PART 02
Environmentally Safe and Effective Offshore Mining for Minerals through:

Advanced Technology Resources Mining & Business Process Technology Provider Corp.

1. Scientific Deployment of Siphon/Grab Vessel and other allied Marine Facilities.
2. Use of Technologically Developed Equipments and Machineries
3. Adequate Manpower Training

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Objective:

To determine the number of vessel to be deployed to an offshore mining area after careful assessments of mineral resource deposits, depth from sea bed, and duration of mining tenement agreement or life of mining tenement (minimum of 25 years).

It is observed by the experts, one of which is Engr. Takazo Toyoshima that offshore mining extraction for magnetite sand, platinum group of metals (e.g. Palladium, Platinum, silver and the like) and other rare earth metals is negligible due to very small volume of minerals that can be recovered compared to total deposits offshore.

For example, average beneficial mineral recovery based on world experience for magnetite iron sand is only 10 percent, and the rest of the other minerals is even very much less. The demagnetized or demineralized volumes respectively are returned back under the sea.

Hence, the environmental safety of offshore mining activity is highly dependent on technically designed offshore siphon or grab vessel together with its allied support marine vessel and equipments.

There are only two (2) governing bodies namely Maritime Industry Authority (MARINA) and Department of Environment and Natural Resources (DENR) for purposes of off-shore mining regulation.

On the other hand, there are very few offshore siphon or grab vessel designers, process flow specialist for mineral processing and highly experienced technical persons to implement correct environmentally safe deployment of vessel in the area of offshore operation. One of which is JTECH Dev't & Innovations Corp. headed by a highly experienced Japanese Mechanical/Chemical Engineer Takazo Toyoshima.

Hence, JTECH can be accredited by both MARINA / DENR to be a third party independent engineering entity for purposes of evaluation and determination of engineering design of siphon and grab vessel, environmentally correct deployment of such vessel in the off shore mining area, the sound/effective process flow of semi or finished minerals and environmentally safe onshore facilities that will use chemicals in its mineral production.

Sample area of Mining Tenement for Deployment of Siphon Vessel

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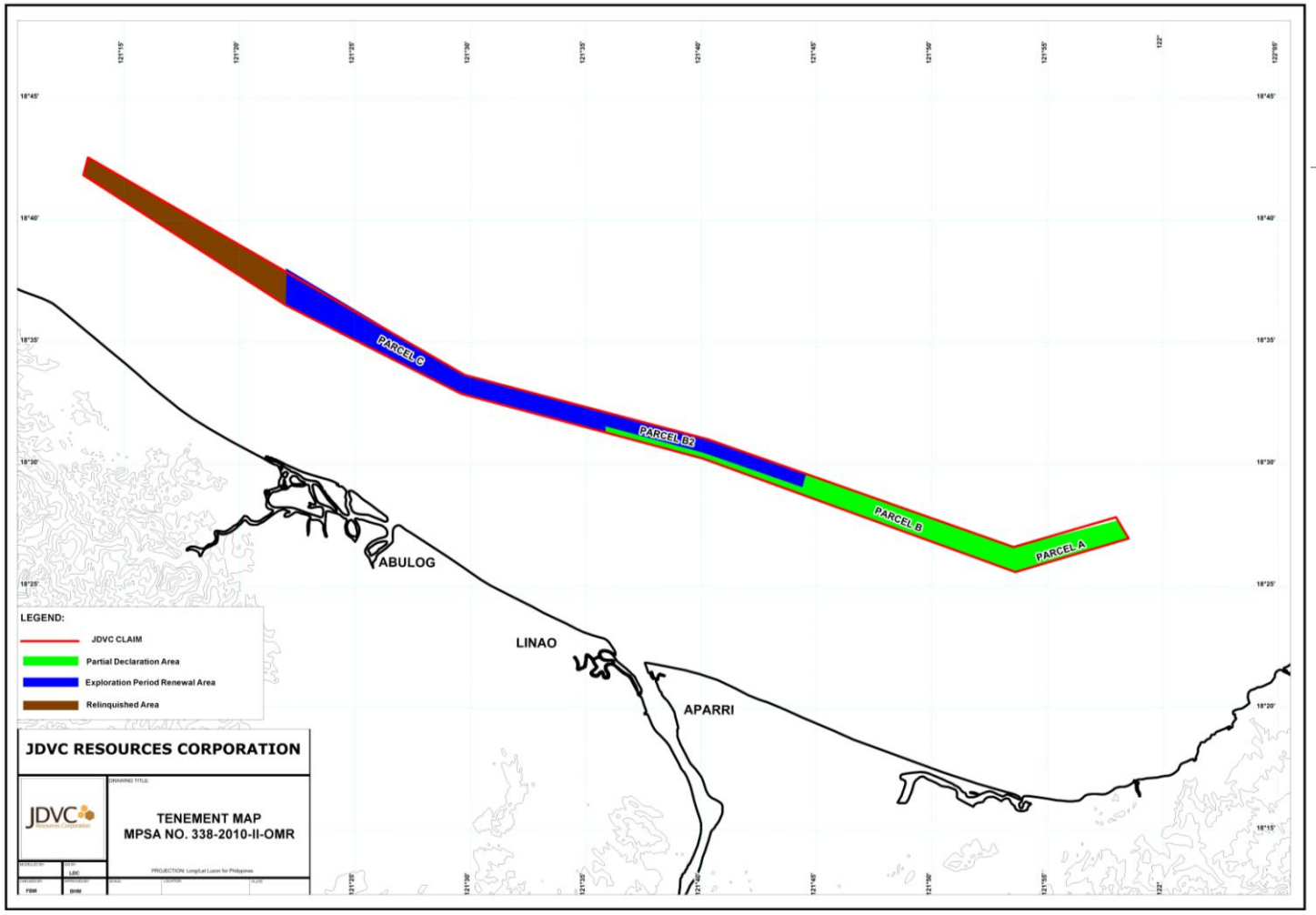

Scientific Schedule of Vessel Deployment in Offshore Mining Area:

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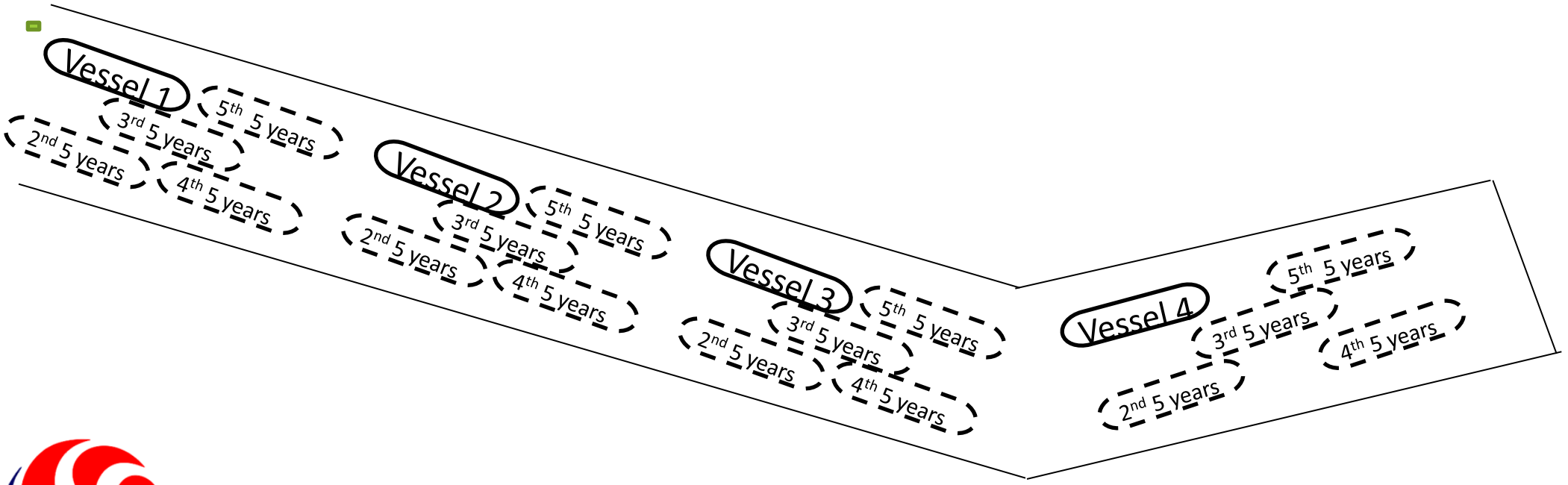

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Prepared by:

ENGR. TAKAZO TOYOSHIMA / JESUS VEROCEL

March 2016

Mining Tenement of 1,902 Hectares are divided into 4 areas to be operated by One (1) Siphon vessel per area. Each Siphon vessel will operate in every sub-area for 5 years moving or transferring every year on a 400 to 500 SQM area. Dotted areas will be their individual succeeding positions for a period of 5 years.

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Based on experiences in the past of countries that started offshore mining ahead of the Philippines, this scientific schedule of Siphon vessel system will allow the benthic environment and other micro-organism to re-immigrate to the earlier mined 400-500 SQM area.

Offshore mining methodology of periodic movements from one 400 to 500 SQM area will further allow sustenance of biodiversity therewith.

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To address negative perceptions on Air, Dust, Water, Oil and Noise pollution for Offshore Magnetite Iron Sand Mining

PREPARED BY:

ENGR. TAKAZO TOYOSHIMA / JESUS VEROCEL

MARCH 2016

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Per actual experiences of Okinawa Kaido of Japan (differential pressure suction system designer), the following are their expert opinions:

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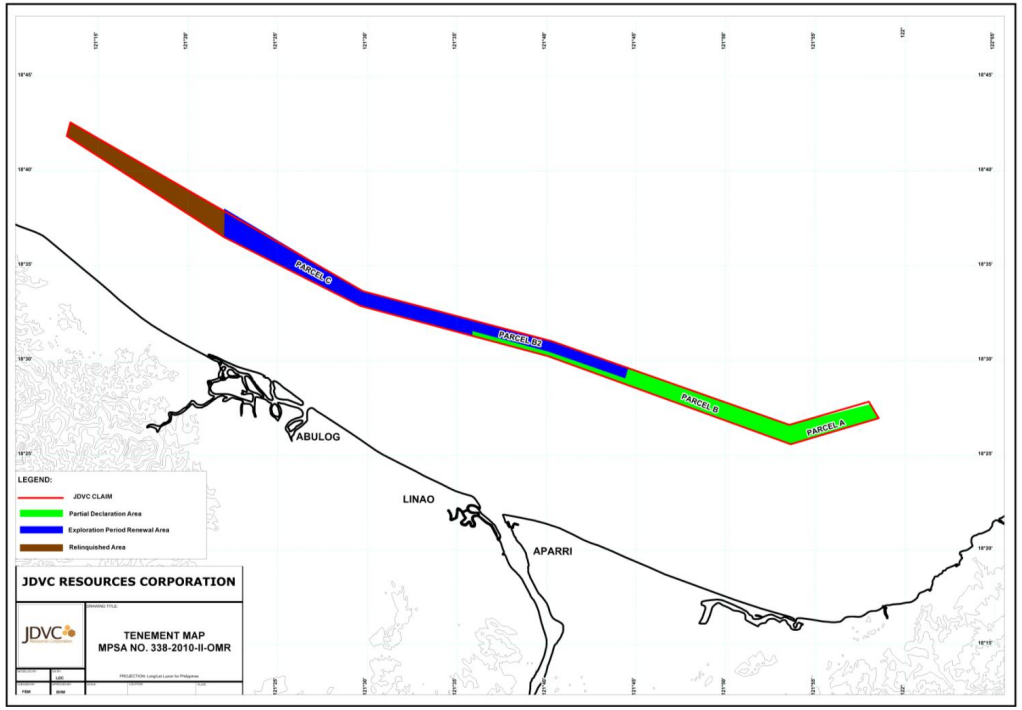
Noise Pollution:



- Normally offshore operating areas are situated in about 1 to 22 Kilometers on the average from the Shore line. Hence, noise from any onboard equipments is already neglible from inhabited areas ashore.

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Noise Pollution:

All equipments (e.g. Generators with photos on side and below) on board are designed as silent types to avoid noise generation exposure even to siphon vessel crews onboard.

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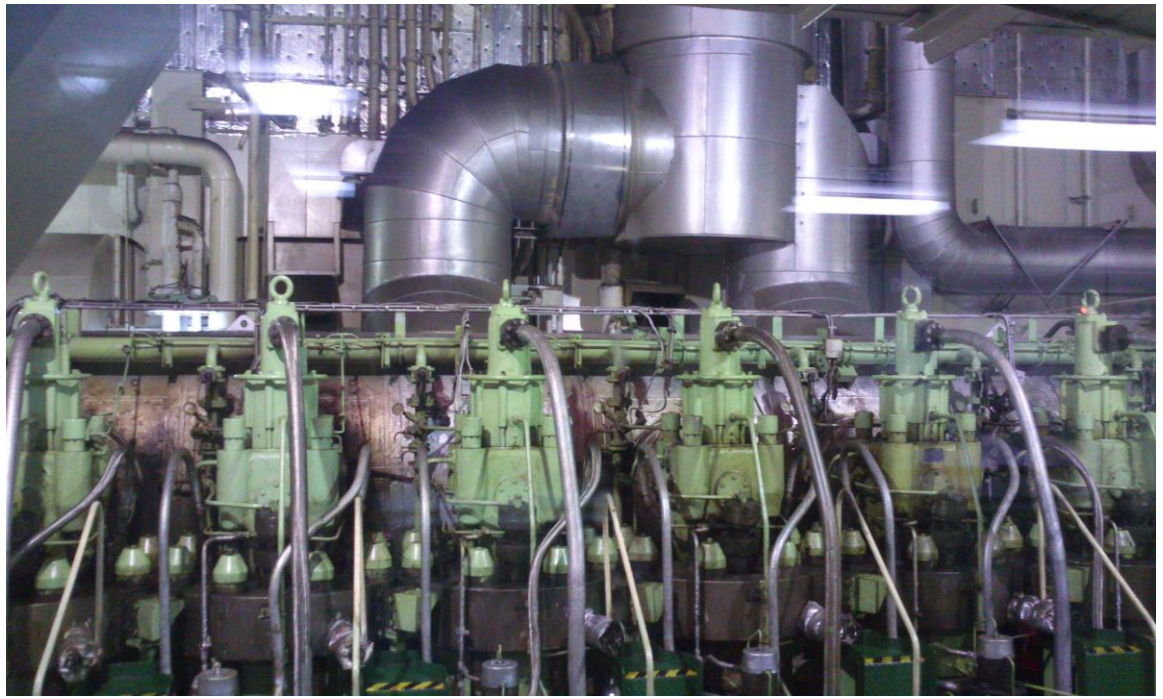
Noise Pollution:



- Vessel's main engine is housed inside the engine room with sufficient sound absorbing insulation installed.

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Oil & Water Pollution:

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All offshore mining operation MUST have one (1) tugboat equipped with Oil Spill response equipments, One (1) fast boat and personnels that are adequately trained to address oil spills.

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Oil & Water Pollution:

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Minimum Oil Spill Response equipments:

- Oil Spill boom with storage systems (length to cover the entire vessel)
- Oil Skimmers
- Power Packs
- Low pressure Air blower
- Oil Traps, bags and tanks
- Oil Absorbent Materials (Booms, Rolls and pads, etc.)

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Oil & Water Pollution:

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NO oil dispersants to be used to avoid contaminating minerals and benthic environment and any other micro-organism (if any) under the sea bed.

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Air Pollution:

Offshore mining operations have minimal effect on environment owing to the following:

- Offshore siphon vessel will only run their main engine once a month for preventive maintenance and once per year for shifting to one 500 SQM mining sub-area.
- All generator units are equipped with catalytic converters that have more efficiency and less emissions to the atmosphere.

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- All dirty water and oily water are stored in slops tanks and removed from vessel by third party receiving contractor accredited by DENR or same department ministries for other countries.

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Dust Pollution:

Offshore mining operations have minimal effect on environment owing to the following:

- Magnetite Iron Sand processed from sea bed to cargo hold, is homogenously mined and processed with water. Hence, no dust can be produced during the operation.

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Dust Pollution:

- Magnetite Iron Sand processed from siphon vessel to export cargo vessel is by pipe conveyor (as shown in photo), the magnetically separated sand is still with high moisture content. Hence, no dust can be produced during the transfer operation.

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Outline Plan for Offshore Extraction and Onshore Production of Semi-Processed Base Metals of Platinum Group like Palladium, Platinum, Silver and other Rare Earth Metals

Advanced Technology Resources Mining & Business Process Technology Provider Corp.

PREPARED BY:

ENGR. TAKAZO TOYOSHIMA / JESUS VEROCEL

MARCH 2016

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Objective:

To outline the process of mining for Platinum group like palladium, Platinum, Silver and other rare earth minerals from sea bottom up to Semi processed Base Metals:

- Mode of Mining or extraction of ore from sea bottom by 2 methods
  - By dredge or suction vessel using mechanical arms or suction pipes. this is applicable in shallow areas only.
  - By Panamax size vessels fitted with mechanical grabs or clamshell and our JTECH ejector Design that can reach to 200 meters depth. Also, the vessel is fitted by MechDrill in the aft to break the ores.

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Objective:

- Mode of transport or delivering the vessel from dredger and Panamax vessel from offshore Mining Area to Semi-Processing Facilities:
  - By pipeline
  - By Barge or Landing Craft Transport (LCT)
  - By same size of Panamax vessel
- Extraction offshore and Concentration Process done onshore.
- Semi Refining Process done onshore for Panamax size vessels fitted with mechanical grabs or clamshell.

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General Process Flow

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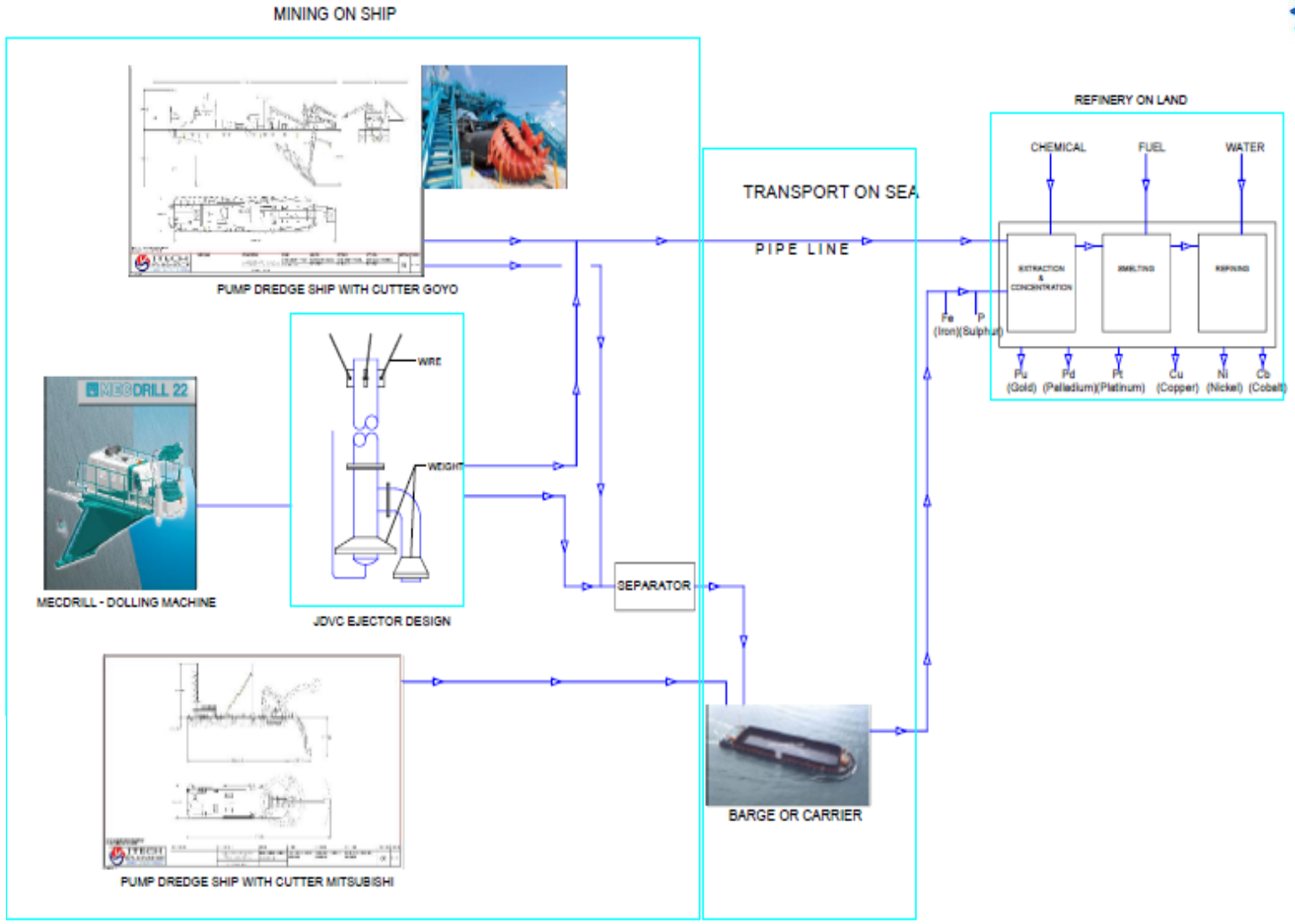

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MINING PROCESS:

If Ore deposit are located at Shallow area close to the shore, drilling vessel as such in the succeeding slides are used for collection. Ore and Sea water will then be pumped through pipeline using floating pumping facilities from drilling vessel. When deposits are located at the sea bed, smelting and refining plant are provided on the land near the coast. The separation of sea water and ore is done at the shore and Ore will then be transported by conveyor to Processing Plant.

But if Ore Deposits are far from shore, Ores will then be transported by Barge or Carrier Ship to Processing Plant.

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MODE OF MINING OF PLATINUM GROUP MINERALS BY USING DREDGING VESSELS WITH CUTTING HEADS

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Picture of Pump Dredge ship with Cutter Goyo

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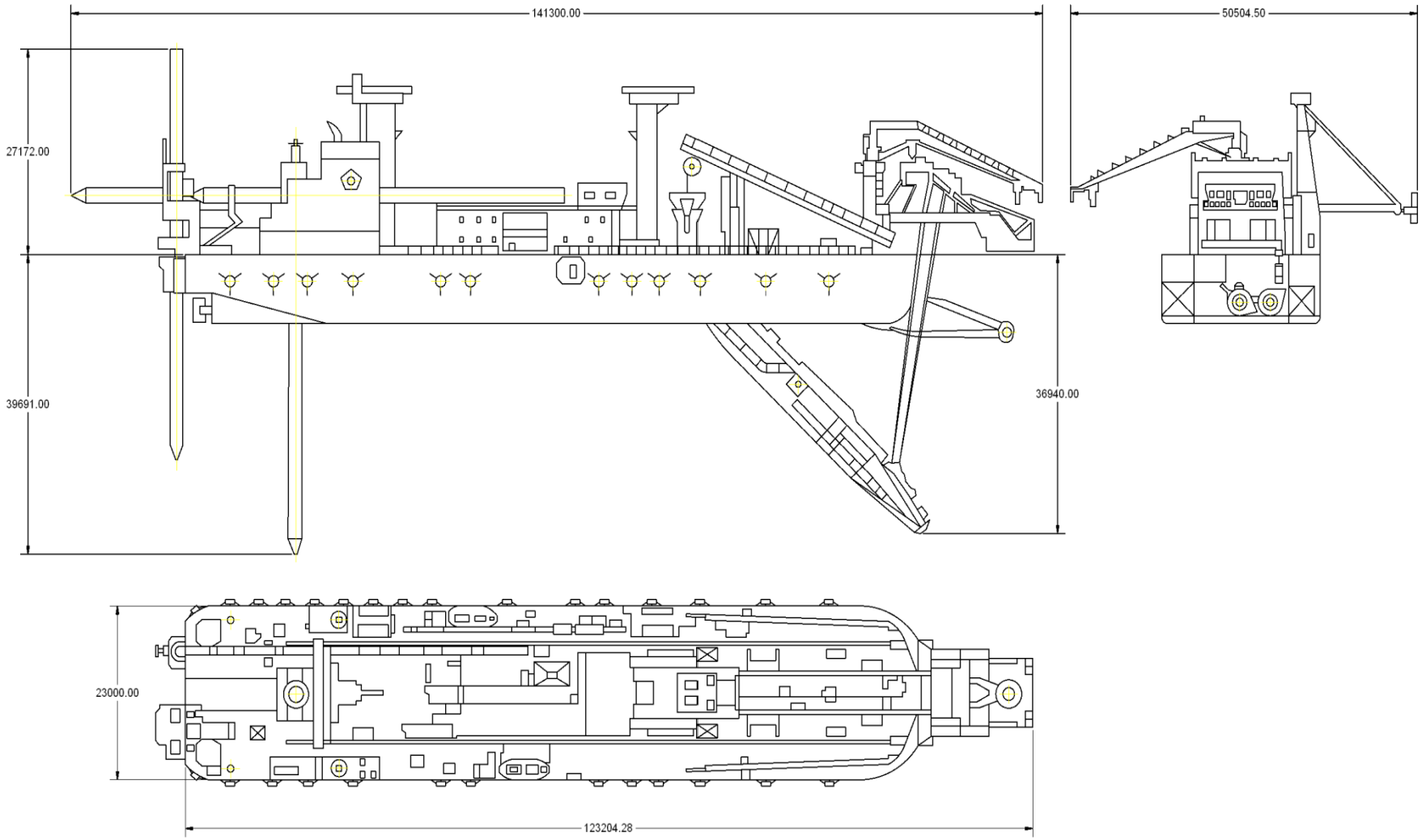
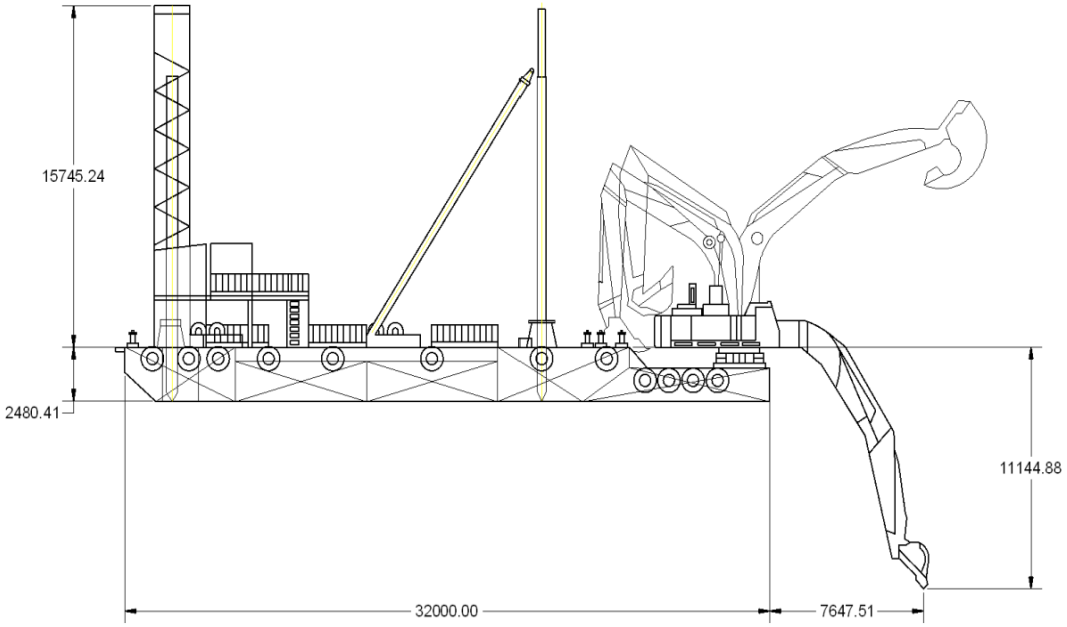


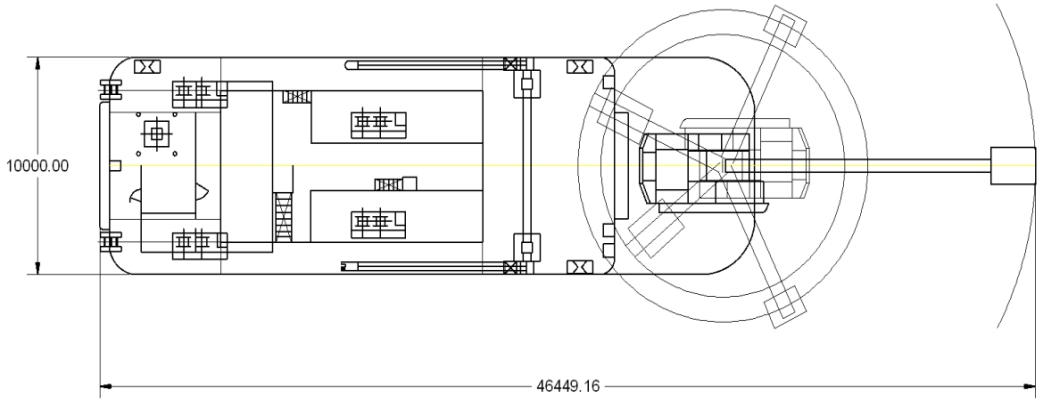
NOTE: ALL DIMENSION IN MILIMETERS
UNLESS OTHERWISE SPECIFIED.

JTECH DEV'T & INNOVATIONS CORP. Engineers * Contractors * Consultancy	CLIENT NAME:	PROJECT TITLE:	DRAWN:	CHECKED:	REVIEWED:	APPROVED:	REVISION:	SHEET #:
		PALLADIUM PRODUCT PROCESS (PUMP DREDGE SHIP W/ CUTTER HEAD GOYO)	NAME: JOSELITO LOGROÑO	NAME: DANNY P. YAMILO	NAME: JESUS V. VEROCEL	NAME: TAKAZO TOYOSHIMA	00	OD - 0001
			DATE: FEB.-18-16	SIGNATURE:	SIGNATURE:	SIGNATURE:		
		SHIP VESSEL PLAN						

PROTOTYPE

Advanced Technology Resources Mining & Business Process Technology Provider Corp.





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Engineers * Contractors * Consultancy

PROTOTYPE

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Another picture of Pump Dredge ship with Cutter Goyo

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MODE OF OFFSHORE MINING BY USING PANAMAX SIPHON VESSELS FITTED WITH JTECH EJECTOR DESIGN IN FORWARD AND MECHDRILL IN AFT THEN ALTERNATIVELY USING GRABS TO MINE PLATINUM GROUP MINERALS FROM SEA BOTTOM.

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Sample Photo of bulk carrier

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Sample Photo of vessel loading by clamshell or grabs

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A sample photo of Drilling Machine to be fitted on the aft of the vessel

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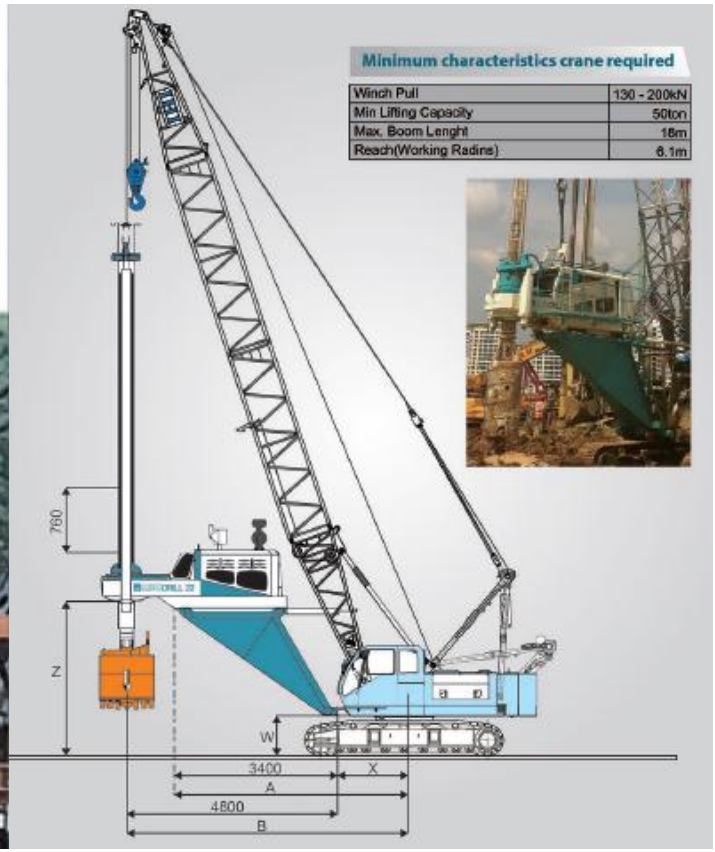

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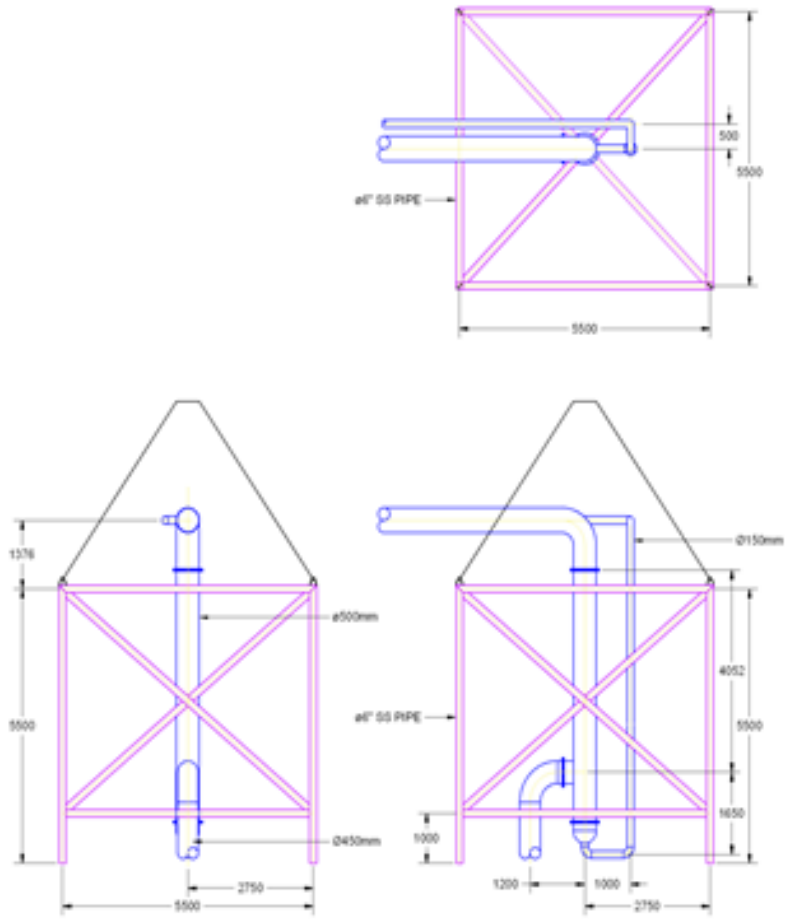
JTECH Ejector Design:



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Sample photo of Sea Water Hydrocyclone Separator

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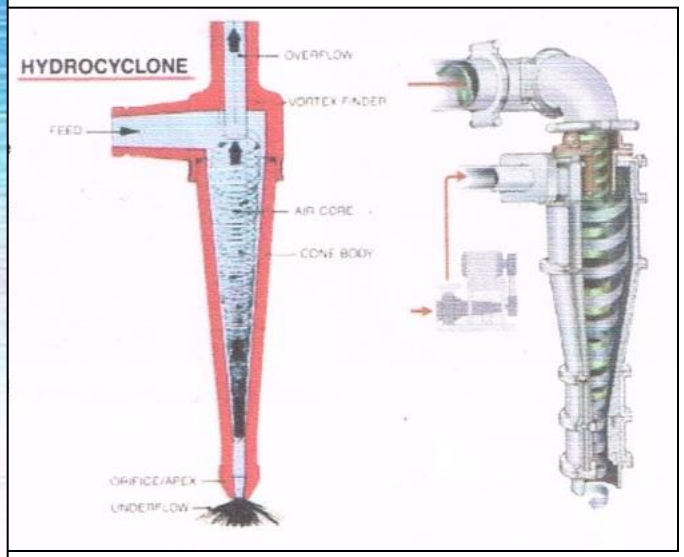

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MODE OF DELIVERY FROM DREDGER OR SUCTION VESSEL TO ONSHORE SEMI- PROCESSING BASE METAL FACILITY

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Sample picture of dredger or siphon vessel to onshore facility by pipeline

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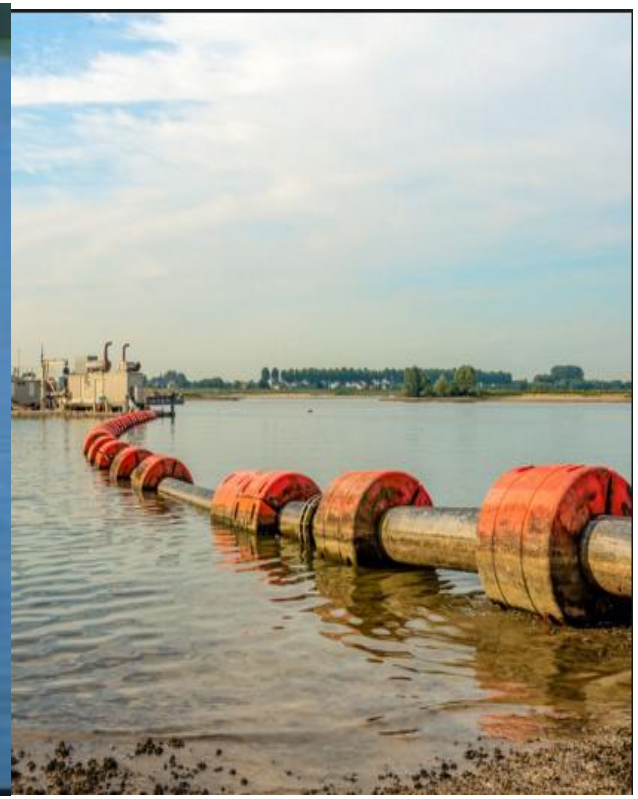

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Sample photo of Barge or LCT's

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Sample picture of transport barge (Deck Barge)

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Sample picture of Panamax Vessel unloading cargo at terminal

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EXTRACTION AND CONCENTRATION PROCESS

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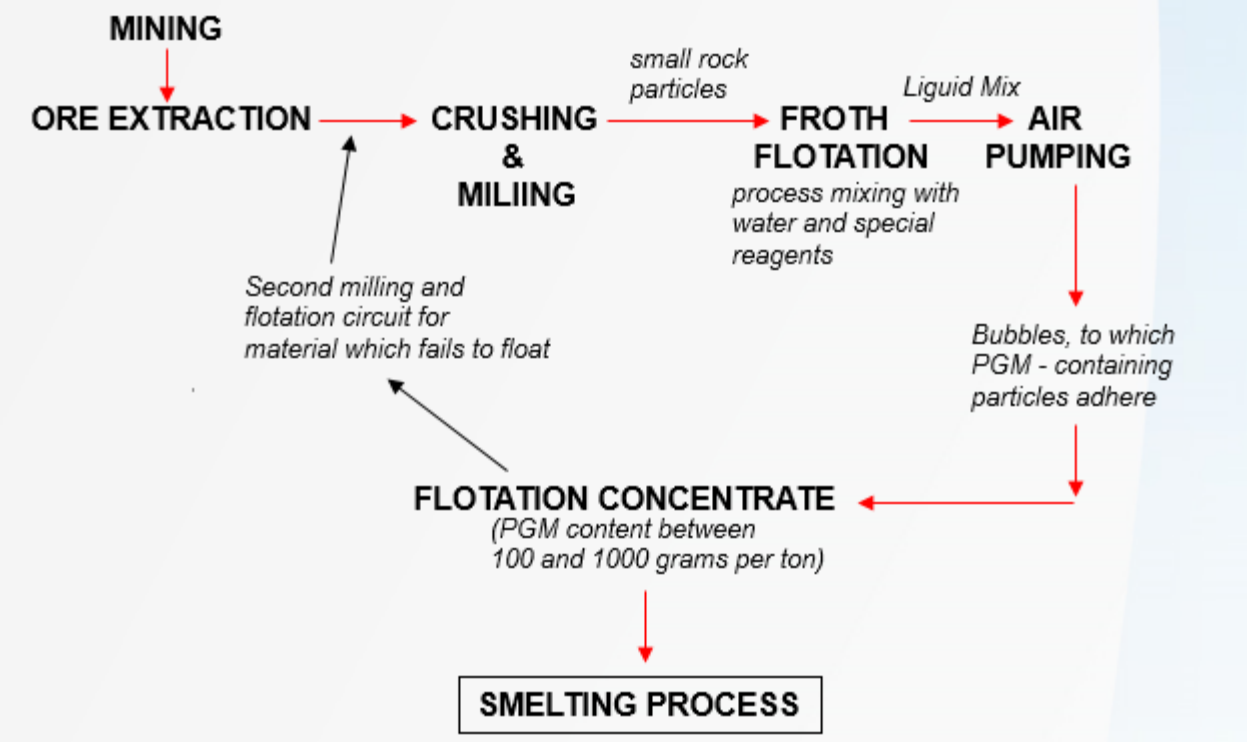

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EXTRACTION AND CONCENTRATION PROCESS

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Utilize a bulk sulfide flotation circuit to recover sulfide minerals including palladium and platinum.

This process include several stage of crushing/grinding to liberate the sulfide minerals from gangue material, followed by addition of flotation reagents, and finally flotation stages to physically separate the sulfide minerals from the majority of the gangue material.

Crushers and grinding mills are used to liberate the sulfide minerals from the gangue minerals. This is done in several steps to optimize the grinding efficiency without jeopardizing overall recovery of the Pd and Pt containing sulfide metal.

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Crushers are used as the first stage of size reduction followed by grinding mills which contain steel grinding balls used to induce energy and breakage of the ore.

EXTRACTION AND CONCENTRATION PROCESS

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Use three different types of grinding mills in its concentration, SAG mill, Ball mill, and Vertical mill, each mill has specific function in optimizing grinding efficiency and overall recovery.

Immediately following each grinding stage, the collectors adsorb on the surface of the sulfide minerals and render them hydrophobic (water resistant) while the depressant adsorbs on the surface of the gangue mineral talc rendering it hydrophilic (water affinitive). These flotation reagents are then allowed to condition for a limited amount of time prior to the flotation step.

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Following optimum grinding and reagent addition, the slurry is exposed to the flotation process, in this process the slurry is agitated while air is induced into the system. This air naturally attaches to the new hydrophobic sulfide particles and causes them to float to the top of slurry level forming a froth layer.

EXTRACTION AND CONCENTRATION PROCESS

Advanced Technology Resources Mining & Business Process Technology Provider Corp.

This froth layer is then collected as concentrate and subjected to further "cleaning" flotation steps which continue to separate the sulfide minerals from the remaining gangue minerals, final concentrate from the concentrate process contains 36 oz/ton, Pd + Pt and contain 91.8% of the Pd + Pt that was originally fed to the mill, into 1.5% of the original feed weight.

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Sample photo of Sag Mill

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Sample photo of Ball Mill

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Sample photo of Vertical Mill

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Flotation overview

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SMELTING FLOW CHART

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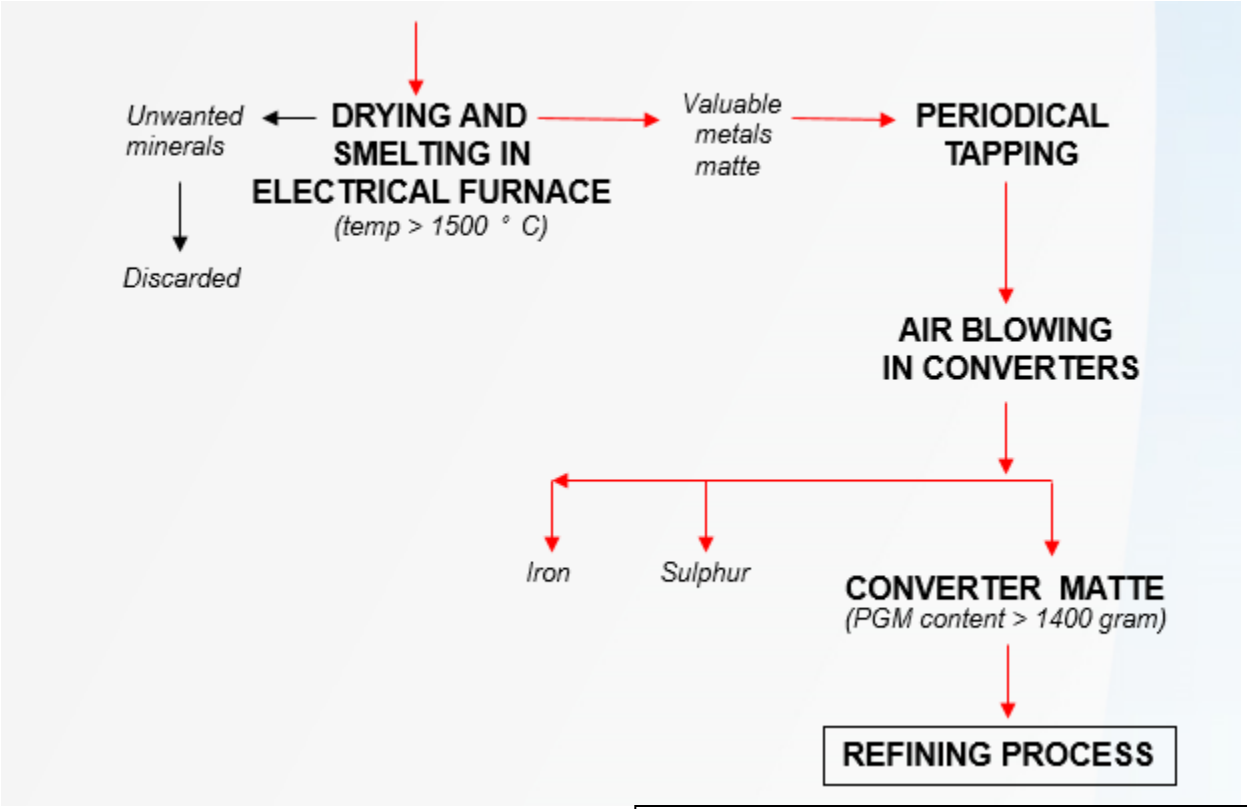

BASE METAL FOR REFINING ABROAD (for Export)

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SMELTING PROCESS

This process smelts and separate the concentrates into a silica oxide-rich slag, and PGM-rich converter matte. The converter matte is transferred to the Company's refinery located adjacent to the smelter for further processing.

Mine concentrate and spent catalyst material is fed into the smelter furnace. Furnace matte is tapped from the furnace and granulated. The granulated furnace matte is re-melted on a top-blown rotary converter (TBRC), which separates iron from the converter matte. The converter matte is poured from the TBRC, granulated and transferred to the refinery for further processing. The granulated converter matte consists of copper and nickel sulfides along with PGMs.

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The Gas released from the smelting operations are routed through a gas/liquid scrubbing system, which removes approximately 99.8 percent of the sulfur dioxide. Spent scrubbing solution is treated in a process that convents the sulfur dioxide to gypsum, or calcium sulfate, and regenerates clean scrubbing solution. Local farmers use the gypsum as a soil amendment.

SEMI-REFINING FLOWCHART OF BASE METALS

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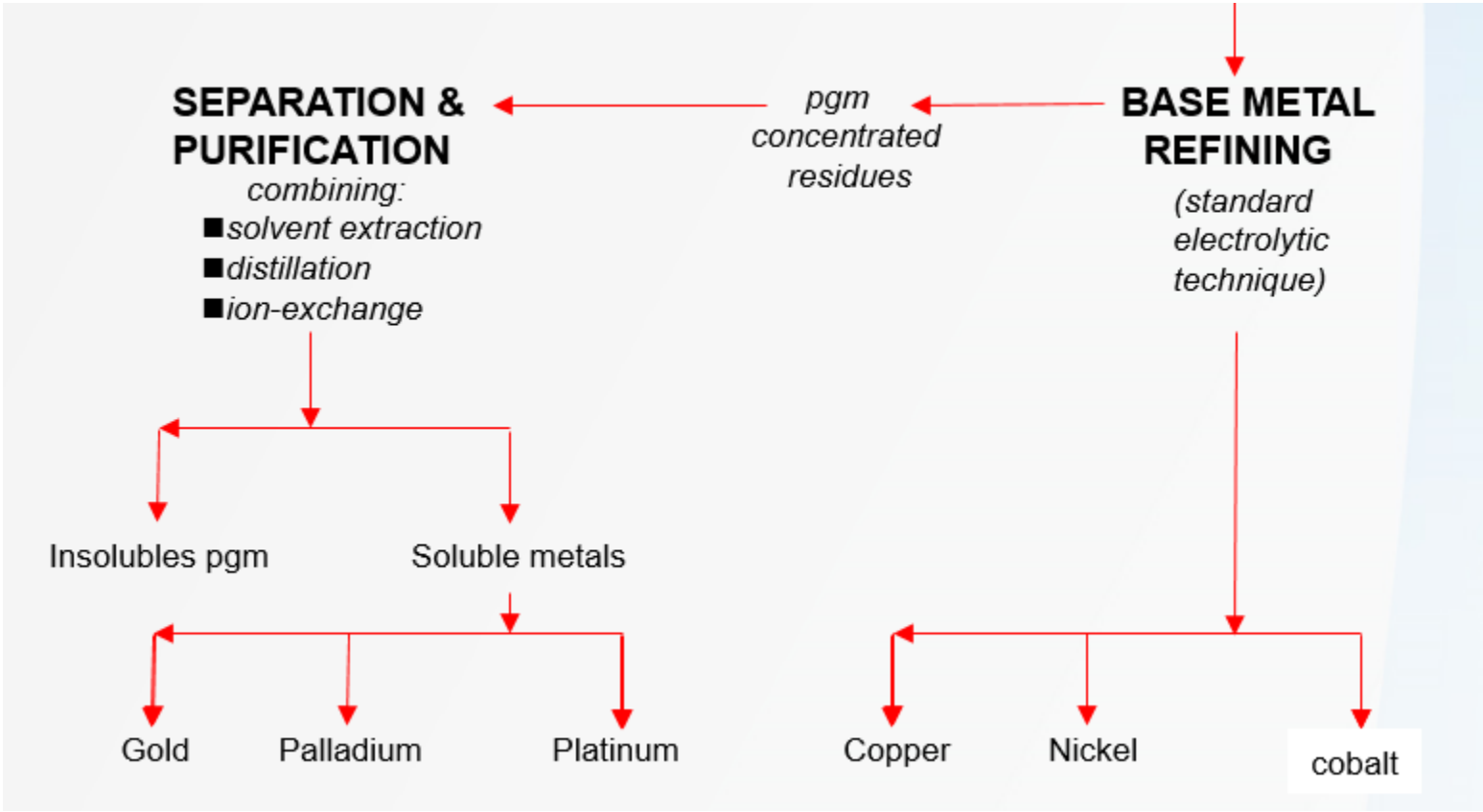

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WHY SEMI-PROCESSED?

Processing Platinum group of Metals require the use of multiple chemicals which is hard to re-cycle and to re-use. Also, there is no available locally trained specialty technician who will man the final and finished process for specialty steel.

Therefore, it is more environmentally safe to Semi-process the products and final processing be done by the buyers and/or semi-processed importers of base metals.

Also, semi-processed PGM caters to more market than specific PGM user.

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To address negative perceptions on Air, Dust, Water, Oil and Noise Pollutions for Offshore Mining of Platinum Group of Metals and other Rare Earth Metals with and Onshore processing of Minerals with the use of Chemicals

Advanced Technology Resources Mining & Business Process Technology Provider Corp.

PREPARED BY:

ENGR. TAKAZO TOYOSHIMA / JESUS VEROCEL

MARCH 2016

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DEV'T & INNOVATIONS CORP.
Engineers * Contractors * Consultancy

Per actual experiences of Okinawa Kaido of Japan (differential pressure suction system designer), the following are their expert opinions:

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Noise Pollution:

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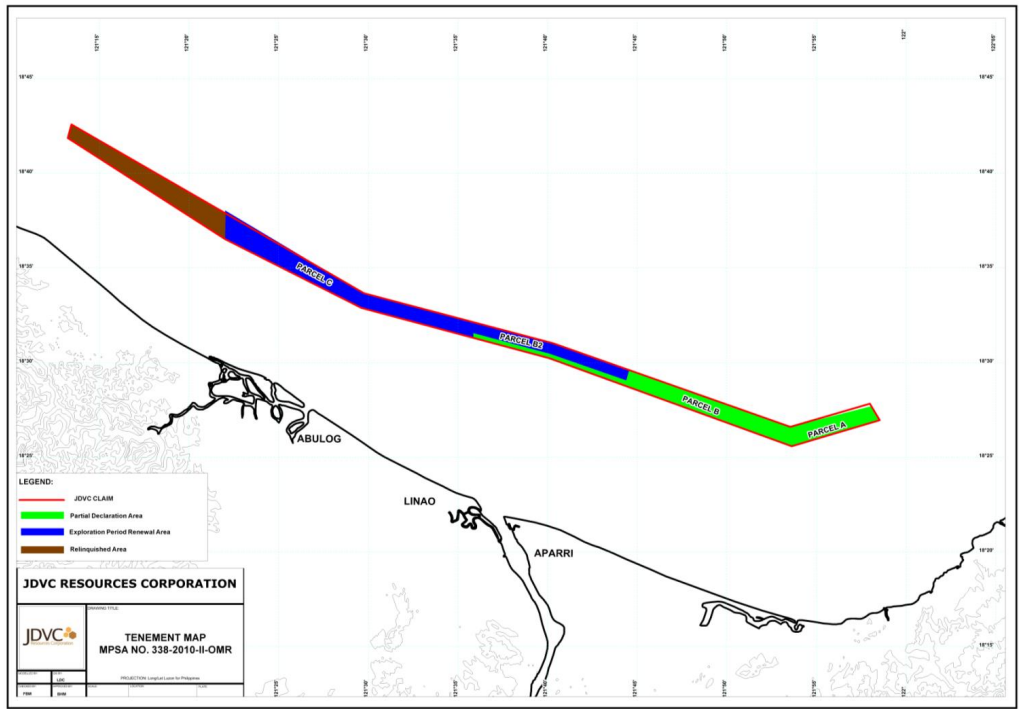

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Engineers * Contractors * Consultancy

Advanced Technology Resources Mining & Business Process Technology Provider Corp.

Noise Pollution:

- All equipments (e.g. Generators with photos on side and below) on board are designed as silent types to avoid noise generation exposure even to siphon vessel crews onboard.

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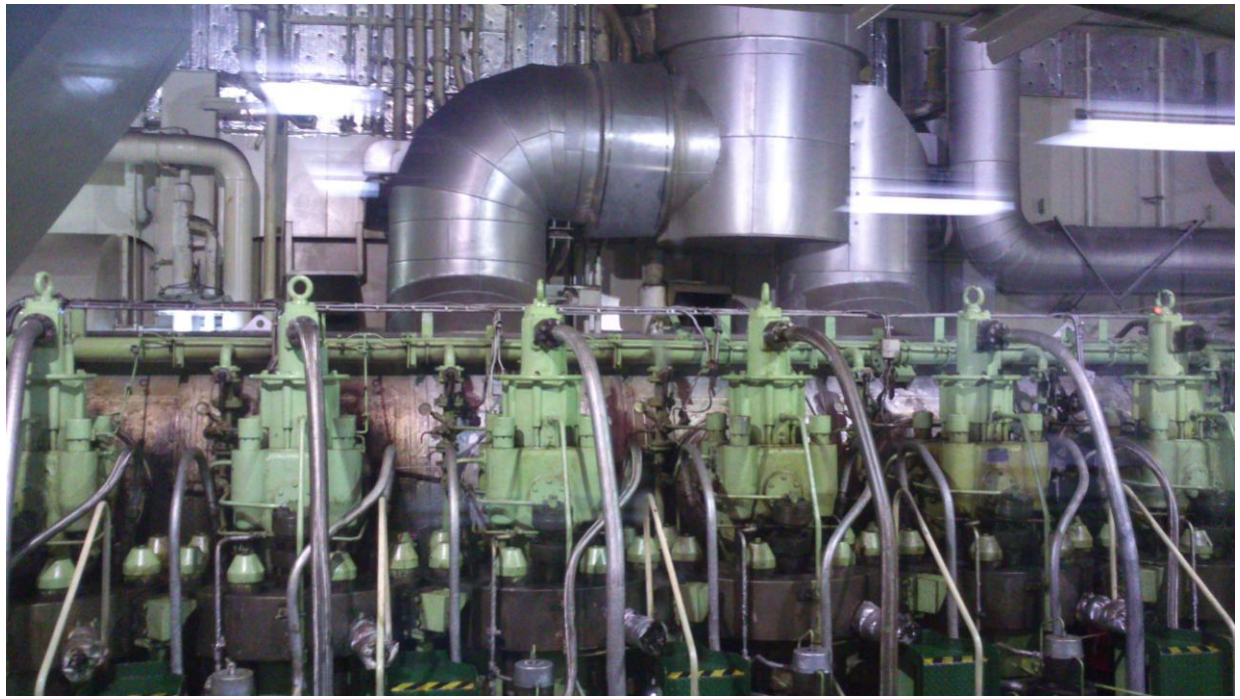
Noise Pollution:



- Vessel's main engine is housed inside the engine room with sufficient sound absorbing insulation installed.

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Noise Pollution:

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- For Onshore Processing facility, all equipments will be housed in fully enclosed facility fitted with sound absorbing insulation.

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Oil & Water Pollution:

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All Offshore mining operations **MUST** have one (1) tugboat equipped with Oil Spill response equipments, One (1) fast boat and personnels that are adequately trained to address oil spills.

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Oil & Water Pollution:

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Minimum Oil Spill Response Equipments:

- Oil Spill boom with storage systems (length to cover the entire vessel)
- Oil Skimmers
- Power Packs
- Low pressure Air blower
- Oil Traps, bags and tanks
- Oil Absorbent Materials (Booms, Rolls and pads, etc.)

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NO oil dispersants to be used to avoid contaminating minerals and benthic environment and other micro-organism (if any) under the sea bed.

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Oil & Water Pollution:

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Onshore semi-processing operations have minimal effect on environment owing to the following:

- All oil and chemicals will undergo treatment for recycle and re-use.
- All water used will undergo treatment for recycle and re-use.

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Oil & Water Pollution Mitigation Process:

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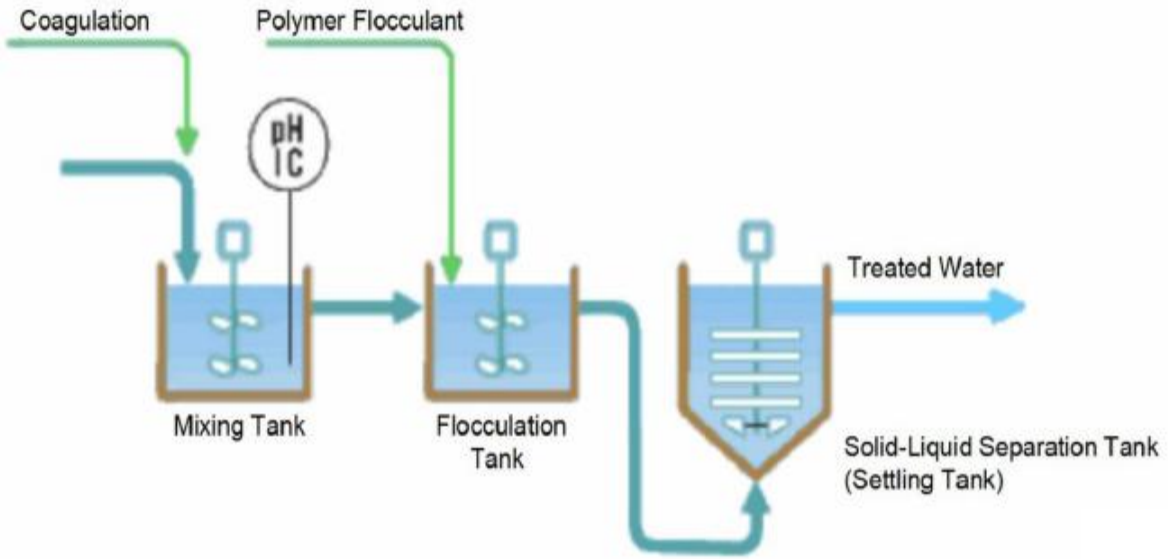

Process flow to decompose and remove the organic compounds of undecomposable polymer by chemical reaction.

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Oil & Water Pollution Mitigation Process:

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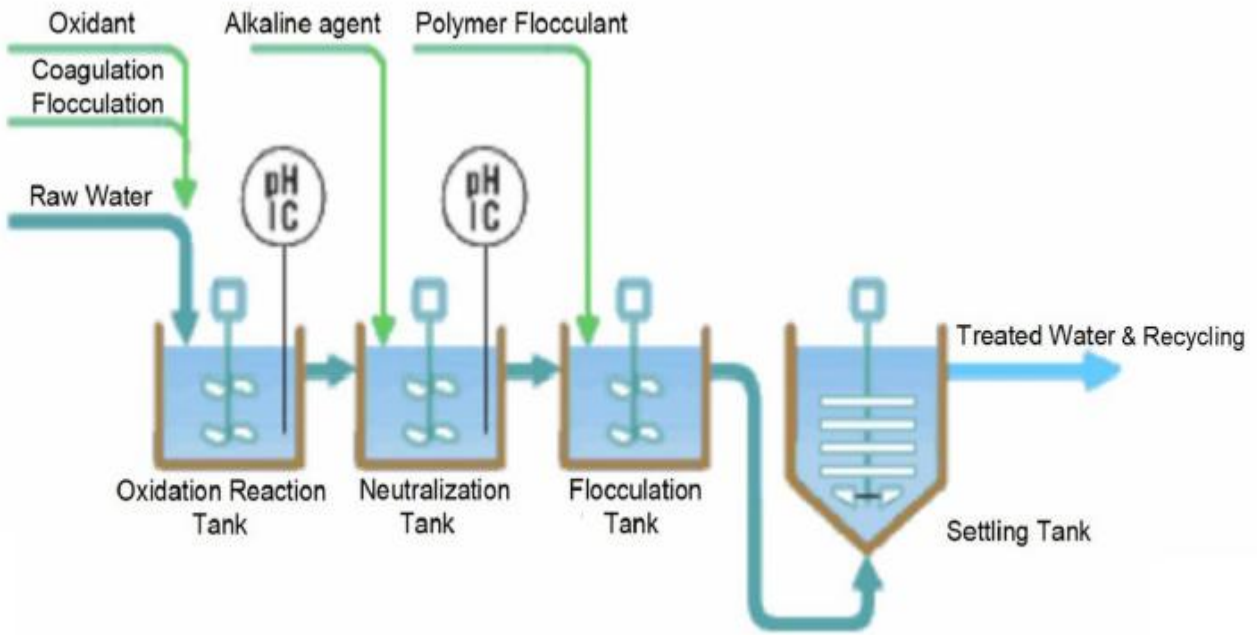

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Process to decompose oxidation by hydroxyl radical oxidant, contaminants in the waste water generates contact with the oxidation catalyst.

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Air Pollution:

Offshore mining operations have minimal effect on environment owing to the following:

- Offshore siphon vessel will only run their main engine once a month for preventive maintenance and once per year for shifting to one 500 SQM mining sub-area.
- All generator units are equipped with catalytic converters that have more efficiency and less emissions to the atmosphere.

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- All dirty water and oily water are stored in slops tanks and to be removed from vessel by third party receiving contractor accredited by DENR or same ministries for other countries.

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Air Pollution:

Onshore semi-processing operations have minimal effect on environment owing to the following:

- All exhaust lines of the equipments after passing through the dust collector, will pass through scrubbers before release into the atmosphere.

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Dust Pollution:

- Platinum Group of Metals processed/segregated from siphon vessel to shore is by pipe conveyor (as shown in photo), the PGM is still with high moisture content, hence, no dust can be produced during the transfer operation from offshore siphon or grab vessel to on shore processing facility.

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Dust Pollution:

Onshore Plant Semi-Processing operations have minimal effect on environment owing to the following:

- Entire onshore semi-processing facility will be housed and all exhaust blower will pass through a dust collector before going through the scrubbers prior to release of exhaust air to the environment.

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Adequate Manpower Training

- The Philippine being Islands Nation is blessed with a lot of people specifically males who are exposed to the character of the ocean, have adopted fishing as way of life and diving under the sea for livelihood opportunities.

- Filipino males employed as seafarers of Foreign and Local Shipping Companies in various skills for offshore works is one great strength of the country.

- Hence, it will not be difficult for several or more offshore mining companies to select and employ people that can be adequately trained for specific assignments and tasks for offshore mining operation.

- Filipino seafarers are very much known all over the marine world to be able to religiously follow any kind of Book on Manual of Operations, hence, adequate training can lead to perfection on Environmental Safety for offshore mining.

- Hence, it is expected that a lot of offshore jobs can be made available in their own country, Philippines, if government can recognize the urgency of this offshore mining opportunity for the country and its people.

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Conclusion of experts:

Finally, even if there will be over a thousand siphon/grab vessels deployed all over the mineable offshore areas in the Philippines, it will still be environmentally safe and effective mining for mineral resources of the country. PROVIDED, all guidelines contained herewith are strictly followed and implemented by the governing bodies (MARINA/DENR), by the industry and by independent private sector watchdogs.

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