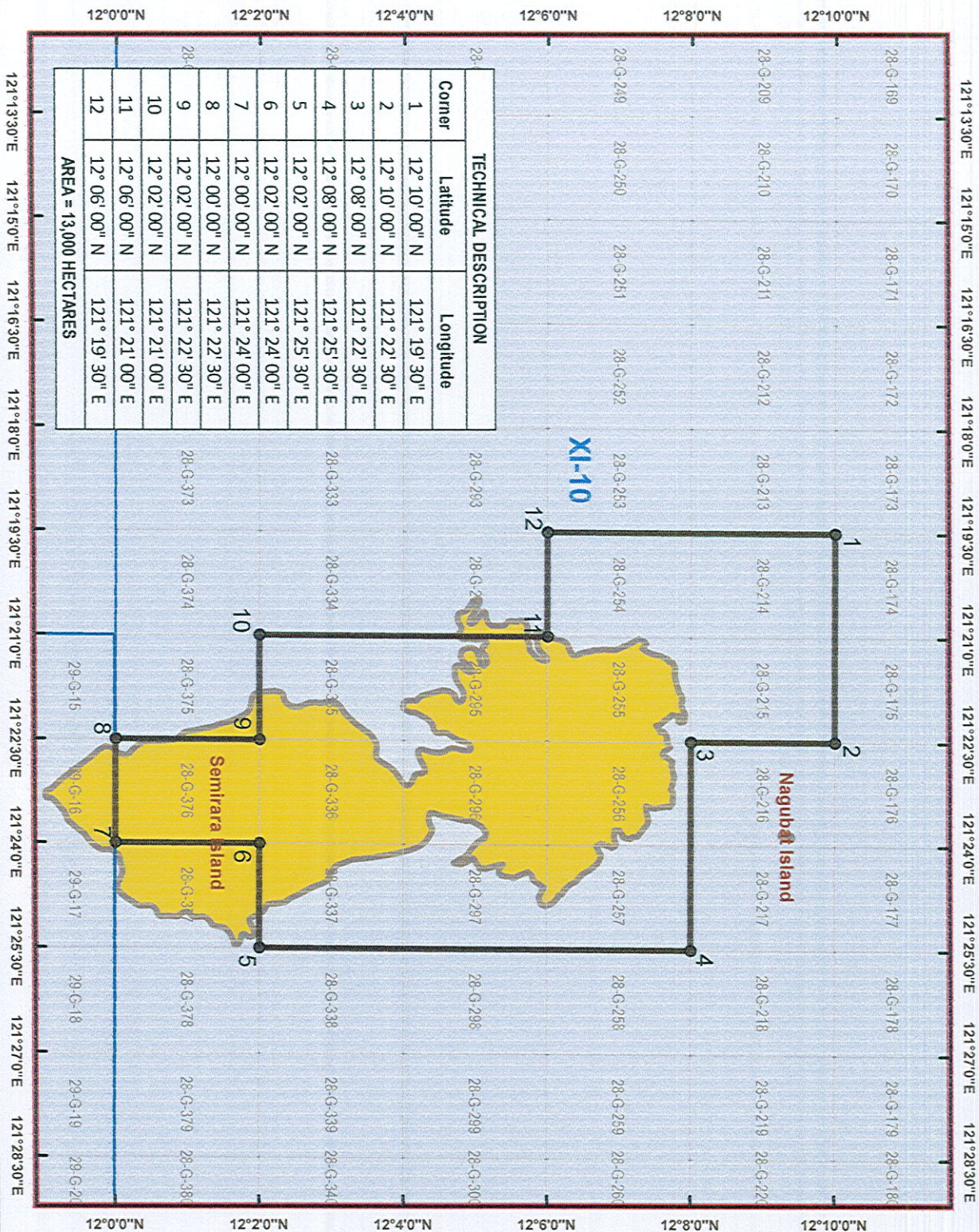
Approved by:

*Herminio A. Ariola*  
**Herminio A. Ariola, CESO IV**  
Director, ITMS

Page 1 of 2



SEMRARA MINING AND POWER CORPORATION  
AMENDED AREA OF COAL OPERATING CONTRACT NO. 5  
CALUYA, ANTIQUE



Legend

- 294 Coal Block
- XI-10 Coal Mapsheet
- Amended Area - COC No. 5
- Municipal Basemap

NOTE:  
1. Political boundaries are approximate and not authoritative and are subject to further research and validation.  
2. Protected areas, IFMA and TLO must be validated with DENR-BMB and DENR-TMB respectively.  
3. Ancestral Domain claims must be validated with NCP.

SCALE 1:150,000

0 0.45 0.9 1.3 2.7 3.6  
Kilometers



DEPARTMENT OF ENERGY Information Technology and Management Services	
PREPARED BY:	RCD
VERIFIED BY:	RSAA/AR
APPROVED BY:	HAA
DATE PREPARED:	20 JUL 2018



## **ATTACHMENT 2**

# **DOCUMENTATION OF THE CONDUCT OF IEC**

# INFORMATION EDUCATION CAMPAIGN ON THE SEMIRARA MOLAVE COAL PROJECT EPRMP AMENDMENT

SMPC FOOD COURT | November 02, 2018 | 01:30 PM – 04:30 PM

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## Minutes of the Meeting

### I. AGENDA AND PROGRAM FLOW

The IEC meeting for the EPRMP amendment of the Semirara Molave Coal Expansion Project is scheduled on November 02, 2018, 1:30 – 4:30 PM at the SMPC Food Court. The event is divided into two parts; presentation and open forum.

#### PROGRAMME

- Registration
- Invocation
- National Anthem
- Opening remarks
- Presentation of accomplished SDP and SDP Plans
- Presentation of IEC and Project Requirements
- Presentation of Amendment of Project Description of Semirara Molave Coal Project
- Open forum
- Closing Remarks
- Perception Survey

### II. PARTICIPANTS

The meeting is attended by 83 participants coming from different sectors enumerated in the required invited stakeholders in Section 5.2 of DAO 2007-15.

SECTOR		ATTENDEES
Local Government Unit	Municipality of Caluya	3
	Barangay Semirara	12
	Barangay Alegria	3
	Barangay Tinogboc	7
Housing Leaders and Officers		10
People's Organization	Women's Organization	19
	Fishermen's Organization	3
	SEMTODA	4
	Senior Citizens' Organization	7
Company		15
TOTAL		83

### III. MEETING

The meeting formally started at 2:30 PM as Engr. Janesto Diaz, Jr. requested the attendees to rise for the opening prayer and national anthem. Welcome remarks were given by SMPC Admin Manager, Vicente Cesar V. Malig, and he acknowledged all sectors present and introduced the preparers of the amended EPRMP. He also discussed the importance of the event and stated that there will be an open forum at the later part of the program.

Mr. Bernard Cadigal presented the sustainable development programs of the company for commitment to quality and safety which include improvement in the access to quality education in the island through construction of more classrooms, interactive learning system, and scholarship for technical and vocational students. He also presented the statistics of employment showing large percentage of the workforce are local hire, and finished and ongoing infrastructure projects in the island as well as projects in other places. Mr. Cadigal mentioned numerous programs on health and well-being, community safety, skills training and workshop, barangay leadership and governance, gender and development, legal resource and development, and also for environmental protection and management.

Next, Mr. Jess Addawe of RHR Consultancy Services gave a brief discussion on the Philippine Environmental Impact Statement System (PEISS) and the requirements for amending the EPRMP for Semirara Molave Coal Project.

Engr. Diaz then presented the amendment of the Molave Coal Project EPRMP starting with the proposed modification of the project and he showed the new project description (Figure 1) and shown that expansion of the mine operations is going to the north direction. He enumerated additional infrastructures and equipment to be deployed and other necessary support facilities.

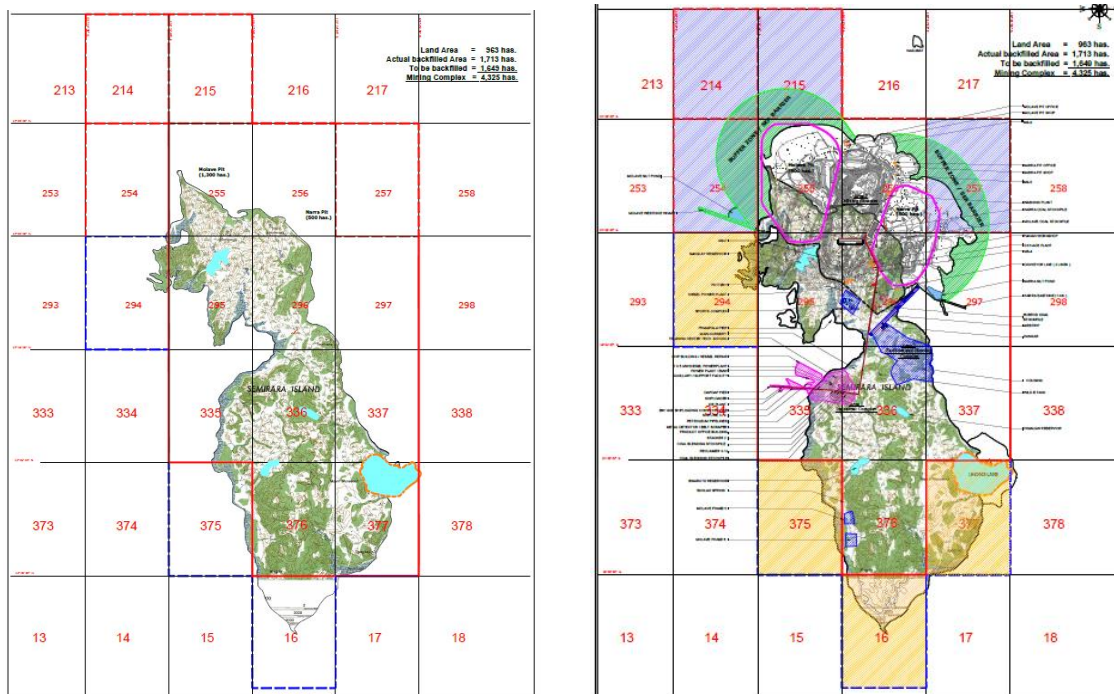


FIGURE 1. Project description of the expansion of the mine operation.

Right after, an open forum followed presided by SMPC PCO, Engr. Janesto Diaz, Jr. with Mr. Jess Adawe to answer questions on Environmental impact and Mr. Bong Cadigal for Community relation concerns. (see section IV for details). Closing remarks were given by Hon. Catherine Lim-Tahum, the Barangay Captain of Semirara and after which, perception survey forms are distributed to attendees to collect their feedback. The EIC meeting ended at 5:30 in the afternoon.

#### **IV. OPEN FORUM**

- Jimmy Panes, SEMTODA

Panes: Is the drinking water of the refilling station from the ocean?

JSD: the entire water supply used by the company including the mine site, offices and also the housing facilities is from the sea. The water we get has undergone processing in the Desalination plant and reverse osmosis in the refilling station to ensure that it is safe to drink.



- Ailyn Delos Santos, Women's Organization

Delos Santos: Why are we having muddy and brownish water from the tap every morning? Sometimes, it also have foul smell and looks rusty.

JSD: Actually, the problem is not in the Desalination plant but with our piping system. We are upgrading our pipelines because our currently used is still from SMC time. Part by part, the company is replacing the entire piping system. The water coming from the Desalination plant is sure to be safe but it will pass through the tanks in Wild B and to the distribution lines. That point is where the water becomes muddy and brownish but if we let it flow for a few minutes, it will eventually be clear. There is an established plan to replace and commission until there will be clear water flowing out of our taps. Water will be processed in order to be clean.



- Alson Tabangay, Sr., Senior Citizen's Organization

Tabangay: You have mentioned that there will be extension of the Narra towards here [Barangay Semirara], towards the airport. What could be the effects [of the expansion] to Barangay Semirara?



JSD: Here is Barangay Semirara [points at the map] and here is the Narra Pit [points at the map]. Our extension is towards the North direction which is away from the barangay. We can see that we have only mined half of the area limit for Narra. We will be mining 550 hectares to the North. We asked for the additional block here [points at block 257 at the map] to cover the North part of East Panian and build a sea barrier.

- Jimmy Aranda, Barangay Semirara

Aranda: How many hectares will the expansion be from Narra to the sea barrier?

JSD: These black lines [points at map] is where we are right now [refers to Narra pit configuration] and will be extended approximately for 500 meters. Expansion is towards North and there will be no more activity extending to this side [towards the sea]. We are just going to complete the sea barrier.



Aranda: How about that one near Molave [points at the long green structure at the West side]?

JSD: This is the West Dike, as mentioned in the presentation earlier. This will be built to shield Tabunan, Sibutong, and Villarises from silt.

- Romeo Malixi, Barangay Tinogboc

Malixi: May we know the status of this status of this project? Is this still for application or approved by the DENR already.

JSD: Still for application, Kap. This is the first step of the procedure discussed by Sir Jess a while ago for the Environmental Impact Study to be presented to DENR.



Malixi: Is this approved by the DOE?



JSD: These [points at the additional blocks] are already awarded to us by the DOE for us to build the planned sea barrier. Now we have new project boundaries as seen in this map.

Malixi: In short, we are already okay with DOE and for application with DENR. We would also like to ask what could be the benefits for Barangay Tinogboc. The last time we conducted our social development plan, the DOE became stringent and eliminated the infrastructure projects for the barangays. There is improvement with Barangay Semirara [infrastructures] but the other two barangays [Alegria and Tinogboc] are left out. How would this amendment help our barangay?

JSD: This noted Kap. We will include this in the report and also in the impact assessment by Sir Jess in his EPRMP.

- Acting Vice Mayor Belfe Duran, LGU Caluya

Duran: In the green area of expansion, will there be affected corals

Jess Addawe: this is included in the environmental impact study. First, we are going to check which areas will be affected by the project in terms of water quality and marine biodiversity. There are studies already conducted for the previous projects. Once we are done, we will be again presenting to the public the results of the study and this will be submitted to DENR for review of technical experts.



Duran: Are those blue lines [points to the maps] the project boundary? Can we extend those boundary lines to cover more areas?

JSD: Yes SB. We are awarded with 13 blocks and these are the only areas that we can use. Meaning, if there are areas outside the boundaries found to be productive we cannot mine those areas because we are already awarded with the maximum number of blocks unless we are going to let go of some blocks and apply again for other blocks.

Duran: Thank you Sir. To answer the concern of Kap Malixi, this is also the issue of almost all other barangays. We are all receiving royalty share but we cannot maximize the use because of the 20-80 ruling, where only 20% is allowed to be used for infrastructures and the other 80% is strictly for energization. That is why we cannot fully allot to infrastructure projects and also this will be divided among 17 barangays.

Duran: There has been frequent power outages especially at night. As front liners to our constituents, how should we answer their questions on the recent power failure?

JSD: Currently we have a Diesel power plant and coal fired power plant for electrical supply. As mentioned earlier, we will be commissioning another 1x15 MW power plant to aid our growing demand for electricity.

## V. PHOTO DOCUMENTATION





## **ATTACHMENT 3**

# **INITIAL PERCEPTION SURVEY AND FOCUS GROUP DISCUSSION RESULTS**

# Initial Perception Survey Report

## Molave Coal Expansion Project

An Initial Perception Survey on the Molave Coal Expansion Project was conducted in Compliance to DAO 2017-15 or the Guidelines on Public Participation under the Philippine Environmental Impact Statement System.

This activity was conducted on November 03, 2018, Saturday, for a duration of 1 Day.

The venue/s of the Survey are in the barangay hall and residences, stores and work areas in the impact Barangay in the Project. There was only one (1) Barangay selected for Sampling of the Perception Survey, namely Barangay Semirara.

The Survey Methodology used was Purposive Sampling, wherein the selection of the respondents was based on their representation of the different Sectors in their community. The other respondents randomly selected are residents, albeit ensuring that only one per household is selected, of different genders, and that ages, although limited to adults (18 years old and up) are not of a narrow range.

For this Initial Perception Survey a total number of 50 persons (Pax) were interviewed in the barangay. The survey was divided into three major components, namely (1) Socio-Demographic Profile of respondents (2) Disaster Response and (3) Perception on the proposed project.

## 1 Summary Matrix of Activity

<b>Project</b>	Molave Coal Expansion Project Pre-EIS Perception Survey
<b>Subject</b>	Molave Coal Expansion Project
<b>Objective</b>	Molave Coal Expansion Project Pre-EIS Public Participation Compliance as per DAO 2017-15 or the Guidelines on Public Participation under the Philippine Environmental Impact Statement System
<b>Activity</b>	Perception Survey
<b>Time frame/Duration</b>	<ul style="list-style-type: none"><li>• November 03, 2018</li><li>• 1 Day</li></ul>
<b>Location/s</b>	<ul style="list-style-type: none"><li>• Province of Antique</li><li>• Municipality of Caluya</li><li>• Barangay Semirara</li></ul>
<b>Methodology</b>	Purposive Sampling
<b>Respondents</b>	50 Total Pax

## 2 Profile of Respondents

### 2.1 Demographic Profile of Respondents

#### 2.1.1 Age

Most of the respondents interviewed were in the 21-30 (40%) and 41-50 (40%) age group; followed by the 31-40 age group (20%).

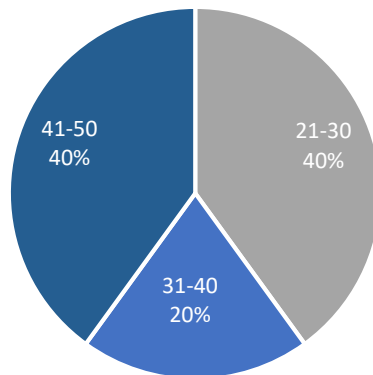


Figure 1. Age of the respondents

#### 2.1.2 Gender

The respondents were composed of 60% male and 40% female.

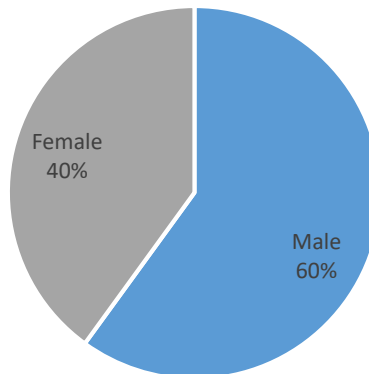


Figure 2. Gender of the respondents

#### 2.1.3 Birthplace

Forty percent (40%) of the people interviewed are migrants from Luzon and Visayas while 20% were born in the barangay they lived in today

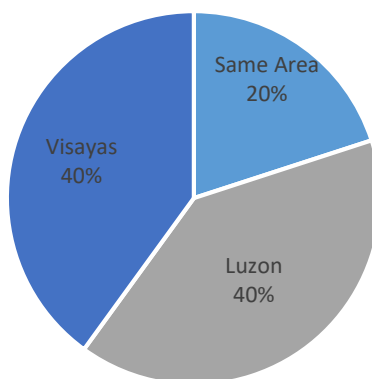


Figure 3. Place of Birth of the respondents

#### 2.1.4 Religion

Majority (80%) of the total respondents interviewed are Roman Catholic practitioners.

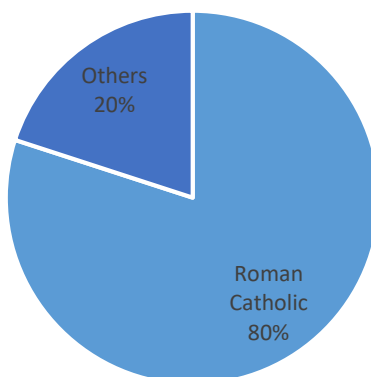


Figure 4. Religion of the respondents

#### 2.1.5 Ethnic Origin

All respondents (100%) are non-indigenous.

#### 2.1.6 Settlement History

Half of the respondents (50%), based on the following figure, have resided the barangay for about 11-20 years already.

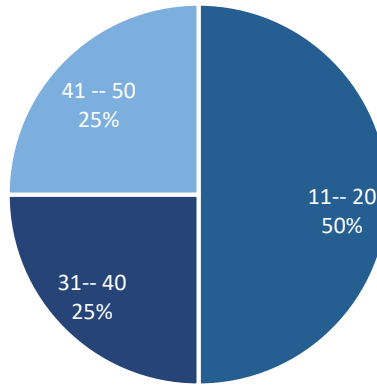


Figure 5. Length of Stay of the respondents

## 2.2 Socio-Economic Profile of the respondents

### 2.2.1 Income, Livelihood and Employment

Half of the respondent's source of income are from fishing (50%).

On the other hand, 83% of the respondents stated that the husband is the primary earner in the household while 17% has the son as the primary earner.

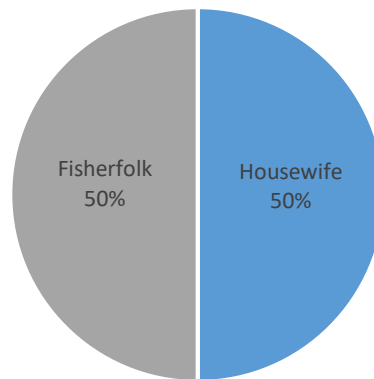


Figure 6. Source of Income of the respondents

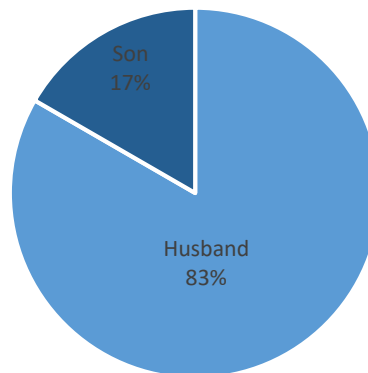


Figure 7. Primary Earner in the household

The monthly poverty threshold for a family of five, according to NSO, is an average income of P8,022 per month. This amount is enough to cover a single family's basic food and non-food needs. Poverty threshold refers to the minimum income a family or individual must earn in order to be considered "not poor".

In **Figure 8**, it is observed that 40% of the respondents earn between 2,000 and less than 2,000 per month, same percent with who earn between 4,000 and 5,000 pesos per month. While, 20% indicated that their monthly income is 3,000 pesos. Hence, 100% of the interviewed respondents are classified as "poor".

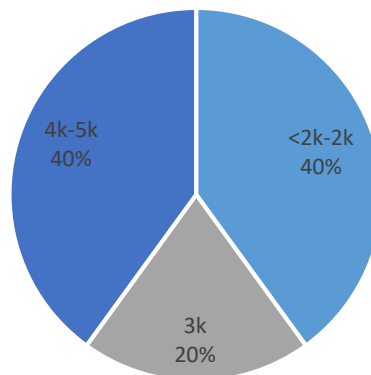


Figure 8. Monthly Income of the respondents

### 2.2.2 Housing Condition

Forty percent (40%) own their land, same percent (40%) owned by the government and 20% renting.

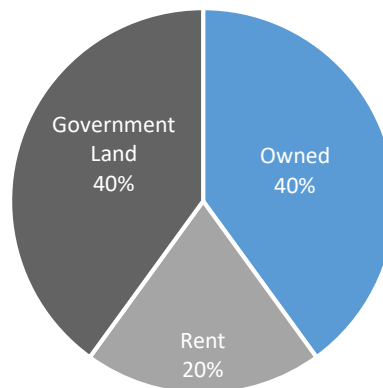


Figure 9. Tenurial Status of Residence

### 2.2.3 Educational Attainment

Sixty Percent (60%) of the respondents are High School graduates and the remaining 40% are High School undergraduates.



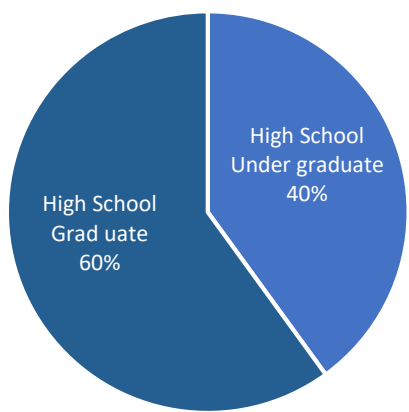


Figure 10. Educational Attainment of the respondents

## 2.2.4 Health Profile

For the previous year, 60% of the respondents have three of their household members who got ill. Cough, cold and fever combined are the most prevalent in the area (36%, 29% and 28%, respectively). Eighty-three percent (83%) of the respondents stated that the primary source of treatment for such illnesses in the household was in their house and 17% in the nearest health center.

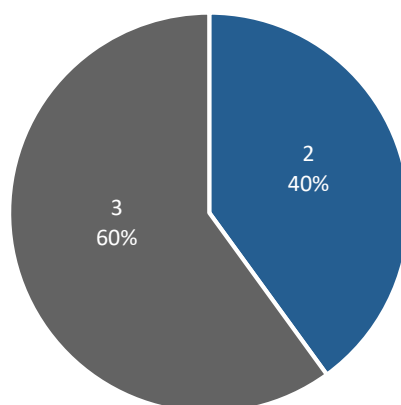


Figure 11. Number of Illness in the household for the past year

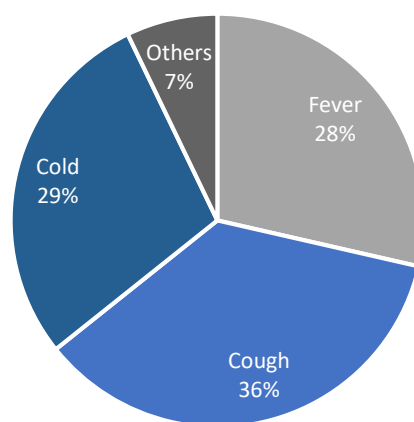


Figure 12. Type of Illness of household

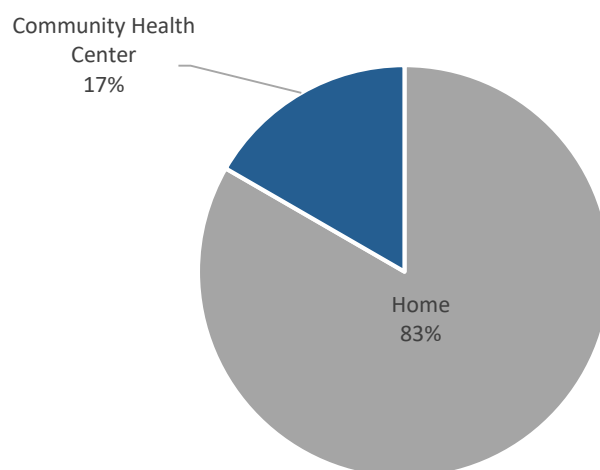


Figure 13. Venues of Treatment

### 2.2.5 Environmental Health and Sanitation

One hundred percent (100%) of the total number of respondents have water-sealed toilet which means they have access to improved sanitation facilities and 100% have access to water supply system.

### 2.3 Disaster Response

All respondents (100%) in the survey areas have experienced typhoon/storm. Such calamities have affected properties, environment, food supplies and water supplies.

Thirty-three percent (33%) of the respondents stated that the level of capability of the community for disasters is adequate, while 67% stated they are not capable during disasters.

In terms of disaster preparation, there were no trainings conducted in the barangay based on the interview.

Lacking equipment/spaces according to the respondents includes:

- Ambulance
- Clinic
- Fire truck
- Rescue boat
- Emergency Power supply
- Stock medicine
- Communication Equipment
- Emergency Response Equipment for victims

### 3 Summary List of Issues and Concerns

#### 3.1 Community Concerns

Biggest Problem the Barangay is currently facing: (in decreasing order of level of response)

1. Livelihood
2. Cleanliness/Sanitation
3. Health

#### 3.2 Environment Concerns

One hundred percent (100%) of the respondents indicated that the natural physical environment in their barangay (such as air, fresh water, marine, soil/land, flora and fauna) are not in good status/quality due to mining projects.

#### 3.3 Project Awareness and Acceptability

One hundred percent (100%) of the respondents was not aware of the proposed project.

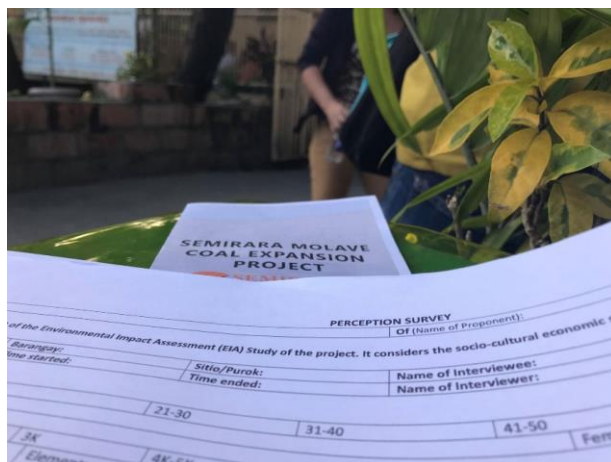
#### 3.4 Perceived Negative and Positive Impacts of the Project

The respondents' perceive benefit from the proposed expansion project is employment/livelihood.

On the other hand, the perceived negative effects of the project to the community are:

1. Access to fishing areas
2. Water quality affected
3. Environmental degradation

### 4 Photo Documentation



## **Pre-EIS Focus Group Discussion Documentation Report Molave Coal Expansion Project**

Focus Group Discussion (FGD) Activities on the Molave Coal Expansion Project was conducted on November 02 2018 in Impact Barangay that was initially identified. This is in compliance with DAO 2017-15 or the Guidelines on Public Participation under the Philippine Environmental Impact Statement System.

The participants for the FGDs were from the senior citizens, housing leaders, women's organization, Sementoda and officials of the Barangay, who, as per initial data gathering are the foremost sector in the Impact Areas in terms of Number.

The venue was in Barangay Semirara which is the Barangay where the project is located in.

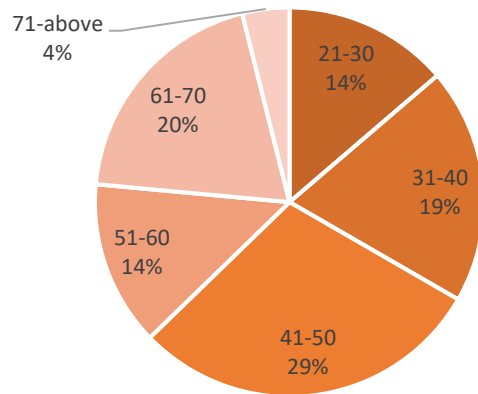
The number of participants are the following:

<b>Name of Sector</b>	<b>Total Number of Participants</b>
Senior Citizens	7
Brgy Officials	13
Semtoda	4
Housing Leaders	9
Women's Organization	19
TOTAL	52

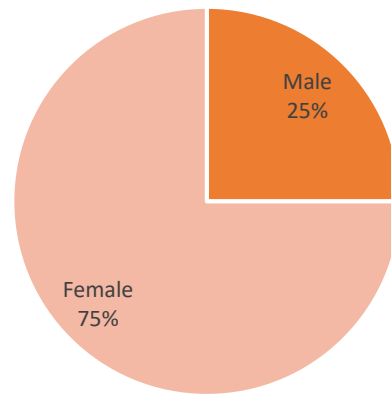
### **SUMMARY MATRIX FOR THE PRE-EIS FGD**

<b>Project</b>	Molave Coal Expansion Project Pre-EIS FGD
<b>Subject</b>	Molave Coal Expansion Project
<b>Objective</b>	Molave Coal Expansion Project Pre-EIS Public Participation Compliance as per DAO 2017-15 or the Guidelines on Public Participation under the Philippine Environmental Impact Statement System
<b>Activities</b>	<ul style="list-style-type: none"><li>• Discussions with Key Stakeholders and Stakeholder Representatives</li><li>• Distribution of Brochures</li></ul>
<b>Time frame/ Duration</b>	November 3, 2018 1 Day
<b>Location/s</b>	Province of Antique Municipality of Caluya Barangay Semirara
<b>No. of Participants</b>	52 Total: <ul style="list-style-type: none"><li>• 7 Senior Citizens</li><li>• 13 Brgy Officials</li><li>• 4 Sementoda</li><li>• 9 Housing Leaders</li><li>• 19 Women's Organization</li></ul>

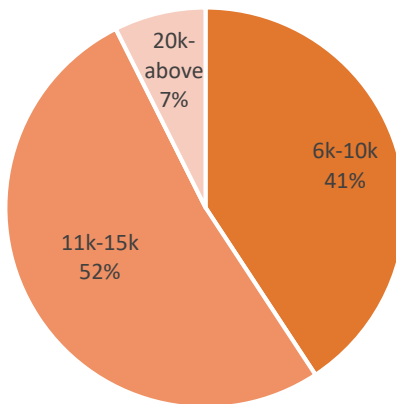
## FGD RESULTS



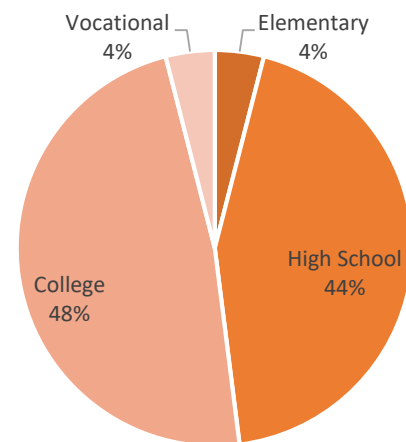
*Figure 1. Age of respondents*



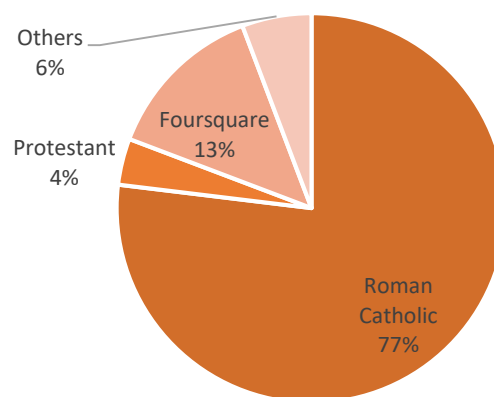
*Figure 2. Gender of the respondents*



*Figure 3. Monthly income of the respondents*



*Figure 4. Educational Attainment*



*Figure 5. Religion of the respondents*

The FGD Results show the following (each are in order of their frequency and rating):

**Perceived Positive Impacts of the Project:**

1. Increase Beneficiaries for Livelihood Program
2. More employment/job opportunities
3. Increase in income of barangay
4. Educational progress
5. Lower down poverty rate
6. Increase medical services
7. Improvement of facilities

**Perceived Negative Impacts of the Project:**

1. Increase air pollution and health danger
2. Lack of water supply
3. Lack of facilities and amenities with regards to hospitalization
4. Damage the access roads due to heavy equipment
5. Fishing grounds in sitio semirara will be limited
6. Changing the social dynamics of the community
7. Environmental degradation

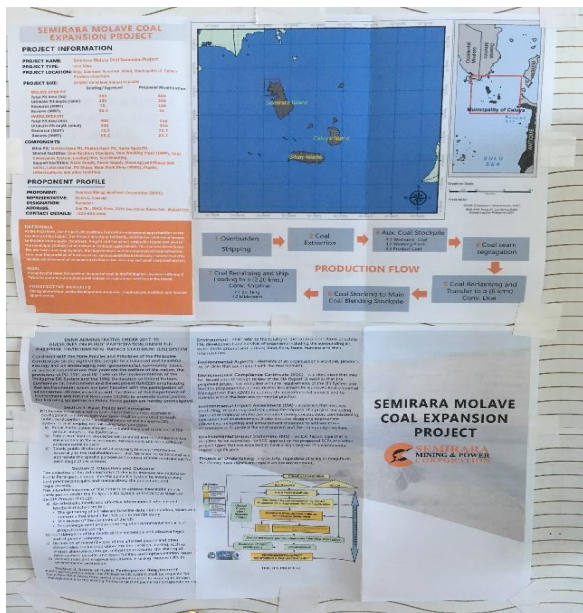
**Suggestions about the Project:**

1. Road Connecting
2. Continue to give scholarship program especially for the poor people
3. Provide community hospital in order to maintain good health services
4. Alternative livelihood for fisher folks
5. Assistance for Senior Citizen
6. More doctor and nurses
7. Cooperate with the community/barangay

**PHOTO DOCUMENTATION**



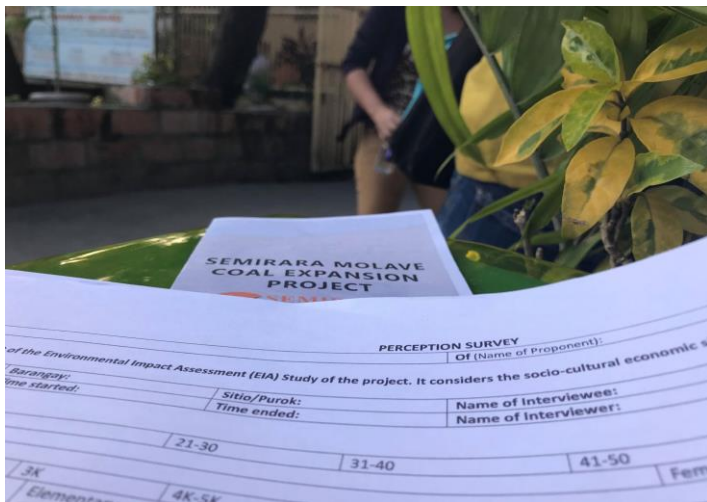




**Poster**



**Posted Notice/Invitation for IEC**



**Initial Perception Survey**



**Brochure Distribution**



**IEC Discussion with SB Duran**



**Focus Group Discussion**

## **ATTACHMENT 4**

# **PROPOSED LIST OF INVITEES FOR THE PUBLIC SCOPING**

**PROPOSED LIST OF INVITEES FOR THE PUBLIC SCOPING**

<b>Stakeholder Groups</b>	<b>Institution/ Organization</b>	<b>Representative</b>	<b>Name</b>	<b>Address</b>
Local government units in project area	Barangay Semirara LGU	Punong Barangay	Cathrine Lim	Barangay Semirara, Caluya, Antique
		Barangay Councilors	Jimmy Aranda Roxanne Smith Brenda Jocson Rosie Calinog Lildiolyn Jalique Lucio Roldan	Barangay Semirara, Caluya, Antique
	Barangay Tinogboc LGU	Punong Barangay	Romeo Malixi	Barangay Tinogboc, Caluya, Antique
		Barangay Councilors	Noel Madarcos Miller Erodias Ismael Madarcos Dante Tabangay	Barangay Tinogboc, Caluya, Antique
	Barangay Alegria LGU	Punong Barangay	Modesta Pionelo	Barangay Alegria, Caluya, Antique
		Barangay Councilors	Susana Reyes Efren Ebon Ronilo Dioso Joygie Mesillo	Barangay Alegria, Caluya, Antique
	Municipality of Caluya LGU	Mayor	Genevive G. Lim-Reyes	Municipality of Caluya, Antique
		Vice Mayor	Diosdado Egina	Municipality of Caluya, Antique
		Municipal Councilors	Belfe Duran Reynante Lim Jr Jerick Guisihan Siegfred Cipres Ruben Janairo Angelo Magtoto Elvero De San Jose Henry Madarcos Sr.	Municipality of Caluya, Antique
		MENRO	Head	Municipality of Caluya, Antique
		Municipal Health	Head	Municipality of Caluya, Antique
		MPDO	Head	Municipality of Caluya, Antique
Government agencies with related mandate on the type of project and its impacts	CENRO - Culasi	OIC-CENRO, Culasi	Cynthia L. Blanca,	Centro Poblacion, Culasi, Antique
	DOE	Secretary	Alfonso G. Cusi	Energy Center, Meritt Road, Fort Bonifacio, Taguig, Metro Manila
		OIC, Director, Visayas Field Office	Saul S. Gonzales	3rd Floor Escario Building 731 Escario Street Capitol Site, Cebu City
	PENRO Antique	PENR Officer	Andres T. Untal	Binirayan Hills, San Jose, Antique

Stakeholder Groups	Institution/ Organization	Representative	Name	Address
Interest groups (NGOs/POs) preferably those with mission/s specifically related to the type and impacts of the proposed undertaking/project	Fisherfolk group/organization in Barangay Semirara	Member	Arnold Banong	Barangay Semirara, Caluya, Antique
	Senior citizen's Organization in Barangay Semirara	Member	Estrella Lucena	Barangay Semirara, Caluya, Antique
	Women's Organizations in Barangay Semirara	President/Head	Alicia Penaso	Barangay Semirara, Caluya, Antique
	Housing Leader's Organization in Barangay Semirara	Member	Estrelleta Corea	Barangay Semirara, Caluya, Antique
	Semtoda's Organization in Barangay Semirara	Member	Regie Diego	Barangay Semirara, Caluya, Antique
Local Institutions	Elementary Schools in Semirara	School Principal		
	Secondary Schools in Semirara	School Principal		
	Tertiary Schools in Caluya, if any	School Principal		
	Churches (Roman Catholic, INC, etc.)	Church Leader		
	Hospitals in Semirara and Caluya	Head		

## **ATTACHMENT 5**

# **DRAFT INVITATION LETTER FOR THE PUBLIC SCOPING**



Date

**NAME OF REPRESENTATIVE**

Designation

INSTITUTION / ORGANIZATION

Address

Dear **Sir/Ma'am**:

We are pleased to invite you to the Public Scoping for the ECC amendment application of the Semirara Molave Coal Expansion Project of Semirara Mining and Power Corporation (SMPC) located at Barangay Semirara, Semirara Island, Municipality of Caluya, Antique. The Public Scoping will be held on **(Date), (Time)** at **(Venue)**.

This Public Scoping is a part of the Environmental Impact Assessment (EIA) process per Presidential Decree (P.D.) 1586, (Environmental Impact Statement System) and its Implementing Rules and Regulations to solicit and address issues and concerns about the project.

A copy of the Project Description Report for Scoping is downloadable at our website: [www.r6.emb.gov.ph](http://www.r6.emb.gov.ph) (kindly access the Notice of Public Scoping link found at the lower right portion of our website) while hard copies are available in \_\_\_\_\_.

For more details, please contact the EMB Region VI at DENR-FMS Compound, Parola, Iloilo City or (033) 336-6989.

We look forward to your participation.

Sincerely yours,

## **ATTACHMENT 6**

# **DRAFT PRESENTATION OF THE PROJECT DURING THE PUBLIC SCOPING**

# **PUBLIC SCOPING**

## **SEMIRARA MOLAVE COAL EXPANSION PROJECT**

SEMIRARA MINING AND POWER CORPORATION



**SEMIRARA  
MINING & POWER  
CORPORATION**

### **PROJECT PROPONENT**

**PROJECT PROPONENT:** SEMIRARA MINING AND  
POWER CORPORATION (SMPC)

**REPRESENTATIVE:** MARIA CRISTINA C. GOTIANUM

**DESIGNATION:** EXECUTIVE VICE PRESIDENT

**ADDRESS:** 2<sup>nd</sup> FLR., DMCI PLAZA, 2281 DON CHICO  
ROCES AVENUE MAKATI CITY

**CONTACT DETAILS:** +632 888-3055

## PROJECT INFORMATION

**NAME OF PROJECT:** SEMIRARA MOLAVE COAL EXPANSION PROJECT

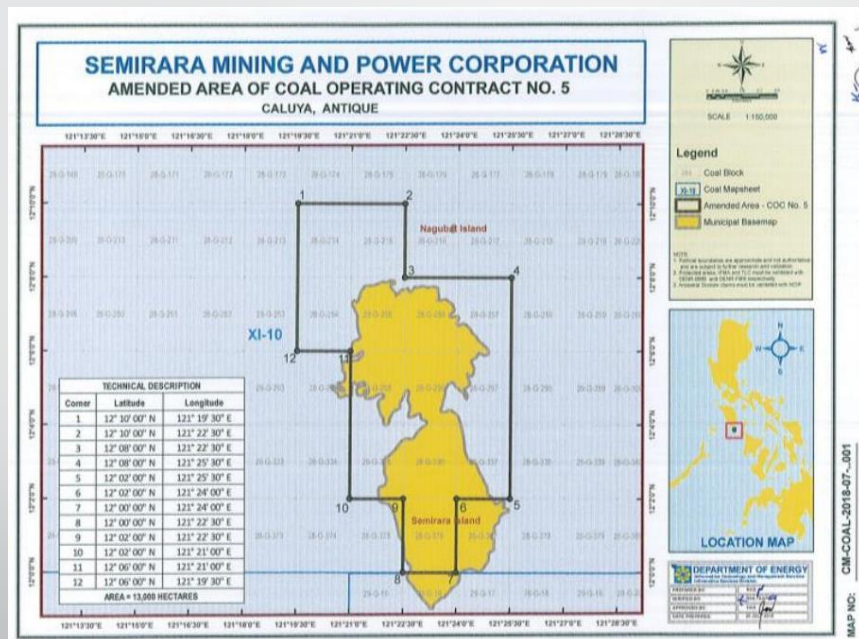
**PROJECT PROPONENT:** SEMIRARA MINING AND POWER CORPORATION (SMPC)

**PROJECT TYPE:** COAL MINE

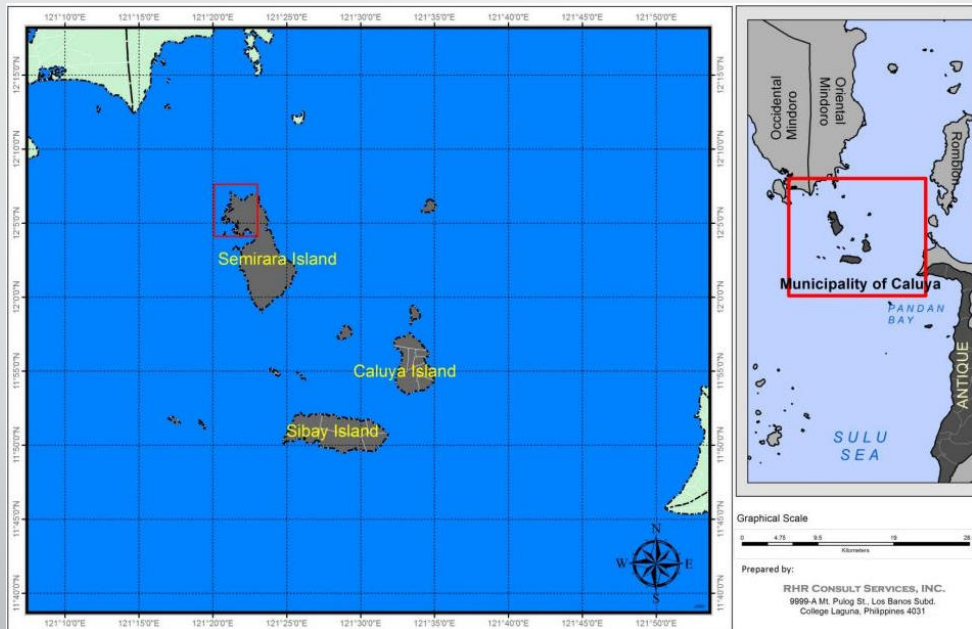
**PROJECT LOCATION:** BRGY. SEMIRARA, MUNICIPALITY OF CALUYA, ANTIQUE

**TOTAL AREA:** 13, 000 HECTARES (A TOTAL OF 13 COC BLOCKS WITH 1,000 HECTARES PER BLOCK)

**PROJECT SIZE:** 16 MMT COMBINED ANNUAL CAPACITY



**PROJECT AMENDED COC MAP**



## PROJECT LOCATION MAP

## PROJECT BACKGROUND

The Semirara Molave Coal Project is envisioned to simultaneously operate the existing Molave and Narra (East Panian) pits while implementing the accelerated rehabilitation activities for the mined out Panian pit. The proposed expansion area is in the Molave and Narra pits located northwest and east of the panian pit respectively.



## PROJECT RATIONALE

### **NATIONAL ECONOMIC DEVELOPMENT**

- Sustain the momentum of indigenous energy resources and assure self-sufficiency and energy security of the country
- Promote fuel substitution and diversification in power generation.

### **REGIONAL AND LOCAL ECONOMIC & SOCIAL DEVELOPMENT**

- At the local level, the Project will continue to provide employment opportunities to the residents of the Island.
- The Project directly or indirectly contributes additional income to the three barangays (Semirara, Alegria and Tinogboc) within the island and also to the municipal (Caluya) and provincial (Antique) government.
- The accrued direct benefits are taxes and employment, the improvement and development of local infrastructure, and the provision of basic services such as subsidized electricity.
- Indirect benefits include enhancement of economic activities in the area (big and small scale businesses).

## PROJECT ALTERNATIVES

### **TECHNOLOGY SELECTION**

- The current mining method of “Open Pit” using Excavators matched with 100-Tonner Dump Trucks” shall be continued employed to the project due to the similarity of geological formation of the newly discovered deposit with the Panian and Narra mine areas. Subsequent detailed drilling within the 138-hectare most promising area of Molave Pit has confirmed a substantial coal resource suitable for open pit mining.

## RESOURCES

- Coal deposits are scattered over the Philippines but the largest deposit is located in Semirara Island, Caluya, Antique making the Semirara Mining and Power Corporation the largest coal producer in the country contributing about 92% of the local coal production. The entire Semirara Island has been classified as a coal mining reservation by virtue of Proclamation 649 of 1940.

## NO PROJECT ALTERNATIVE

- Option of not proceeding with the proposed expansion of the project that would result to the continuation of the Molave and Narra pits sites' current state. The safety and control of sea water seepage will still be managed by SMPC, however the potential additional 34 MMT estimated coal resource will not be utilized.

## PROJECT COMPONENTS

MAJOR PROJECT COMPONENTS		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Mine Pit	Combined annual capacity = 16 MMT	No changes
	<u>Molave Open Pit</u> Status: Active <ul style="list-style-type: none"> <li>Total Pit Area = 400 ha</li> <li>Ultimate Pit depth = 300 mbsl</li> <li>Resource = 76 MMT</li> <li>Mineable Reserve = 68.5 MMT</li> <li>West Dike</li> </ul>	<u>Molave Open Pit</u> Status: Active <ul style="list-style-type: none"> <li>Total Pit Area = 680 has</li> <li>Ultimate Pit depth = 350 mbsl</li> <li>Resource = 120 MMT</li> <li>Reserve = 91MMT</li> </ul>
	<u>Panian Open Pit</u> Status: South Panian Accelerated Rehabilitation Backfilling & Planting of trees	No changes. Continue Accelerated Rehabilitation Backfilling & Planting of trees
	<u>Narra Open Pit ("East Panian")</u> Status: Active <ul style="list-style-type: none"> <li>Total Pit Area = 400 ha</li> <li>Ultimate Pit depth = 300 mbsl</li> <li>Resource = 72.7 MMT</li> <li>Estimated Reserve = 58.2 MMT</li> <li>East Dike Extension</li> </ul>	<u>Narra Open Pit ("East Panian")</u> Status: Active <ul style="list-style-type: none"> <li>Total Pit Area = 550 has</li> <li>Ultimate Pit depth = 350 mbsl</li> <li>Resource = 72.7 MMT</li> </ul> Reserve = 69.7 MMT

## PROJECT COMPONENTS

MAJOR PROJECT COMPONENTS		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Mine Pit	Mining Complex = <b>3,369.25 hectares</b> Pit area 3pits = <b>1,200.00 hectares</b> (Panian Narra & Molave)	Add'l Mining Complex= <b>1,000 hectares</b> Add'l Pit Area = <b>430 hectares</b> Total Mining Complex = <b>4,369.25 hectares</b> Total Pit Area = <b>1,630.00 hectares</b> (Panian Narra & Molave) Mining Complex expansion is due to: <ul style="list-style-type: none"> <li>widening of sea barrier for safer mining operation and better control of sea water seepage.</li> <li>increase in pit area by 1,630 Has</li> <li>increase in coal reserve by 34 MMT</li> <li>Confirmatory &amp; exploratory drills</li> </ul>
Coal Auxiliary Stockpile	Panian Auxiliary stockpile with a capacity of 2.5 MMT (Area 16Has.)	To be relocated once conveyor lines are shifted toward Panian pit.
	Puntod Auxiliary Stockpile with coal capacity of 1.3 MMT	To be relocated once conveyor lines are shifted toward Panian pit.

## PROJECT COMPONENTS

MAJOR PROJECT COMPONENTS		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Coal Washing Plant (CWP)	600 MT/hr located at Panian	No changes. Shared facility
Coal Conveyance System	Conveyor system: Line 1 & 2 from Panian Auxiliary Stockpile to CBS with 4 BWEs & 2 stackers Belt Width =1.4m Belt Length = 12.5 kms  Proposed Line1 & Line2 rear extension toward Panian Pit area (Molave Auxiliary stockpile). Line1 Extension=1.8km, Line2 Extension =2.3km.  Total belt length (Existing +Ext'n) = 16.6 km	No changes. Shared facility
Loading Pier	Dapdap Pier major components: 3 Shiploaders 4 Reclaimers 11.87km conveyor lines Set of crushers, sampling units and water spraying system Dapdap Wharf, East dike wharf	No changes. Shared facility



## PROJECT COMPONENTS

MAJOR PROJECT COMPONENTS		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Coal Blending Stockpile (CBS)	<p>Capacity = 140,000.00 MT Area = 7 hectares</p> <p>Major components: 2 stackers Coal Shed Product, Mechanical &amp; Electrical Office Sampling shack Electrical Main Station Coal Silo 1 and 2 for Power Plants</p>	No changes. Shared facility

## PROJECT COMPONENTS

SUPPORT FACILITIES		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Water Supply	Desalination Plant: 7,000 cu.m/day existing capacity out of the approved 10,000 cum/day	<p>Add'l capacity of 4,000 cu.m/day</p> <p>Total Desalination plant capacity (approved +Add'l) = 14,000 cu.m/day</p>
	<ul style="list-style-type: none"> <li><b>Reservoirs:</b> Sanglay 1&amp; 2, Himalian, Binaroto</li> <li><b>Springs/Deepwells:</b> Bunlao Spring, Panian DeepWells and fresh water (FW#4) at spring</li> <li>Water Filtration Facilities</li> <li>Water Tanks at Wild B (Total 15.5 Million Capacity)</li> </ul>	No changes
Power Supply	<p>Generator set</p> <ul style="list-style-type: none"> <li>Mirrlees 1x 4.2 MW</li> <li>Wartsila 1x5.7 MW</li> </ul>	<ul style="list-style-type: none"> <li>Wartsila 3x6.3MW = 18.9 MW</li> </ul>

## PROJECT COMPONENTS

SUPPORT FACILITIES		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Water Supply	Desalination Plant: 7,000 cu.m/day existing capacity out of the approved 10,000 cum/day	Add'l capacity of 4,000 cu.m/day  Total Desalination plant capacity (approved +Add'l) = 14,000 cu.m/day
	<ul style="list-style-type: none"> <li>▪ <b>Reservoirs:</b> Sanglay 1&amp; 2, Himalian, Binaroto</li> <li>▪ <b>Springs/Deepwells:</b> Bunlao Spring, Panian DeepWells and fresh water (FW#4) at spring</li> <li>▪ Water Filtration Facilities</li> <li>▪ Water Tanks at Wild B (Total 15.5 Million Capacity)</li> </ul>	No changes
Power Supply	Generator set <ul style="list-style-type: none"> <li>▪ Mirrlees 1x 4.2 MW</li> <li>▪ Wartsila 1x5.7 MW</li> </ul>	<ul style="list-style-type: none"> <li>▪ Wartsila 3x6.3MW = 18.9 MW</li> </ul>
	Coal Fired <ul style="list-style-type: none"> <li>▪ 2x7.5 MW Stoker type.</li> <li>▪ 1 x 15MW CFBC (1<sup>st</sup> unit)</li> </ul> <p>The second unit 1x15MW CFBC shall be built to supply power for the growing demand of electricity. This is covered by existing ECC for a 30 MW-capacity CFBC power plant.</p> <p>Total Projected Capacity (Coal-fired): 45MW</p>	<ul style="list-style-type: none"> <li>▪ Recondition existing 2x7.5 MW</li> </ul>

## PROJECT COMPONENTS

SUPPORT FACILITIES		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Pit Shop	<ul style="list-style-type: none"> <li>▪ Pitshop at Narra Pit</li> <li>▪ Pitshop at Molave Pit</li> </ul>	To be relocated as the need arises within the mining complex area.
Housing	<ul style="list-style-type: none"> <li>▪ 300 housing units (Panian,Narra)</li> <li>▪ 400 housing units (Molave)</li> <li>▪ 400 housing units (Molave Expansion)</li> </ul> <p>Total Housing Units = 1100</p>	<p>Construct add'l 500 housing units to cater increase in manpower.</p> <p>Total Housing Unit = (Existing/approved + Additional) = (1100+500) = 1600</p>
Laboratory	<ul style="list-style-type: none"> <li>▪ Coal analysis</li> <li>▪ Oil, fuel, soil, CaO &amp; H<sub>2</sub>O analysis</li> </ul> <p>Upgrading of facilities to accommodate increase in Coal, Oil, Fuel, Soil, CaO &amp; H<sub>2</sub>O samples</p>	No changes
	<ul style="list-style-type: none"> <li>▪ Geotechnical Laboratory and core sampling facility</li> </ul>	No changes
Main Work Shop (MWS)	<ul style="list-style-type: none"> <li>▪ Tire Shop</li> <li>▪ Admin and HRD Bldg.</li> <li>▪ Warehouse &amp; Extension</li> </ul>	No changes

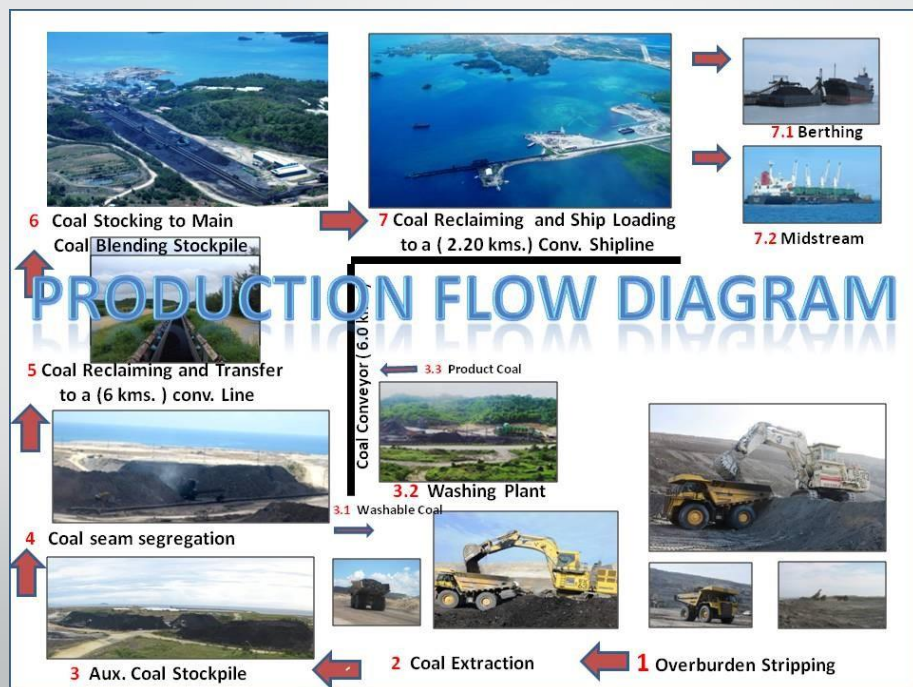
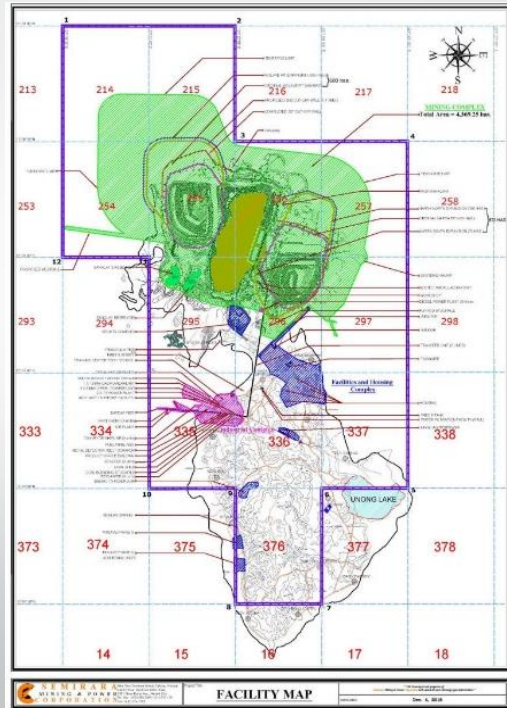
## PROJECT COMPONENTS

SUPPORT FACILITIES		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Plants	<ul style="list-style-type: none"> <li>Oxy-ace Plant</li> <li>Batching Plant/Aggregate Stockpiles/Culvert fabrication</li> <li>Proposed Cement Plant with approved ECC</li> </ul>	No changes
Infrastructure and other facilities	Other Supports (Mining, Shipping and Environment) <ul style="list-style-type: none"> <li>Hazmat</li> <li>Marine Hatchery and Laboratories</li> <li>Aviary</li> <li>Siltation Ponds and pocket sumps</li> <li>Fuel Farm</li> <li>Fabrication Area/Sandblasting Facilities, Gantry, Shipping office</li> <li>Slipway/Drydocks, and Ship Building</li> <li>Pottery</li> <li>Humic Acid Plant</li> <li>Limestone Crush and Lime plant</li> <li>Dynamite Magazine</li> <li>Cell Site Towers</li> <li>Pinagpala Pier</li> </ul>	<ul style="list-style-type: none"> <li>Pottery and other facilities to be relocated as the need arises</li> </ul>

## PROJECT COMPONENTS

SUPPORT FACILITIES		
Project Component / Aspect	Description / Specifications	
	Existing	Proposed Modification / Expansion
Infrastructure and other facilities	Community Supports <ul style="list-style-type: none"> <li>Divine Word School of Semirara Island Incorporated</li> <li>Semirara Training Center</li> <li>K-12 school bldg.</li> <li>Community Pier</li> <li>Ice Plant</li> </ul>	<ul style="list-style-type: none"> <li>To be relocated &amp; expanded as the need arises</li> </ul>
	<ul style="list-style-type: none"> <li>Sewerage Treatment Plant</li> <li>Hospital</li> <li>Sports Complex @ 42 has</li> <li>Air strip and Hangar @ 23 has</li> <li>Semirara Market, Bus Terminal, Churches, Foodcourt and Mess hall/Plaza</li> <li>Multi-purpose gyms</li> <li>Library</li> </ul>	No changes

## SITE DEVELOPMENT PLAN SHOWING THE GENERAL LAYOUT OF FACILITIES





# SITE PHOTOS

