



**DEPARTMENT OF TRANSPORTATION**

DOTr Compound Apo Court, Sergio Osmena St. cor Pinatubo St.  
Clark Freeport Zone, Clarkfield 2010 Pampanga, Philippines

**SMR for 4<sup>th</sup> Quarter of 2020**

**(October, November and December)**

**NEW BOHOL AIRPORT CONSTRUCTION AND  
SUSTAINABLE ENVIRONMENT PROTECTION PROJECT**



**SELF-MONITORING REPORT**

**January 2021**

**Department of Environment and Natural Resources  
Environmental Management Bureau**

**Reference No:**

(to be filled up by DENR only)

**GENERAL INFORMATION SHEET**

Name of the Establishment/Facility	New Bohol Airport Construction and Sustainable Environment Protection Project		
Establishment/Facility Address (NOT the company of head office)	Street # & Street Name: Barangay: <u>Barangays Tawala, Danao, Lourdes and Bolod</u> City/Municipality: <u>Panglao</u> Province: <u>Bohol</u>		
Name of Owner/ Company	Department of Transportation (DOTr)		
Address (if address is not the same as previous address)	Street # & Street Name: <u>DOTr Compound Apo Court, Sergio Osmena St. cor. Pinatubo St.</u> Barangay: <u>Clark Freeport Zone</u> Municipality: <u>Angeles City</u> Province: <u>Pampanga</u>		
Phone Number	(632) 723-4925	Fax Number	(632)790-8300 loc 284
E-mail address	nbacsepp.lpmt@gmail.com		
Type of Business/ Industry Classification	Philippine Standard Industry Classification Code No. <u>Not Applicable</u> Philippine Standard Industry Descriptor: <u>Not Applicable</u>		
Responsible Officer/s:	Assistant Project Manager: <u>Engr. Abelardo D. Sore, Jr.</u> Tel #: <u>0917-5403594</u> Fax #: <u>(632) 727-7960</u> e-mail address: <u>junsore888@yahoo.com</u>		
Pollution Control Officer	Name. <u>Engr. Restituto P. Erojo, Jr.</u> Tel #: <u>0920-300-7174</u> Fax #: <u>None</u> e-mail address: <u>resty80@ymail.com</u>		
Legal Classification	<input type="checkbox"/> single proprietorship <input type="checkbox"/> partnership <input type="checkbox"/> private domestic corporation <input checked="" type="checkbox"/> government corporation <input type="checkbox"/> Multi-national <input type="checkbox"/> _____		

***We hereby certify that the above information are true and correct.***

**ENGR. ABELARDO D. SORE, JR**  
Assistant Project Manager, PMO-NBACSEPP

**ENGR. RESTITUTO P. EROJO, JR.**  
Pollution Control Officer (PCO)

**Department of Environment and Natural Resources  
Environmental Management Bureau**

**QUARTERLY SELF-MONITORING REPORT  
(October – December 2020)**

**MODULE 1: GENERAL INFORMATION**

Name of the Project	New Bohol Airport Construction and Sustainable Environment Protection Project
<p>Please provide the necessary revised, corrected or updated information not contained in your <b>General Information Sheet</b></p> <p>The development of the airport in general, will expose the region to the international community, in terms of investment, tourism and technological advancement, greater potential and opportunity for a dynamic economy. This will allow to hasten the expansion of markets, improve agricultural and industrial production, enable the efficient distribution of basic services to the mainstream, generate employment opportunities and dissuade rural-to-urban migration.</p> <p>The benefits of the project against its adverse environmental consequences favor highly the implementation of the project. Utilizing an undeveloped agricultural area for this infrastructure enhances project's viability, not only in economic terms but also environmentally. More people will be benefited versus the number of families or groups that will be affected adversely by the project.</p> <p>The development is categorized as an infrastructure project. The design parameters considered in the proposed project are:</p> <ul style="list-style-type: none"> <li>• Design Year - Year 2030</li> <li>• Annual Passenger - 1,958,000</li> <li>• Domestic Passenger - 1,773,000</li> <li>• International Passenger - 185,000</li> <li>• ICAO Code - 4E</li> <li>• Design Aircraft - A321/B767/A330/B777</li> </ul> <p>Total area to be occupied by the project is 229 hectares which includes the following facility requirements:</p> <ol style="list-style-type: none"> <li>a. Runway: 2,500 m x 45 m</li> <li>b. Runway Strip: 2,800 m x 423 m</li> <li>c. Taxiway: 2-Stub – 265 m x 30 m</li> <li>d. Apron: A320:4, A330:2 – 161 m x 300 m</li> <li>e. Passenger Terminal Building: 2-storey, 13,337 sq.m</li> <li>f. Cargo Terminal Building: 978 sq.m</li> <li>g. Control Tower: 9-storey, Height 33 m</li> <li>h. Administration Building: 1,600 sq.m</li> <li>i. Fire and Rescue Station: Category 9</li> <li>j. Car Park: Private Cars:256, Taxi:32, Bus:6</li> <li>k. Air Navigation Facility: VOR/DME ILS; and</li> <li>l. Aeronautical Ground Light: PALS, PAPI, REDL, TEDL, AFL</li> </ol>	

**DENR Permits/Licenses/Clearances**

Environmental Laws	Permits		Date of Issue	Expiry Date
PD 984	A/C No.	None	Not Applicable	Not Applicable
	PO No.	None	Not Applicable	Not Applicable
PD 1586	ECC 1	ECC 07 03 06-04 0284 215	June 4, 2003	June 3, 2008
	ECC 2	ECC-RO7-0804-0133-25	June 3, 2008	June 2, 2013
	ECC 2 1 <sup>st</sup> Amendment	ECC-R07-1304-0074	April 16, 2013	---

Environmental Laws	Permits		Date of Issue	Expiry Date
	ECC 2 <sup>nd</sup> Amendment	ECC-R07-1304-0074	July 25, 2017	---
RA 6969	DENR Registry ID	GR-R7-12-0009	May 5, 2017	May 4, 2020
	CCO Registry	--	--	---
	Importer Clearance No	TP-R3-69-0005	October 10, 2017	April 09, 2018
	Permit to Transport	PT No. 03-69-1017-1232	October 10, 2017	April 09, 2018
RA 8749	A/C No.	Not yet applicable	---	---
	PO No.	Not yet applicable	---	---
RA 9275	Discharge Permit	DP-RO7-19-04256	December 5, 2019	December 5, 2020

**Operation**

	Operating hours/day	Operating days/week	# of shift/day
Average	8	7	1
Maximum	12	7	1

Note: Airport became operational on November 28, 2018

**Operation/Production/Capacity:**

Average Daily Production Output	Not Applicable	Total Output this Quarter	Not Applicable
Total Water Consumption this Quarter (cubic meters)	5,000	Total Electric Consumption this Quarter (KwH)	15,000

Note: Airport became operational on November 28, 2018

**MODULE 2: RA 6969**

**A. CCO Report (please accomplish this section for each chemical/substance) – NOT APPLICABLE**

Common Name/IUPAC/CAS Index Name. _____	CAS No.: _____
Trade Name: _____	

**For importers only: – NOT APPLICABLE**

Quantity Requested	Import Clearance No.	Date of Arrival	Quantity Received*	Port of Entry	Country of Origin	Country of Manufacture
Total Quantity Requested (annual)			Total Quantity Received (annual)			

For distributors (importers/non-importers) – **NOT APPLICABLE**

Name of Client	License No.	Quantity	Date of Distribution
Total Quantity Distributed			

For non-importer users: – **NOT APPLICABLE**

Name of Distributor	Quantity	Date of Purchase
Total Quantity Purchased from Distributor		

For producers – **NOT APPLICABLE**

Average Daily Production Output		Total Output this Quarter	
Quantity of Stock Inventory (Start of Quarter)		Quantity of Stock Inventory (End of Quarter)	
Name of Buyer		Quantity	Date of Purchase
Total Quantity Sold			

**Used in Production – NOT APPLICABLE**

Average Daily Production Output		Total Output this Quarter	
Average Quantity Used per month		Total Quantity Used this Quarter	
Describe any changes in Production/Process/Operations:			

**Stock Inventory/Waste Chemical Generated: – NOT APPLICABLE**

Average Quantity of Waste Chemical Generated per month		Total Quantity of Waste Chemical Generated this Quarter	
Quantity of Stock Inventory (Start of Quarter)		Quantity of Stock Inventory (End of Quarter)	

**Other Information:**

Manner of handling hazardous wastes	<input checked="" type="checkbox"/> storage on-site <input type="checkbox"/> storage off-site	<input type="checkbox"/> Treatment on-site <input checked="" type="checkbox"/> Treatment off-site
Changes in Safety Management System	<input type="checkbox"/> Yes (please attach copy of revised plan) <input type="checkbox"/> No	
Chemical Substitute Plan	<input type="checkbox"/> Yes (please attach copy if not submitted/included in previous report/s or had been revised) <input type="checkbox"/> No	

**B. Hazardous Wastes Generator**

**HW Generation:**

HW No.	HW Class	HW Nature	HW Cataloguing	Remaining HW from Previous Report		HW Generated	
				Quantity	Unit	Quantity	Unit
1	Lead Acid Battery	Solid	Toxic	0	pc	12	pc
2	Used Oil	Liquid	Flammable	0	liter	220	liter
3	Fluorescent Bulb	Solid	Toxic	0	kg	1,200	kg
4	Empty Paint Can	Solid	Flammable	0	kg	2,500	kg

**Waste Storage, Treatment and Disposal:**

HW Details	
Storage	
Transporter	
Treater	
Disposal	

**On-Site Self Inspection of Storage Area:**

Date Conducted	Premises/Area Inspected	Findings & Observations	Corrective Action Taken (if any)
December 15, 2020	Material Recovery Facility	Wastes are properly segregated	Hazardous wastes are placed in a container and properly covered.

**C. Hazardous Wastes Treater/Recycle: (None at this Quarter)**

**HW Stored and/or Untreated as of End of Quarter:**

HW Number	Wastes Generator	Date of Transport	Transport Permit/Date of Issue	Valid Until	Quantity	Type of Storage Container/ # of containers	Time Table for Treatment

**HW Treated and/or Recycled as of End of Quarter:**

Type of Wastes	HW Number	Wastes Generator	Date of Transport	Transport Permit/Date of Issue	Quantity	Type of Treatment or Recycling Process	Type & Quantity of Recycled or Treated Product

**Residual Wastes Generated from the Treatment and/or Recycling Operation:**

Type of Wastes	HW Number	Process by which the Wastes is Generated	Quantity	Type of Storage Container/ # of containers	Disposal Option	Time Table for Disposal

**MODULE 3: P.D. 984 (Water Pollution)**

**Water Pollution Data**

Domestic wastewater (cubic meters/day)	489	Process wastewater (cubic meters/day)	382
Cooling water (cubic meters/day)	-	Others: _____ (cubic meters/day)	-
Wash water, equipment (m <sup>3</sup> /day)	-	Wash water, floor (cubic meters/day)	-

**Record of Cost of Treatment**

	Month 1	Month 2	Month 3
Person employed, (# of employees)	12	12	12
Person employed, (cost)	Php 200,000	Php 200,000	Php 200,000
Cost of Chemicals used by WTP	Php 10,000	Php 10,000	Php 10,000
Utility Costs of WTP (electricity & water)	Php 30,000	Php 30,000	Php 30,000
Administrative and Overhead Costs	-	-	-
Cost of operating in-house laboratory	Php 31,000	Php 31,000	Php 31,000

	Month 1	Month 2	Month 3
New/Additional Investments in WTP (Description)	N/A	N/A	N/A
Cost of New/Add Investments	N/A	N/A	N/A

**WTP Discharge Location**

Outlet Number	Location of the Outlet	Name of Receiving Water Body
1	Brgy. Tawala, Panglao, Bohol	Engineered Wetland at the back of the STP (Water Body is far from site). Soaking yard is also provided as final discharging point of the treated wastewater.

**Detailed Report of Wastewater Characteristics for Conventional Pollutants** (Analysis for these parameters were not conducted during this quarter)

Outlet No.		Parameters				
DATE	Effluent Flow Rate (m <sup>3</sup> /day)	BOD (mg/L)	COD (mg/L)	TSS (mg/L)	Oil & Grease (mg/L)	Surfactants (mg/L)
		Phosphate (mg/L)	Total Coliform (MPN/ 100ml)	Fecal Coliform (MPN/ 100ml)	Ammonia (mg/L)	Nitrate (mg/L)

Please fill-up/accomplish separate form/s for other outlet/s.

**Detailed Report of Wastewater Characteristics for Other Pollutants - NOT YET APPLICABLE**

Outlet No.								
DATE	Effluent Flow Rate (m <sup>3</sup> /day)	(name) _____ (unit)	(name) _____ (unit)	(name) _____ (unit)	(name) _____ (unit)	(name) _____ (unit)	(name) _____ (unit)	(name) _____ (unit)

Please fill-up/accomplish separate form/s for other outlet/s.

Please use additional sheet/s if necessary.



**MODULE 4: R.A. 8749 (Air Pollution) - None**

**Summary of APSE/APCF**

Process Equipment		Location		# of Hours of Operations	
1.					
2.					
3.					
4.					
Fuel Burning Equipment	Location	Fuel Used	Quantity Consumed	# of hrs of operations	
1.					
2.					
3.					
4.					
5.					
6.					
Pollution Control Facility		Location		# of hrs of operations	
1.					
2.					
3.					
4.					

**Cost of Treatment - NOT YET APPLICABLE**

	Month 1	Month 2	Month 3
Cost of Person employed, (salary)			
Total Consumption of Water (cubic meters)			
Total Cost of chemicals used (e.g., activated carbon, KMnO <sub>4</sub> )			
Total Consumption of Electricity (KwH)			
Administrative and Overhead Costs			
Cost of operating in-house laboratory, if any			
Improvement or modification, if any. (Description)			
Cost of improvement of modification			

**Detailed Report of Air Emission Characteristics – Commissioning of the Third Party is on-going**

Description/Location of PCF								
DATE	Flow Rate (Ncm/day)	CO (mg/Ncm)	NO <sub>x</sub> (mg/Ncm)	Particulates (mg/Ncm)	(name) (mg/Ncm)	(name) (mg/Ncm)	(name) (mg/Ncm)	(name) (mg/Ncm)

Please fill-up/accomplish separate form/s for other PCF/s.  
Please use additional sheet/s if necessary.

**MODULE 5: P.D. 1586**

**Ambient Air and Noise Quality Monitoring (if required as part of ECC conditions)**

**Location of Air and Noise Sampling Stations:**

Sta. ID No.	GPS Readings		Description of Sampling Station
	Longitude	Latitude	
<b>Sta-1</b>	N 09°33'42.3"	E 123°46'40.1"	It is located in front of Tawala Elementary School in Brgy. Tawala, Panglao, Bohol. It is situated about 10 meters away from center of the municipal road and about 35 meters from the classrooms.
<b>Sta-2</b>	N 09°33'32.9"	E 123°45'27.0"	It is situated almost in front of the Brgy Hall of Danao, Panglao, Bohol. It is about 7 meters away from the center of the municipal road.
<b>Sta-3</b>	N 09°34'50.4"	E 123°45'08.4"	It is about 30 meters away in front of the municipal hall building of Panglao and about 25 meters from center of the municipal road.
<b>Sta-4</b>	N 09°34'19.9"	E 123°46'28.9"	An original station. It is located along access road of the proposed new Bohol airport in Brgy. Tawala, Panglao, Bohol.
	N 09°35'37.7"	E 123°47'04.0"	A relocated station. It is located about 2.4 km Northeast of the original station (Access Road to Airport). It is situated in front of Ericflo Inn/re staurant and is about 10 meters away from the center of the national road.
<b>Sta-5</b>	N 09°34'10.4"	E 123°47'14.5"	It is located in front of Bohol Elementary School in Brgy. Bolod, Panglao. It is about 2 meters away from the perimeter fence of the school and 5 meters away from center of the municipal road.

**Date and Time of Air Sampling for the Fourth Quarter of 2020**

Location	Date	Time	Wind Direction/Speed	Weather
Sta-1	December 12, 2020	1310H - 1410H and 1412H – 1442H	NE/3	Partly Cloudy
Sta-2	December 12, 2020	1450H - 1550H and 1552H – 1622H	NE/3	Partly Cloudy
Sta-3	December 12, 2020	1630H - 1730H and 1732H – 1802H	NE/3	Partly Cloudy
Sta-4**	December 13, 2020	0915H - 1015H and 1017H – 1047H	NE/8	Partly Cloudy
Sta-5	December 13, 2020	1055H - 1155H and 1157H – 1227H	NE/8	Partly Cloudy

**Date and Time of Noise Measurement for the Fourth Quarter of 2020**

Location	Date	Time	Weather
Sta-1	December 13, 2020	1000H - 1200H and 1400H - 1600H and 2200H – 2400H	Partly Cloudy
Sta-2	December 14, 2020	1000H - 1200H and 1400H - 1600H and 2200H – 2400H	Partly Cloudy
Sta-3	December 15, 2020	1000H - 1200H and 1400H - 1600H and 2200H – 2400H	Partly Cloudy
Sta-4**	December 16, 2020	1000H - 1200H and 1400H - 1600H and 2200H – 2400H	Partly Cloudy
Sta-5	December 12, 2020	1000H - 1200H and 1400H - 1600H and 2200H – 2400H	Partly Cloudy

**Results of the Air Monitoring for the Fourth Quarter of 2020**

Item	Point	Month	Measured Value	Measured Value (Mean)	Measured Value (Max.)	Country's Standards
TSP/Fugitive Dust (ug/m <sup>3</sup> )	Sta-1	December	25.9	25.9	25.9	300
	Sta-2	December	27.6	27.6	27.6	
	Sta-3	December	73.5	73.5	73.5	
	Sta-4	December	19.0	19.0	19.0	
	Sta-5	December	113.8	113.8	113.8	
TSP/Fugitive Dust-(Visual)	Sta.1, 2, 3, 4, 5	December	Weekly inspection: Negative in all sampling stations			

Standard: DAO14/DAO2000-81

\*\* - A relocated station which is 2.4 km northeast of the original station (Access Road to Airport)

**Based on the results tabulated above for the air quality measurements during the last quarter of 2020, TSP values in five (5) monitoring points are all within the standard set by the DENR National Ambient Air Quality Standards. Since pandemic is still considered, the airport at this quarter became operational again at the middle of December 2020. Minimal disturbance around the area was experienced.**

**Air Quality Results (December 2020) (Unit: ug/Nm<sup>3</sup>)**

Location	31 July & 01 August 2000				July 12 & 13, 2011				December 12 to 13, 2020			
	SO <sub>2</sub>	NO <sub>2</sub>	Pb	TSP	SO <sub>2</sub>	NO <sub>2</sub>	Pb	TSP	SO <sub>2</sub>	NO <sub>2</sub>	Pb	TSP
Sta. 1	ND	32.2	ND	4.9	24.9	3.9	ND	13.8	7.2	3.1	<0.002	25.9
Sta. 2	ND	22.7	ND	429.7	ND	9.4	ND	114.6	4.8	3.7	<0.002	27.6
Sta. 3	ND	9.4	ND	32.3	51.5	2.8	ND	22.4	4.2	4.7	<0.002	73.5
Sta. 4	ND	22.8	ND	5.1	ND	ND	ND	13.6	5.4	1.9	<0.002	19.0
Sta. 5	ND	28.3	ND	10.3	ND	7.2	ND	115.38	7.2	3.4	<0.002	113.8
DENR Standard	180	150	1.5	230	180	150	1.5	230	180	150	1.5	230

Standards: DAO 14/DAO2000-81

All of the values of the concentration of air pollutants are low compared to the limits of the NAAQS specified by DENR.

**DENR National Ambient Air Quality Standards (NAAQS)**

Pollutant	Concentration		Method of Measurement
	ug/Nm <sup>3</sup>	Average Time	
Sulphur Dioxide (SO <sub>2</sub> )	180	1 hr	Kimoto Gas Bubbler Sampler & Pararosaniline
Nitrogen Dioxide (NO <sub>2</sub> )	150	1 hr	Kimoto Gas Bubbler Sampler & Pararosaniline
Total Suspended Particulates (TSP)	230	1 hr	High Volume and Gravimetric
Lead	1.5	1 hr	High Volume and Atomic Absorption Spectrophotometry

**Results of the Noise Monitoring for the Fourth Quarter of Year 2020**

**Noise Level of Baseline Survey (Survey Results of Initial EIA and Revised EIA)**

Location	31 July & 01 August 2000		July 12 & 13, 2011	
	Noise Level, db (A)	Source of Noise Monitored	Noise Level, db (A)	Source of Noise Monitored
Sta. 1	51.3	Noise from passing vehicles	55	Children shouting inside classroom, Car passing by
Sta. 2	50.3	Noise from passing vehicles	52	Car passing by, Motor cycle passing by
Sta. 3	50.5	Noise from passing vehicles	55	Cockcrow Birds sound
Sta. 4	51.9	Noise from passing vehicles	52	Wind noise, People talking, Birds sound
Sta. 5	52.7	Noise from car body building and repair shop	55	Wind noise, People talking, Motor cycle passing by

**Baseline Survey: Two (2) Hours Continuously Measurement (December 2020)**

Date	Dec 13 (Sta. 1), Dec 14 (Sta. 2), Dec 15 (Sta. 3), Dec 16 (Sta. 4) and Dec 12 (Sta. 5), 2020		
Time	10-12	14-16	22-24
Sta. 1	83	85	86
Env. Standard	50		
Wind direction	NE	NE	NE
Sta. 2	92	73	84
Env. Standard	65		
Wind direction	NNE	NNE	NE
Sta. 3	88	76	78
Env. Standard	65		
Wind direction	ENE	NE	NE
Sta. 4	81	81	97
Env. Standard	55		
Wind direction	NE	NE	NE
Sta. 5	86	87	85
Env. Standard	50		
Wind direction	NNE	NE	NNE

Tables above present the values of the respective noise levels at each sampling station.

**STATION 1:** It is located in front of Tawala Elementary School in Brgy. Tawala, Panglao, Bohol. It is situated about 10 meters away from center of the municipal road and about 35 meters from the classrooms. The area is classified as Class AA section or contiguous area which required quietness such as area within 100 meters from school sites, nursery schools, hospitals and special homes for the aged. The noise level in the area distributes from 83-86 dB(A) and during night time (22-24 pm) is around 86 dB(A) and the level exceeded Class AA. The sources of noise were from all type of vehicles passing by.

**STATION 2:** It is situated almost in front of the Brgy Hall of Brgy Danao, Panglao, Bohol. It is about 7 meters away from the center of the municipal road. The area is classified as Class B section or contiguous area which is primarily a commercial (business) area. The noise level in the area distributes from 73-92 dB(A) and during night time (22-24 pm) is around 84 dB(A). The noise is coming from passing all type of vehicles.

**STATION 3:** It is about 30 meters away in front of the municipal hall building of Panglao and about 25 meters from center of the municipal road. The area is classified as Class B section or contiguous area which is primarily a commercial (business) area. The noise level in the area distributes from 76-88 dB(A) and during night time (22-24 pm) is around 78 dB(A) wherein the recorded values exceeded the Class B (commercial area) standard. The sources of noise are passing vehicles (all types) along the highway.

**STATION 4:** The original station is located along the access road of the proposed new Bohol airport in Brgy Tawala, Panglao, Bohol. The area is classified as Class A section or contiguous areas which are primarily a residential area. The noise level in the areas distributes from 60-75 dB(A) and during night time (22-24 pm) is around 70 dB(A). The noise is coming from passing by of all type of vehicles.

**STATION 5:** It is located in front of Bohol Elementary School in Brgy Bolod, Panglao. It is about 2 meters away from the perimeter fence of the school and 5 meters away from center of the municipal road. The area is classified as Class AA section or contiguous area which required quietness such as area within 100 meters from school sites, nursery schools, hospitals and special homes for the aged. The noise level in the area distributes from 85-87 dB(A) and during night time (22-24 pm) is around 85 dB(A) which the level exceeded the standard. These were caused by passing of all types of vehicles in the area.

**Environmental Quality Standards for Noise in General Areas**

Category of Areas	Daytime dB(A) 9:00 AM to 6:00 PM	Morning & Evening dB(A) 6:00 AM to 9:00 PM 6:00 PM to 10:00 PM	Nighttime dB(A) 10:00 PM – 6:00 AM
AA	50	45	40
A	55	50	45
B	65	60	55
C	70	66	60
D	75	70	65

Note:

*Class AA – A section or contiguous area which required quietness such as area within 100 meters from school sites, nursery schools, hospitals and special homes for the aged*

*Class A – A section or contiguous area which is primarily used for residential purposes*

*Class B – A section or contiguous area which is primarily a commercial area*

*Class C – A section or contiguous area which is primarily reserved as light industrial area*

*Class D – A section or contiguous area which is primarily reserved as a heavy industrial area*

**Based on the tabulated results above, all stations exceeded the National Pollution Control Commission set by DENR while the other sampling points on this quarter were beyond the limits. The exceedances were caused by passing of all types of vehicles.**

**Ambient Water Quality Monitoring (if required as part of ECC conditions)****Location of Water Sampling Stations**

Sta. ID No.	GPS Reading		Description of Sampling Stations
	Longitude	Latitude	
<b>GW-1</b>	N 09°35'05.7"	E 123°46'14.5"	It is located at Airport Site Brgy. Tawala, Panglao, Bohol. Owned by deceased Mr. Leoncio Boncaron.
<b>GW-2</b>	N 09°33'30.6"	E 123°45'28.4"	It is located inside the compound of former Brgy. Captain Mr. Avito Arcay which is in front of the Brgy. Hall of Brgy. Danao crossing the municipal road in the municipality of Panglao, Bohol.
<b>SW-1</b>	N 09°32'51.1"	E 123°46'22.2"	This is situated about 100 meters away from the seashore which is in front of the Alona Kew Beach in Brgy. Tawala, Panglao, Bohol.
<b>SW-2</b>	N 09°34'05.0"	E 123°45'03.1"	This is located inside mangrove trees about 150 meters away from seashore in Brgy. Danao, Panglao, Bohol

**Date and Time of Water Sampling for the Fourth Quarter of Year 2020**

Location	Date	Time	Weather
GW-1	December 13, 2020	0857H	Partly Cloudy
GW-2	December 13, 2020	0910H	Partly Cloudy
SW-1	December 13, 2020	0804H	Partly Cloudy
SW-2	December 13, 2020	0817H	Partly Cloudy

**Results of Water Quality Monitoring for the Fourth Quarter of Year 2020****1. Ground Water Quality**

The results of water quality laboratory analyses of groundwater samples are tabulated in table below. These were compared to the results of the previous EIS study conducted in year 2000 and revised EIS study conducted in year 2011.

DENR Administrative Order No. 2016-08 Water Quality Guidelines and General Effluent Standards was used as reference in determining if the required parameters are within or exceed the standards set by the national government.

**2. Sea Water Quality**

The parameters of the current samples which have the good quality compared to the standard limit as stated in DENR Administrative Order No. 2016-08 specifically for seawater Class SB are copper, total coliforms, fecal coliforms, pH, temperature, biological oxygen demand and surfactants. The results are shown in table below.

**Groundwater Quality Results (December 2020)**

Parameters	01 August 2000		13 July 2011		December 13, 2020		DAO No. 2016-08 <sup>1</sup>
	GW-1	GW-2	GW-1	GW-2	GW-1	GW-2	
Iron, mg/L	ND	ND	<0.08	<0.08	0.11	0.76	1.0
Total Coliforms, MPN/100 ml	>16.0	>16.0	>23.0	>23.0	>8.0	>8.0	-
Escherichia Coli	Negative	Negative	Negative	Negative	<1.1	<1.1	-
Heterotrophic Plate Count, CFU/mL	1,100	730	20,000	8,500	1.9x10 <sup>4</sup>	2.8x10 <sup>3</sup>	-
pH	6.99	7.05	6.78	6.91	8.1	8.0	6.50 – 8.50
Temperature, °C	-	-	23	23	26.4	26.4	26-30 <sup>2</sup>
Color, TCU	-	-	<4	<4	5	5	50 <sup>3</sup>
Settleable Solids, mg/L	-	-	<0.10	<0.10	<0.1	<0.1	-
Dissolved Oxygen, mg/L	-	-	8.0	7.9	6.2	6.0	-
Biological Oxygen Demand, mg/L	-	-	<2	<2	5	5	-
Chemical Oxygen Demand, mg/L	-	-	29	19	24	27	-
Total Dissolved Solids, mg/L	484	956	502	495	1843	1409	-
MBAS (Surfactants), mg/L	-	-	<0.10	<0.10	0.1	<0.1	0.2
Nitrogen, mg/L	-	-	-	--	2.26	1.99	7
Phosphorus, mg/L	-	-	-	-	<0.006	0.148	0.5
Total Suspended Solids, mg/L	-	-	<2.0	<2.0	<2	26	50
Oil & Grease, mg/L	-	-	1.0	1.2	6	4	1
Calcium, mg/L	81.70	88.92	97	98	160	131	-
Magnesium, mg/L	11.56	18.07	9.6	7.9	1.77	1.83	-
Chloride, mg/L	164	386	112	97	<b>469</b>	<b>426</b>	250
Silica, mg/L	7.67	8.42	4.4	3.2	1.76	4.71	-
Sulfite, mg/L	7	35	<0.50	<0.50	<2	<2	-
Total Hardness, mg/L	252	296	282	277	552	563	-

*Reference Standards:*

*\*(1) Water Quality Guidelines for Groundwater (Class A WQG)*

*\*(2) No abnormal discoloration from unnatural causes*

*\*(3) Minimum value 0.*



**Seawater Quality Results (December 2020)**

Parameters	01 August 2000	14 July 2011		December 13, 2020		DAO No. 2016-08 <sup>1</sup>
	SW-1	SW-1	SW-2	SW-1	SW-2	
Copper, mg/L		<0.04	<0.04	0.053	0.046	0.02
Total Coliforms, MPN/100 ml	<2	<1.8	<1.8	4.5	2.0	-
Fecal Coliforms, MPN/100 ml	<2	<1.8	<1.8	<1.8	<1.8	100/200
pH	7.48	7.95	8.40	7.9	7.8	7.0-8.5/6.5-8.5
Temperature, °C	-	23	23	26.5	26.5	26-30/25-31
Color, TCU	-	5	10	5	5	50 <sup>2</sup> /75 <sup>2</sup>
Dissolved Oxygen, mg/L	-	5.7	8.8	7.6	7.5	6.0 <sup>3</sup> /5.0 <sup>3</sup>
Biological Oxygen Demand, mg/L	19	2	<2	8	12	-
MBAS (Surfactants), mg/L	-	<0.10	<0.10	0.1	0.1	0.3/1.5
Nitrogen, mg/L	-	-	-	0.034	<0.003	10
Phosphorus, mg/L	-	-	-	<0.006	<0.006	0.5
Total Suspended Solids, mg/L	29	20	4.0	24	23	50/80
Oil & Grease, mg/L	ND	1.1	1.2	5	4	2/3

*Reference Standards:*

*\*(1) Water Quality Guidelines for Marine Water (SW-1 is Class SB and SW-2 is Class SC)*

*\*(2) No abnormal discoloration from unnatural causes*

*\*(3) Minimum value*

Based on the results of the groundwater quality, Chloride exceeded the limit of the national standard set at DAO 2016-08 Water Quality Guidelines. The main reason for the exceedance is that both sources are dug well wherein contaminants and other bacteria easily collide with the water.

For seawater, all parameters are within the standard set at DAO 2016-08 for marine water while the other parameters are fine.

**Other ECC Conditions**

ECC Condition/s	Status of Compliance		Actions Taken
	Yes	No	
1. Creation of MOA-MMT	✓		Formalized in 2014 but abolished due to DAO 2017-15 issued by DENR on May 2, 2017. No more MMT for this airport project.
2. Environmental Guarantee Fund, Environmental Monitoring Fund and Thrust Fund	✓		Funds Deposited at Landbank Tagbilaran Branch
3. Submission of updated design of the facilities and siting to DENR-EMB Region 7	✓		Incorporated in the documents submitted for the Request for 2 <sup>nd</sup> Amendment of the ECC on December 2016. The Amended ECC was issued by EMB Region 7 on July 25, 2017
4. Secure all necessary permits such as Building Permit, and Environmental and Sanitation Permit. Compliance with applicable provisions of RA 6969, RA 8749, RA 9003 and RA 9275	✓		<ul style="list-style-type: none"> <li>• Building Permit                             <ol style="list-style-type: none"> <li>1. Building Permit No. 180308103 issued on March 8, 2018</li> </ol> </li> <li>• Environmental and Sanitation Permits                             <ol style="list-style-type: none"> <li>1. RA 6969 – HW Generator Registration Certificate No. M-GR-R7-12-00230 issued on December 8, 2018</li> <li>2. RA 8749 – RA 8749 – According to DENR-EMB R7, the application was approved. Unable to get the certificate for Permit to Operate due to COVID-19 pandemic lockdown</li> <li>3. RA 9003 – Solid Waste Management (SWM) Plan during the construction and operation of the airport had been submitted to DENR-EMB R7.</li> <li>4. RA 9275 – Discharge Permit had been secured (DP-RO7-19-04256)</li> </ol> </li> </ul>
5. Provision of nursery with at least 572,500 seedlings shall be established in support to the Green Philippine Master Plan. Planting of appropriate trees shall be implemented and maintain throughout the lifespan of the project.	✓		Implementation of the Biodiversity Conservation Project (Reforestation) is being undertaken by DENR-PENRO-Bohol thru a MOA with DOTr. The fund for the reforestation had been downloaded by DOTr to PENRO-Bohol on February 2018. Nursery has been established too. DOTr-PMO will do the monitoring for the reforestation project. As of December 31, 2020, there are 1,052,577 seedlings procured out of the 624,104 which is 168.65% of the total required species. The said numbers are still

ECC Condition/s	Status of Compliance		Actions Taken
	Yes	No	
			<p>the same of the previous quarter since pandemic, movement of people from one area to another are minimal. The total seedlings required should be 748,925 including the 20% mortality. To date, the team of the BCP already planted about 705,779 species covering the Local Government Units of Dimiao, Guindulman, Balilihan, Bilar, Alburquerque, Loay Baclayon, Cortes, Panglao, Sikatuna and Catigbian.</p> <p>For the activities conducted by PENRO-Bohol in relation to the Biodiversity Conservation Plan (BCP)/Reforestation from October to December 2020, see <b>Attachment 3</b>.</p>
6. Establishment of reforestation using endemic/indigenous species or other carbon sink programs such as the use of biochar to mitigate greenhouse gas (GHG) emission of the project in line with the DENR's thrust for GHG emission reduction program	✓		Using of biochar or other carbon sink programs are considered in the implementation of the reforestation as assured by PENRO-Bohol and to be monitored by DOTr.
7. Submission of Approved Work and Financial Program for the seedling production and tree planting activities shall be submitted	✓		Complied
8. Implementation of continuous IEC	✓		Complying
9. Submission of semi-annually ECC compliance report	✓		Complying

**Environmental Management Plan/Program**

Enhancement/Mitigation Measures	Status of Implementation		Actions Taken
	Yes	No	
1. Noise level effluents during all phases shall conform DENR standard	✓		On-going (Those areas exceeded the DENR standard were not caused by the construction but from the activities around the sampling stations.)
2. Concrete livelihood projects shall be provided among affected stakeholders	✓		On-going

3. Landscaping and re-vegetation	✓		On-going
----------------------------------	---	--	----------

Please use additional sheet/s if necessary.

**Solid Waste Characterization/Information for the 4<sup>th</sup> Quarter of 2020:**

Average Quantity of Solid Wastes Generated per month	90 kg	Total Quantity of Solid Wastes Generated this Quarter	271 kg
Average Quantity of Solid Wastes Collected per month	61 kg	Total Quantity of Solid Wastes Collected this Quarter	182 kg
Entity in charge of collecting solid wastes	Panglao Municipality (LGU Solid Waste Management Office)		
Brief Description of Solid Waste Management Plan (e.g., waste reduction, segregation, recycling)	The Contractor provided collection bins within and around the site. Temporary MRF had been demolished and the constructed MRF is being used since the airport became operational. Daily collection is being implemented within the project area and daily, as necessary, outside the project site. Segregated wastes are being collected by the LGU of Panglao. Only residual wastes are collected and delivered at Albuquerque Sanitary Landfill depending on their assigned schedule. Recyclable wastes are being sold and biodegradable wastes used as compost wherein composting pit can be observed at the vicinity of the MRF site.		

**MODULE 6: OTHERS**

**Accidents & Emergency Records - NONE**

Date	Area/Location	Findings and Observation	Actions Taken	Remarks

**Personnel/Staff Training**

Date Conducted	Course/Training Description	# of Personnel Trained
April 21, 2018	Basic Pollution Control Officer (PCO) Training Course	1

*I hereby certify that the above information are true and correct.*

Done this \_\_\_\_\_, 2020, in Panglao, Bohol.

**ENGR. ABELARDO D. SORE, JR.**

Assistant Project Manager

SUBSCRIBED AND SWORN before me, a Notary Public, this \_\_\_\_ day of \_\_\_\_\_ 2020, affiants exhibiting to me their Government IDs:

Name	Government ID No.	Issued at	Issued on
Abelardo D. Sore, Jr.	<u>TIN 124-301-486</u>	_____	_____
Restituto P. Erojo, Jr.	<u>TIN 131-614-708</u>	_____	_____

# ATTACHMENTS

**Attachment 1**  
**LOCATION MAP AND PHOTOS OF SAMPLING STATIONS**





Ambient Air Quality at Tawala Elementary School (Station 1)



Ambient Air Quality at Danao Barangay Hall (Station 2)





Ambient Air Quality Monitoring at Panglao Municipal Hall (Station 3)



Ambient Air Quality Monitoring at Access Road (Station 4)



Ambient Air Quality Monitoring at Bolod Elementary School (Station 5)



Sea Water Quality Monitoring about 100 meters away from the seashore in front of Alona Kew Beach in Brgy. Tawala, Panglao Bohol (SW-1)



Sea Water Quality Monitoring at about 150 meters away from seashore in Brgy. Danao, Panglao, Bohol (SW-2)



Groundwater Quality Monitoring at Airport Site in Brgy. Tawala, Panglao, Bohol (GW-1)



Groundwater Quality Monitoring in front of the Brgy. Hall of Brgy Danao crossing the municipal road in Panglao, Bohol (GW-2)



Noise Level Monitoring at Tawala Elementary School (Station 1)



Noise Level Monitoring at Danao Barangay Hall (Station 2)



Noise Level Monitoring Infront of Municipal Hall (Station 3)



Noise Level Monitoring at Access Road to Airport (Station 4)



Noise Level Monitoring at Bolod Elementary School (Station 5)

**Attachment 2**

**LABORATORY RESULTS OF BASELINE MONITORING**



Unit 201-202 & 406 Rizalina Annex Bldg. 1677 Quezon Avenue, Quezon City  
Tel. No. 927-77-15 Fax No. 929-4824 Email: info@elarsi.com

CLIENT	<b>BSI</b>	Lab Report No.	202886-AA
ADDRESS	2 <sup>nd</sup> Flr. VAG Bldg., Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled	12-12-20 to 12-13-20
Contact Number	8863-6129	Date Received	12-23-20
Nature of Sample/s	Ambient Air Sample	Date Analyzed	12-23-20 to 12-28-20
No. of Sample/s Submitted	Five (5)	Date Reported	12-28-20

**[ R E P O R T O F A N A L Y S E S ]**

Sample No.	Sample ID	TSP, µg
ES-2014836	PJ 20 057 P4 A - 1	1,500
ES-2014837	PJ 20 057 P4 A - 2	1,600
ES-2014838	PJ 20 057 P4 A - 3	4,300
ES-2014839	PJ 20 057 P4 A - 4	1,100
ES-2014840	PJ 20 057 P4 A - 5	6,600

Method	Method 501 / Gravimetric
Detection Limit	100

Reference:  
James P. Lodge, Methods for Ambient Air Sampling & Analysis, 3<sup>rd</sup> edition

Analyzed By	Checked By	Certified Correct By
 <b>HEDDY SUZANÉ D. CHIONG, RCHT</b> Laboratory Chemical Technician PRC Lic. No. 0094673	 <b>JULIE CHRISTILLE HAPPY G. MORTE, RCh</b> Laboratory Supervisor PRC Lic. No. 0012978	 <b>RENATO M. GOFREDO, JR., RCh</b> Laboratory Manager PRC Lic. No. 0089824

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CLIENT	<b>BSI</b>	Lab Report No	202887-AA
ADDRESS	2 <sup>nd</sup> Flr., VAG Bldg Origas Ave. Greenhills San Juan, Metro Manila	Date Sampled	12-12-20 to 12-13-20
Contact #	8863-6129	Date Received	12-23-20
Nature of Sample/s	: Ambient Air Sample	Date Analyzed	12-23-20
No. of Sample/s Submitted	: Five (5)	Date Reported	12-23-20

[ R E P O R T O F A N A L Y S E S ]

Sample No.	Sample ID	SO <sub>2</sub> , µg
ES-2014871	PJ 20 057 P4 A - 1	0.417
ES-2014872	PJ 20 057 P4 A - 2	0.278
ES-2014873	PJ 20 057 P4 A - 3	0.244
ES-2014874	PJ 20 057 P4 A - 4	0.313
ES-2014875	PJ 20 057 P4 A - 5	0.417

Method	Method 704A / Pararosaniline
Detection Limit	0.167

*Reference*  
 James P. Lodge, Methods for Ambient Air Sampling & Analysis, 3<sup>rd</sup> edition

Analyzed By	Checked By	Certified Correct By
 <b>JENNY MAY A. AMOR, RChT</b> Laboratory Chemical Technician PRC Lic. No. 0003736	 <b>JULIE CHRISTILLE HAPPY G. MORTE, RCh</b> Laboratory Supervisor PRC Lic. No. 0012578	 <b>RENATO M. GOFEREDO, JR., RCh</b> Laboratory Manager PRC Lic. No. 0009824

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CLIENT	<b>BSI</b>	Lab Report No	202888-AA
ADDRESS	2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled	12-12-20 to 12-13-20
Contact Number	8863-6129	Date Received	12-23-20
Nature of Sample/s	Ambient Air Sample	Date Analyzed	12-23-20
No. of Sample/s Submitted	Five (5)	Date Reported	12-23-20

[ R E P O R T O F A N A L Y S E S ]

Sample No.	Sample ID	NO <sub>x</sub> , µg
ES-2014876	PJ 20 057 P4 A - 1	0.180
ES-2014877	PJ 20 057 P4 A - 2	0.216
ES-2014878	PJ 20 057 P4 A - 3	0.273
ES-2014879	PJ 20 057 P4 A - 4	0.111
ES-2014880	PJ 20 057 P4 A - 5	0.195

<b>Method</b>	<b>Method 406 / Griess-Saitzman</b>
<b>Detection Limit</b>	<b>0.040</b>

Reference:  
James P. Lodge, Methods for Ambient Air Sampling & Analysis, 3<sup>rd</sup> edition

Analyzed By

*Jenny May A. Anor*  
**JENNY MAY A. ANOR, RChT**  
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PRC Lic. No. 0008726

Checked By

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**JULIE CHRISTILLE HAPPY G. MORTE, RCh**  
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PRC Lic. No. 0012578

Certified Correct By

*Renato M. Gofredo, Jr.*  
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CLIENT	<b>BSI</b>	Lab. Report No	: 202889-AA
ADDRESS	2 <sup>nd</sup> Flr. VAG Bldg Ortigas Ave Greenhills	Date Sampled	: 12-12-20 to 12-13-20
	San Juan, Metro Manila	Date Received	: 12-23-20
Contact #	8863-6129	Date Analyzed	: 12-23-20 to 12-29-20
Nature of Sample/s	Ambient Air Sample	Date Reported	: 01-05-21
No. of Sample/s Submitted	Five (5)		

[ R E P O R T O F A N A L Y S E S ]

Sample No.	Sample ID	Lead (Pb), µg
ES-2014881	PJ 20 057 P4 A- 1	< 0.07
ES-2014882	PJ 20 057 P4 A - 2	< 0.07
ES-2014883	PJ 20 057 P4 A - 3	< 0.07
ES-2014884	PJ 20 057 P4 A - 4	< 0.07
ES-2014885	PJ 20 057 P4 A - 5	< 0.07
<b>Method</b>		<b>ASTM D 4185-06 / Flame AAS</b>
<b>Detection Limit</b>		<b>0.07</b>

Reference:  
 CFR 40 Appendix G to Part 50  
 ASTM International

Analyzed By:   
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Checked By:   
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Analyzed By:   
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 Laboratory Manager  
 PRC Lic. No. 0009824

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CUENT	BSI	Lab. Report No.	202890-MW
ADDRESS	2 <sup>nd</sup> Flr. VAG Bldg Ortigas Ave. Greenhills San Juan Metro Manila	Date Sampled	12-13-20
Contact Number	8853-6129	Date Received	12-23-20
Nature of Sample/s	Manne Water	Date Analyzed	12-23-20 to 01-05-21
No. of Sample/s Submitted	Two (2)	Date Reported	01-06-21

[ R E P O R T O F A N A L Y S E S ]

Sample No. ES-2014886      Sample ID PJ 20 057 P4 MW - 1

Parameters	Result	Method	Reporting Limit
Color, TCU	5 @ pH 7.94	2120B / Visual Comparison	5
Biochemical Oxygen Demand (BOD <sub>5</sub> ), mg/L	8	5210B / Azide Modification (Dilution Technique)	1
Dissolved Oxygen (DO), mg/L	7.6	4500-O.C / Azide Modification	0.1
Oil and Grease (O&G), mg/L	5	5520B / Partition-Gravimetric	1
Total Suspended Solids (TSS), mg/L	24	2540D / Gravimetric	2
Nitrate as N, mg/L	0.034	EPA 352.1 / Brucine - Sulfanilic	0.003
Phosphate as P, mg/L	0.006	4500-P.D / Stannous Chloride	0.006
Surfactants (MBAS), mg/L	0.2	5540C / Methylene Blue	0.1

Reference:  
 Standard Methods for Examination of Water and Wastewater (APHA-AWWA, 23<sup>rd</sup> ed., 2011)  
 US Environmental Protection Agency

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CLIENT	<b>BSI</b>	Lab Report No.	202890-MW
ADDRESS	2 <sup>nd</sup> Flr VAG Bldg Ortigas Ave. Greenhills Sari Juan, Metro Manila	Date Sampled	12-13-20
Contact Number	8863-6129	Date Received	12-23-20
Nature of Sample/s	Marine Water	Date Analyzed	12-23-20 to 01-05-21
No. of Sample/s Submitted	Two (2)	Date Reported	01-06-21

**[ R E P O R T O F A N A L Y S E S ]**

Sample No.                      Sample ID  
 ES-2014887                      PJ 20 057 P4 MW - 2

Parameters	Result	Method	Reporting Limit
Color, TCU	5 @ pH 7.98	2120B / Visual Comparison	5
Biochemical Oxygen Demand (BOD <sub>5</sub> ), mg/L	12	5210B / Azide Modification (Dilution Technique)	1
Dissolved Oxygen (DO), mg/L	7.5	4500-O C / Azide Modification	0.1
Oil and Grease (O&G), mg/L	4	5520B / Partition-Gravimetric	1
Total Suspended Solids (TSS), mg/L	23	2540D / Gravimetric	2
Nitrate as N, mg/L	< 0.003	EPA 352.1 / Brucine - Sulfanilic	0.003
Phosphate as P, mg/L	< 0.006	4500-P D / Stannous Chloride	0.006
Surfactants (MBAS), mg/L	0.1	5540C / Methylene Blue	0.1

Reference:  
 Standard Methods for Examination of Water and Wastewater, APHA-AWWA, 23<sup>rd</sup> ed., 2017  
 U.S. Environmental Protection Agency

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CLIENT	<b>BSI</b>	Lab Report No	202890-MW
ADDRESS	2 <sup>nd</sup> Flr. VAG Bldg Ortigas Ave. Greenhills San Juan Metro Manila	Date Sampled	12-13-20
Contact Number	8863 6129	Date Received	12-23-20
Nature of Sample/s	Marine Water	Date Analyzed	12-23-20 to 01-05-21
No. of Samples Submitted	Two (2)	Date Reported	01-06-21

Analyzed By:   
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Laboratory Chemical Technician  
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Checked By:   
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PRC Lic. No. 0014736

Certified Correct By:   
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Laboratory Manager  
PRC Lic. No. 0009824

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Tel. No. 927-77-15 Fax No. 929-4824 Email: info@elarsi.com

CLIENT	<b>BSI</b>	Lab Report No	202891-MW
ADDRESS	2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled	12-13-20
Contact #	8863-6129	Date Received	12-23-20
Nature of Sample/s	Marine Water	Date Analyzed	12-23-20 to 01-05-21
No. of Sample/s Submitted	Two (2)	Date Reported	01-05-21

[ R E P O R T O F A N A L Y S E S ]

Sample No.	Sample ID	Copper (Cu), mg/L
ES-2014886	PJ 20 057 P4 MW - 1	0.053
ES-2014887	PJ 20 057 P4 MW - 2	0.046
<b>Method</b>		<b>3030F / Flame AAS</b>
<b>Detection Limit</b>		<b>0.004</b>

Reference:  
DPR 40 Appendix 5 to Part 50  
ASTM International

Analyzed By  
  
**ARON PAUL V. SOLIMAN, RChT**  
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Laboratory Analyst 1  
PRC Lic. No. 0014463

Certified Correct By  
  
**RENATO M. GOIREDO, JR., RCh**  
Laboratory Manager  
PRC Lic. No. 0009824

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 Tel. No. 927-77-15 Fax No. 929-4824 Email: info@elarsi.com

CLIENT	<b>BSI</b>	Lab Report No.	202892-GW
ADDRESS	2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave Greenhills San Juan, Metro Manila	Date Sampled	12-13-20
CONTACT#	8863-6129	Date Received	12-23-20
Nature of Sample/s	Ground Water	Date Analyzed	12-23-20 to 01-06-21
No. of Sample/s Submitted	Two (2)	Date Reported	01-07-21

**[ R E P O R T O F A N A L Y S E S ]**

Sample No.                      Sample ID  
 FS-2014888                      =                      PJ 20 057 P4 GW - 1

Parameters	Result	Method	Reporting Limit
Color, TCU	5 @ 7.74	2120B / Visual Comparison	5
Biochemical Oxygen Demand (BOD <sub>5</sub> ), mg/L	5	5210B / Azide Modification (Dilution Technique)	1
Chemical Oxygen Demand (COD), mg/L	24	5220D / Closed Reflux - Colorimetric	2
Chloride (Cl), mg/L	469	4500Cl B / Argentometric	1
Dissolved Oxygen (DO), mg/L	6.2	4500-O C / Azide Modification	0.1
Oil and Grease (O&G), mg/L	6	5520B / Partition-Gravimetric	1
Total Suspended Solids (TSS), mg/L	< 2	2540D / Gravimetric	2
Total Dissolved Solids (TDS), mg/L	1.843	2540C / Gravimetric	3
Total Hardness, mg/L CaCO <sub>3</sub>	552	2340C / EDTA Titrimetric	1
Nitrate as N, mg/L	2.26	EPA 352.1 / Brucine - Sulfanilic	0.003
Phosphate as P, mg/L	< 0.006	4500-P D / Stannous Chloride	0.006
Surfactants (MBAS), mg/L	0.1	5540C / Methylene Blue	0.1
Settleable Solids (SS), ml/L	< 0.1	2540F / Imhoff Cone	0.1
Silica (SiO <sub>2</sub> ), mg/L	1.76	4500-SiO <sub>2</sub> C / Molybdosilicate	1.0
Sulfite (SO <sub>3</sub> ), mg/L	< 2	4500-SO <sub>3</sub> <sup>2-</sup> B / Iodometric	2

Reference  
 Standard Methods for Examination of Water and Wastewater, APHA-AWWA, 23<sup>rd</sup> ed., 2017  
 US Environmental Protection Agency

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CLIENT : **BSI** Lab Report No. : 202892-GW  
 ADDRESS : 2<sup>nd</sup> Flr., VAG Bldg Ortigas Ave. Greenhills Date Sampled : 12-13-20  
 San Juan, Metro Manila Date Received : 12-23-20  
 CONTACT# : 8863-6129 Date Analyzed : 12-23-20 to 01-06-21  
 Nature of Sample/s : Ground Water Date Reported : 01-07-21  
 No. of Sample/s Submitted : Two (2)

**[ R E P O R T O F A N A L Y S E S ]**

Sample No. : ES-2014889 = Sample ID : PJ 20 057 P4 GW - 2

Parameters	Result	Method	Reporting Limit
Color, TCU	5 @ 7.48	2120B / Visual Comparison	5
Biochemical Oxygen Demand (BOD <sub>5</sub> ), mg/L	5	5210B / Azide Modification (Dilution Technique)	1
Chemical Oxygen Demand (COD), mg/L	27	5220D / Closed Reflux - Colorimetric	2
Chloride (Cl), mg/L	426	4500Cl B / Argentometric	1
Dissolved Oxygen (DO), mg/L	6.0	4500-O C / Azide Modification	0.1
Oil and Grease (O&G), mg/L	4	5520B / Partition-Gravimetric	1
Total Suspended Solids (TSS), mg/L	26	2540D / Gravimetric	2
Total Dissolved Solids (TDS), mg/L	1.409	2540C / Gravimetric	3
Total Hardness, mg/L CaCO <sub>3</sub>	563	2340C / EDTA Titrimetric	1
Nitrate as N, mg/L	1.99	EPA 352.1 / Brucine - Sulfanilic	0.003
Phosphate as P, mg/L	0.148	4500-P D / Stannous Chloride	0.006
Surfactants (MBAS), mg/L	< 0.1	5540C / Methylene Blue	0.1
Settleable Solids (SS), ml/L	< 0.1	2540F / Imhoff Cone	0.1
Silica (SiO <sub>2</sub> ), mg/L	4.71	4500-SiO <sub>2</sub> C / Molybdosilicate	1.0
Sulfite (SO <sub>3</sub> <sup>2-</sup> ), mg/L	< 2	4500-SO <sub>3</sub> <sup>2-</sup> B / Iodometric	2

Reference:  
 Standard Methods for Examination of Water and Wastewater: APHA-AWWA, 23<sup>rd</sup> ed., 2017  
 US Environmental Protection Agency

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CLIENT : <b>BSI</b>	Lab. Report No : 202892-GW
ADDRESS : 2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled : 12-13-20
CONTACT# : 8863-6129	Date Received : 12-23-20
Nature of Sample/s : Ground Water	Date Analyzed : 12-23-20 to 01-06-21
No. of Sample/s Submitted : Two (2)	Date Reported : 01-07-21

Analyzed By:   
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Analyzed By:   
CLARISSA C. DEZA, RChT  
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Checked By:   
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Analyzed By:   
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 PRC Lic. No. 0014738

Certified Correct By:   
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 Laboratory Manager  
 PRC Lic. No. 0009624



DENR  
 RECOGNIZED  
 LABORATORY  
 G.R. No. 00070718



DOH  
 ACCREDITED  
 LABORATORY  
 TS-0010-10PR-1-W-2

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CLIENT	<b>BSI</b>	Lab Report No	202893-GW
ADDRESS	2 <sup>nd</sup> Flr., VAG Bldg. Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled	12-13-20
Contact Number	8863-6129	Date Received	12-23-20
Nature of Samplers	Ground water	Date Analyzed	12-23-20 to 01-06-21
No. of Samplers Submitted	Two (2)	Date Reported	01-06-21

[ REPORT OF ANALYSES ]

Parameters	Result	Method	Reporting Limit
Calcium (Ca), mg/L	160	3500-Ca B / EDTA Titrimetric	1
Iron (Fe) mg/L	0.11	3030F / Flame AAS	0.03
Magnesium (Mg), mg/L	1.77	3030F / Flame AAS	0.10

Reference  
Standard Methods for Examination of Water and Wastewater: APHA, AWWA, WPCF, ed. 2017

Analyzed By  
  
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CLIENT	<b>BSI</b>	Lab. Report No.	202893-GW
ADDRESS	2 <sup>nd</sup> Flr. VAG Bldg Origas Ave. Greenhills San Juan, Metro Manila	Date Sampled	12-13-20
Contact Number	8863-8129	Date Received	12-23-20
Nature of Sample/s	Ground water	Date Analyzed	12-23-20 to 01-06-21
No. of Sample/s Submitted	Two (2)	Date Reported	01-06-21

**[ R E P O R T O F A N A L Y S E S ]**

Sample No.                      Sample ID  
 ES-2014889                      =                      PJ 20 057 P4 GW-2

Parameters	Result	Method	Reporting Limit
Calcium (Ca), mg/L	131	3500-Ca B / EDTA Titrimetric	1
Iron (Fe), mg/L	0.76	3030F / Flame AAS	0.03
Magnesium (Mg), mg/L	1.83	3030F / Flame AAS	0.10

Reference:  
 Standard Methods for Examination of Water and Wastewater: APHA 1920/AWA 23<sup>rd</sup> ed. 2017

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 Tel. No. 927-77-15 Fax No. 929-4824 Email: info@elarsi.com

CLIENT	: BSI	Lab. Report No	: 210230-GW
ADDRESS	: 2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave, Greenhills San Juan, Metro Manila	Date Sampled	: 01-16-21
Contact Number	: 8863-6129	Date Received	: 01-25-21
Nature of Sample/s	: Ground Water	Date Analyzed	: 01-25-21 to 01-28-21
No. of Sample/s Submitted	: Two (2)	Date Reported	: 01-28-21

**[ R E P O R T O F A N A L Y S E S ]**

Sample No.	Sample ID	Thermotolerant Coliform, MPN/100 mL
ES-2100909	PJ 20 057 P4 GW - 1	< 1.1
ES-2100910	PJ 20 057 P4 GW - 2	< 1.1
<b>Method</b>		<b>Method 9221E / Multiple Tube Fermentation Technique</b>
<b>Reporting Limit</b>		<b>1.1</b>

*Reference:*  
 Standard Methods for Examination of Water and Wastewater, APHA-AWWA, 23<sup>rd</sup> ed. 2017

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Tel. No. 927-77-15 Fax No. 929-4624 Email: info@elarsi.com

CLIENT	: BSI	Lab. Report No.	: 210230-GW
ADDRESS	: 2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled	: 01-16-21
Contact Number	: 8863-6129	Date Received	: 01-25-21
Nature of Sample/s	: Ground Water	Date Analyzed	: 01-25-21 to 01-28-21
No. of Sample/s Submitted	: Two (2)	Date Reported	: 01-28-21

[ REPORT OF ANALYSES ]

Sample No.	Sample ID	Total Coliform, MPN/100 mL
ES-2100909	PJ 20 057 P4 GW - 1	> 8.0
ES-2100910	PJ 20 057 P4 GW - 2	> 8.0
<b>Method</b>		<b>Method 9221B / Multiple Tube Fermentation Technique</b>
<b>Reporting Limit</b>		<b>8.0</b>

Reference  
Standard Methods for Examination of Water and Wastewater, APHA-AWWA, 23<sup>rd</sup> ed. 2017

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CLIENT	: BSI	Lab Report No.	: 210230-GW
ADDRESS	: 2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled	: 01-18-21
Contact Number	: 8863-6129	Date Received	: 01-25-21
Nature of Sample/s	: Ground Water	Date Analyzed	: 01-25-21 to 01-28-21
No. of Samples Submitted	: Two (2)	Date Reported	: 01-28-21

[ R E P O R T O F A N A L Y S E S ]

Sample No.	Sample ID	Heterotrophic Plate Count (HPC), CFU/mL	E. coli, MPN/100 mL
ES-2100909	PJ 20 057 P4 GW - 1	1.9 x 10 <sup>4</sup>	< 1.1
ES-2100910	PJ 20 057 P4 GW - 2	2.8 x 10 <sup>3</sup>	< 1.1

Method	Method 9215B / Pour Plate	Method 9221F / Multiple Tube Fermentation Technique
Reporting Limit	1	1.1

Reference:  
Standard Methods for Examination of Water and Wastewater, APHA-AWWA, 23<sup>rd</sup> ed., 2017

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Tel. No. 927-77-15 Fax No. 929-4824 Email: info@elarsi.com

CLIENT	<b>BSI</b>	Lab. Report No	: 210231-MW
ADDRESS	2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled	: 01-06-21
Contact Number	: 8863-6129	Date Received	: 01-25-21
Nature of Sample/s	: Marine Water	Date Analyzed	: 01-26-21 to 01-29-21
No. of Sample/s Submitted	: Two (2)	Date Reported	: 01-29-21

[ R E P O R T O F A N A L Y S E S ]

Sample No.	Sample ID	Thermotolerant Coliform, MPN/100 mL
ES-2100911	PJ 20 057 P4 MW - 1	< 1.8
ES-2100912	PJ 20 057 P4 MW - 2	< 1.8

Method	Method 9221E / Multiple Tube Fermentation Technique
Reporting Limit	1.8

Reference:  
Standard Methods for Examination of Water and Wastewater, APHA-AWWA, 21<sup>st</sup> ed. 2017

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 Tel. No. 927-77-15 Fax No. 929-4824 Email: info@elarsi.com

CLIENT	: BSI	Lab. Report No.	: 210231-MW
ADDRESS	: 2 <sup>nd</sup> Flr., VAG Bldg Ortigas Ave. Greenhills San Juan, Metro Manila	Date Sampled	: 01-06-21
Contact Number	: 8863-6129	Date Received	: 01-25-21
Nature of Sample/s	: Marine Water	Date Analyzed	: 01-26-21 to 01-29-21
No. of Sample/s Submitted	: Two (2)	Date Reported	: 01-29-21

**[ R E P O R T O F A N A L Y S E S ]**

Sample No.	Sample ID	Total Coliform, MPN/100 mL
ES-2100911	PJ 20 057 P4 MW – 1	4.5
ES-2100912	PJ 20 057 P4 MW – 2	2.0

Method	Method 9221B / Multiple Tube Fermentation Technique
Reporting Limit	1.8

Reference:  
 Standard Methods for Examination of Water and Wastewater: APHA-AWWA, 23<sup>rd</sup> ed. 2017

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**Attachment 3**  
**STATUS OF REFORESTATION/BIODIVERSITY CONSERVATION PLAN**  
**as of December 31, 2020**

With regards to the compliance for the Biodiversity Conservation Plan (BCP), as of December 31, 2020, there are 1,052,577 seedlings procured out of the 624,104 which is 168.65% of the total required species. The said numbers are still the same of the previous quarter since pandemic, movement of people from one area to another are minimal. The total seedlings required should be 748,925 including the 20% mortality. To date, the team of the BCP already planted about 705,779 species covering the Local Government Units of Dimiao, Guindulman, Balilihan, Bilar, Albuquerque, Loay Baclayon, Cortes, Panglao, Sikatuna and Catigbian. The list of available species for the tree planting are:

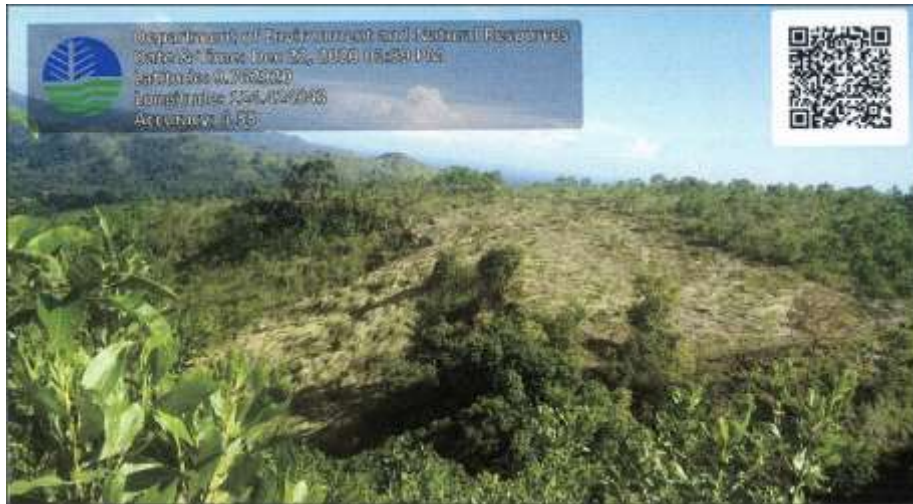
Species	No. of Species for December 2020	No. of Species to Date
<b>Fruit Trees</b>	-	<b>38,321</b>
<i>Grafted</i>	-	11,226
1. Rambutan (Maharlika)	-	2,245
2. Lanzones	-	2,245
3. Pomelo	-	2,245
4. Durian	-	2,245
5. Lemonsito	-	2,246
<i>From Seeds</i>	-	27,095
1. Jack Fruit	-	4,590
2. Lanzones	-	140
3. Guyabano	-	2,950
4. Lime Lemon	-	4,185
5. Marang	-	1,970
6. Duhat	-	6,335
7. Guava	-	2,990
8. Rambutan	-	1,060
9. Durian	-	75
10. Pomelo	-	200
11. Tambis	-	900
12. Bignay	-	600
13. Lipote	-	1,100
<b>Timber</b>	-	<b>519,433</b>
1. Mangium	-	359,719
2. Molave	-	6,550
3. Narra	-	18,072
4. Kamagong	-	4,310
5. Tuai	-	13,000
6. Tindalo	-	280
7. Rain Tree	-	5,000
8. Quisumbing-guisok	-	5,000
9. Kalingag	-	4,000
10. Mangachapoi	-	5,000
11. Mahogany	-	79,512
12. Narig	-	2,000
13. Mangasinoro	-	2,000

Species	No. of Species for December 2020	No. of Species to Date
14. Talisay	-	4,957
15. Ilang-ilang	-	75
16. Acacia auriculiformis	-	9,488
17. Bahai	-	33
18. Bangkal	-	237
19. Langin	-	200
<b>Ornamental</b>	-	<b>32,100</b>
1. Gumamela	-	21,400
2. Fire Tree	-	3,100
3. African Tulip	-	7,500
4. Caballero	-	100
<b>Mangrove propagules collection</b>	-	<b>439,000</b>
<b>Coconut</b>	-	<b>2,409</b>
<b>Bamboo</b>	-	<b>364</b>
<b>Rattan</b>	-	<b>10,000</b>
1. Palasan	-	10,000
<b>Coffee</b>	-	<b>3,000</b>
1. Robusta	-	3,000
<b>Cacao (Budded)</b>	-	<b>4,000</b>
1. Cacao (from seeds)	-	4,000
<b>Total Accomplished</b>	-	<b>1,052,577</b>

Some of the photos taken for the biodiversity activities as of December 2020 are shown below.

### Maintenance and Protection (Guindulman, Bohol)





### Planting of Indigenous and Fruit Trees





### Fireline Establishment



**Maintenance and Protection (Dimiao, Bohol)**



**Maintenance and Protection (Alburquerque, Bohol)**



