PRESENTATION OF MINING OF DEUTERIUM PHILIPPINES TRENCH

Republic of the Philippines
Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU
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Philippine Standard Time:
Tuesday, January 03, 2023, 4:33:25 AM

DEUTERIUM WORK PROGRAM

WORK PRGRAM & PLAN FOR EXPEDITION LAUNCH FEBRUARY-MARCH 2023/4

PLANNING

Getting the OCEANOGRAPHIC Team by 2023

FLIGHT OT EQUIPMENT SHIPMENT

PURCHASE OF OCEANOGRAPHIC RV Schedules etc.

OKEANUS Turnkey

DESIGN

Coordinate With Permits from all Government and Provinces Surigao

STRATEGY

PART I
Deuterium MINING

PART II:
Production Methodologies and recovery

LAUNCH

Deploy strategic RV Philippines NAVY or Energeia RV secondhand Oceanographic Vessel Ex-NOAA Ship given by USA

BY ENERGEIA TRADE AND DEVELOPMENT CORPORATION

PHILIPPINE TRENCH

MINING OF DEUTERIUM DEPOSITS

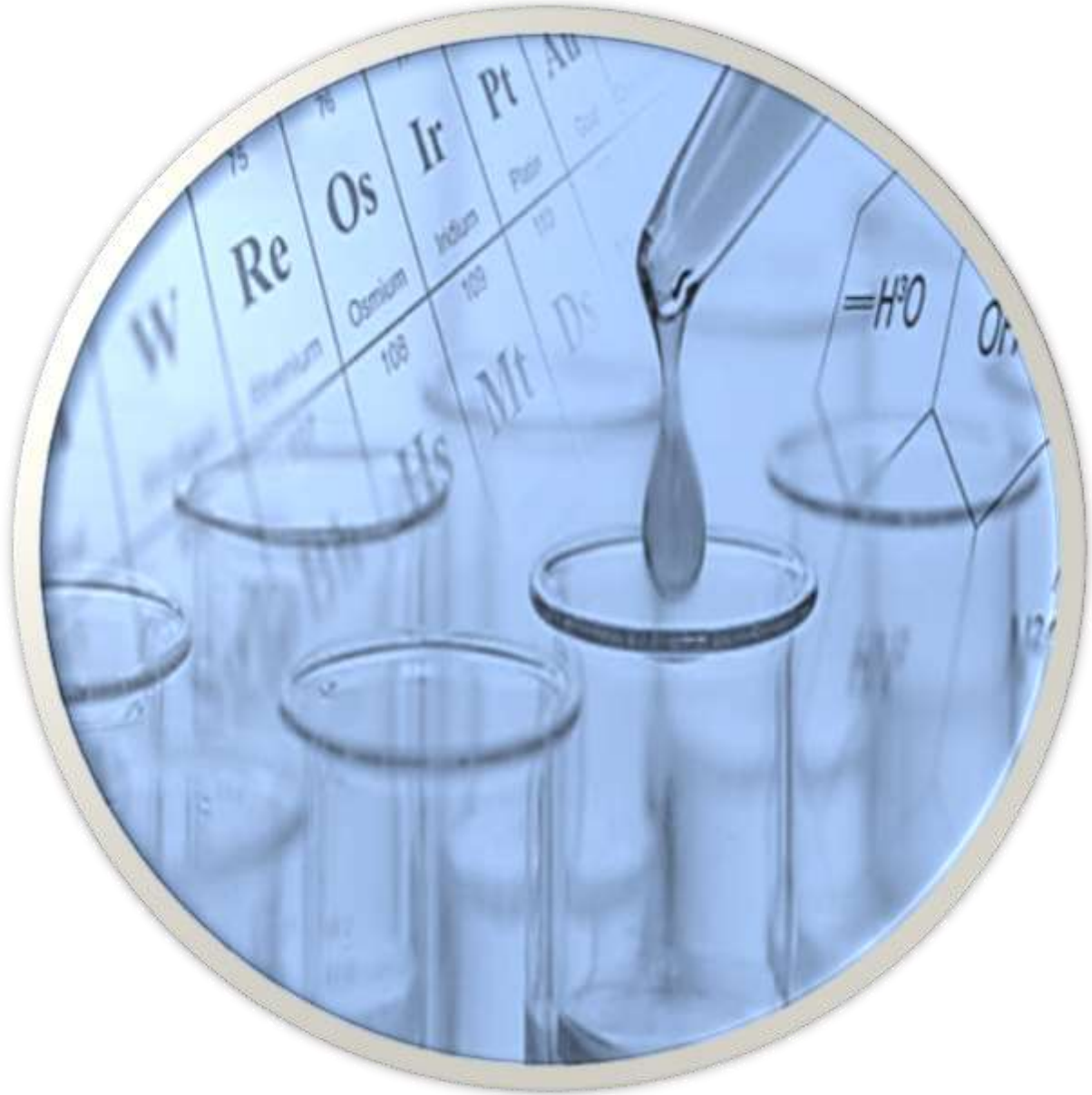
Jvsc Consultancy
SIMPLE CLEAR

WORK PROGRAM PRESENTATION

ENERGEIA empower organizations to foster collaborative thinking to further drive Oceanographic research workplace innovation of Deuterium Production for the Benefit of Philippines People.

BY ENERGEIA TRADE AND DEVELOPMENT CORPORATION

DEUTERIUM SAMPLING & MINING WORK



WORK PROGRAM AGENDA

PRIMARY GOALS OF DUETERIUM MINING

1. PART I: TURNKEY MINING BY CONTRACTOR – SEABIRD - SEAWATER SAMPLING & Equipment NEEDED
2. PART II: Extraction and Production of Deuterium @ Surigao Province
3. Scope Of Work
4. Schedule & Timeline

USING TURNKEY SERVICES

A Reputation Founded on Experience

- Okeanus Science & Technology, LLC, formed in 2013, is an organization wholly focused on providing the oceanographic professional with all of the tools necessary to complete a ***project on time and on budget***, no matter the water depth or location. With the acquisitions of Sound Ocean Systems, Inc. (founded in 1978) in 2016 and DT Marine Products, Inc. (founded in 1999) in 2017, *Okeanus has positioned itself as an experienced industry leader in the design and build of oceanographic winches, handling systems, LARS, buoys, and other products that both companies and customers have become accustomed to.*

  In addition to these systems, *Okeanus also offers an extensive pool of leased equipment that can be paired with any of its winches and deployed at a moment's notice. From the deck to the seafloor, Okeanus can provide your next project with products that help you work in a safe, efficient, and cost-effective manner.*

PART I: TURNKEY MANPOWER, EQUIPMENT & SCOPE

1. We would like to appoint - OKEANUS to carry out a Turnkey Mission to take seawater sample from several depths from the seabed of Philippine Trench to search for Lakes of Deuterium Water at depths of 7 to 10km. This includes deployment of Cameras, Payload of Mass Spectrometer, Seabird(32) Water Carousal CTD Rosettes, and other instruments (known as Payload.

2. Arrange RV vessel to carry out the Exploration of Deuterium at Philippine Trench 100 km offshore of Surigao City – Complete with your experience technical (?) and engineers(?), who will deploy and retrieve a Special Frame Protecting instrumentation and payload, anchor-weight.

3. All GPS and Satellite Communications – Land base Surigao and RV vessel (Hired)

4. Lead Oceanographer (2 persons) Scientists (2) and Marine University Students (4-5 persons) from Philippines University.

5. Target Schedule of Expedition is around off typhoon season – Mid-Feb to Early March

6. And purchasing or rental, is up to your OKEANUS to offer to ENERGEIA TRADE AND DEVELOPMENT CORPORATION, PHILIPPINES

PART II: MINING & PRODUCTION

7. CONFIRMATION OF EXISTENCE % OF DEUTERIUM IN PHILIPPINE TRENCE, WE LAUNCH MINING AND PRODUCTION OF DEUTERIUM

8. Arrange WASTE LAND acquisition at Surigao Province Claver, near Sea-shore

9. Build a Factory for Manufacturing of HPDE Mesh Pipe (New Business), or Import from China (10km of Pipeline System and Facilities and TURNKEY DEUTERON REFINING PRODUCTION COMPLEX (2023)

10. Laying of Pipeline by Turnkey Contractors

11. Commencement of Abyss Sea water Extracting activities from the 7km or 8 km Depth – Anchorage 5 pumps, and 7 km Pipeline

12. EXPORT OF 99.9% DEUTERIUM WATER – LNG PLANT WORLD WIDE – (EXISTING LNG PLANT – BUILD DEUTERON RECEIVING TANK AND CARRY OUT THE ELECTROLSIS of HYDROGEN GAS – to liquid for power (Hydrogen Power Plant)

WE BUY OR RENTAL YOUR PRODUCTS & EXPERIENCE WORKERS

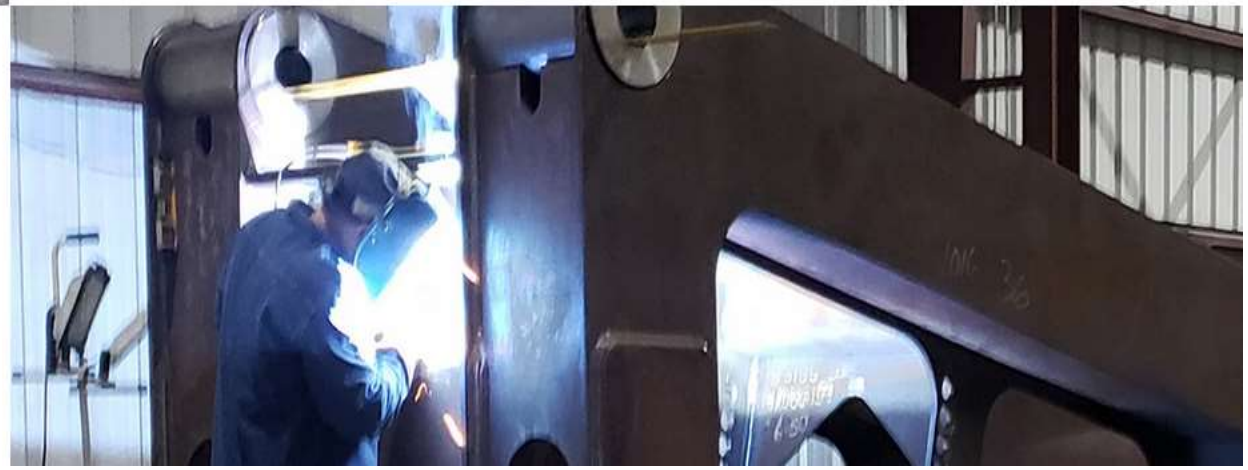
Advanced Fabrication

Okeanus' 20,000 square foot production facility located in Houston, Texas, includes all the amenities required for a large winch and LARS fabrication as well as small to medium sized built to print projects. Production is also supplemented by our second facility located at the company's head office in Houma, Louisiana.

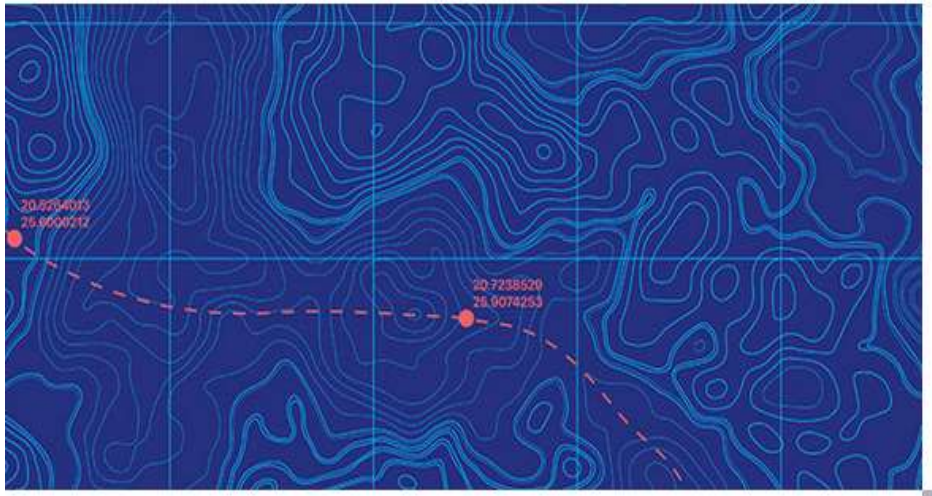
Our workshop has qualified weld procedures for marine grade fabrication using materials including aluminums, stainless steels and common steel. Our weld procedures have been certified by both ABS and DNV. A large yard space allows for testing and repairs of third party equipment as well as our own.

A Proven Track Record in the Field

Okeanus has a team of highly experienced technicians and workshop staff with significant knowledge of fabrication and machining capabilities, as well as hydraulic and electrical assembly and testing. We also have multiple spooling systems enabling us to offer in house winch spooling services and testing.



WE ARE EXPLORING AND SAMPLING FOR DEUTERIUM IN THE PHILIPPINES TRENCH (100 KM OF SURIGAO AND SAMPLING AT DEPTHS OF 7KM TO 10KM INTO THE ABYSSAL SEABED – WE NEED WORKERS & SERVICES



We have designed and built multiple systems that have aided deep ocean mining organizations, both government and commercial, in the detection, collection, and recovery of polymetallic nodules. We have also designed deep sea moorings which have aided our clients in environmental monitoring initiatives to ensure that the benthic environment in which they operate is left unharmed.

Science & Academia

We have supported countless ocean science missions, and much of our equipment is still utilized today on a wide variety of oceanographic research vessels. We also have a comprehensive catalog of oceanographic research equipment which is made available to all of our ocean science & academic clients.

WE NEED YOUR FABRICATION SERVICES

Offshore Engineering Services

You are here: Home / Engineering

Worldwide Expertise

Okeanus delivers turnkey solutions and custom engineering services to commercial, scientific, and defense clients around the world

Cutting-Edge Technology

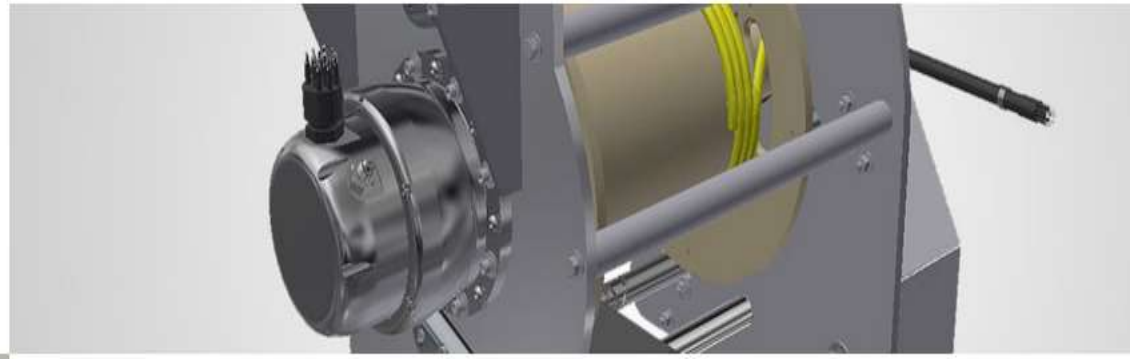
Over the years, we have introduced a number of industry-first systems for a range of coastal, offshore, and deep-sea applications

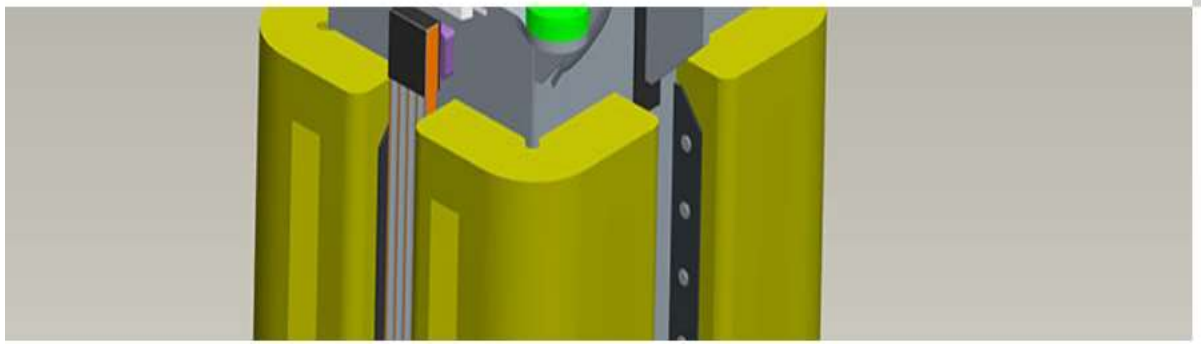
Customized Approach

We meet the technical and practical challenges of marine engineering with a quality-assured approach that prioritizes pressing HSSE concerns

Fit-for-purpose Engineering

Our experienced engineering team is available to help no matter how complex or challenging the requirements. The Okeanus team has expert knowledge in mechanical and electrical design, drafting, and structural engineering. We also offer a full range of services from engineering consultation, detailed design, Finite Element Analysis (FEA), and other kinematic analysis.





Customized Services

For many applications (such as an autonomous LARS on an unmanned surface vessel or an underwater winch) a standard product on the market is simply not suitable or readily available. Using our design software packages and know-how we can manipulate our own proprietary designs to take in a customer's inputs and generate a purpose-built design ready for fabrication. Our designs are also built to support modular upgrades for future system innovation.

WE NEED TO BUY YOUR - CAMERA-CUSTOM ROVS TO LOWER DOWN WITH SEABIRD 32 ROSETTE

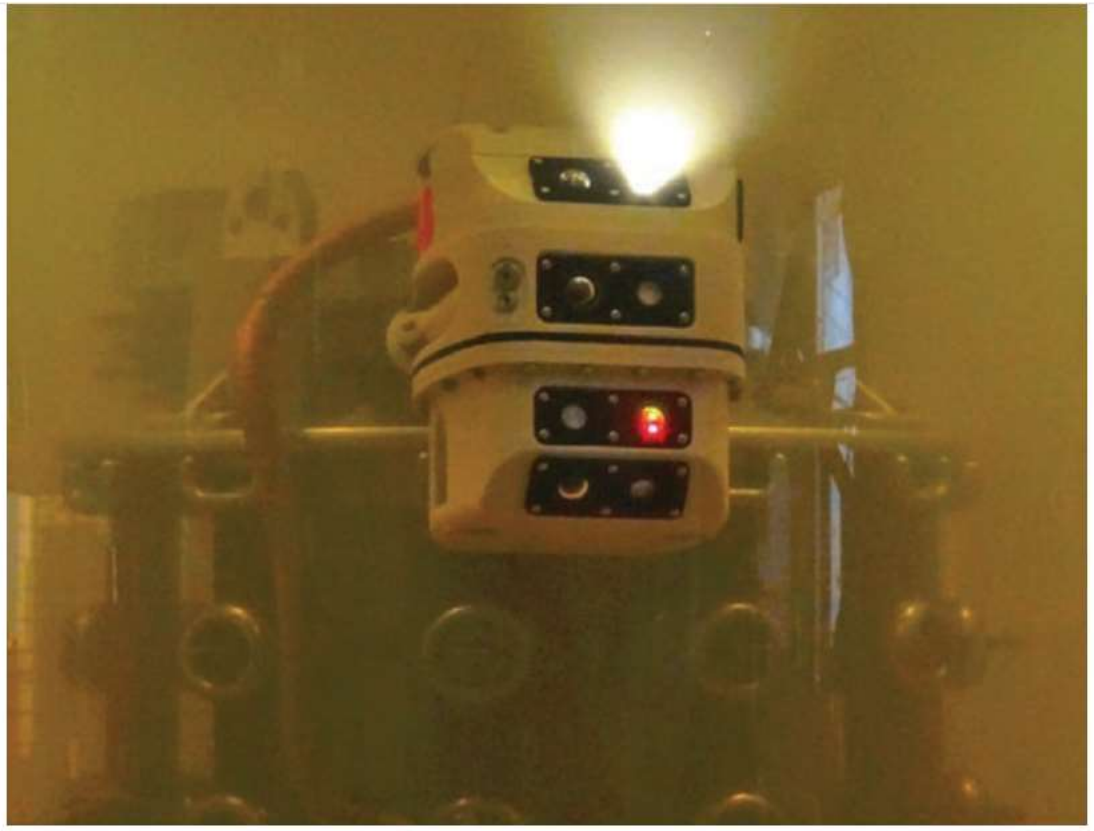
SEA ROBOTICS
AN ADVANCED OCEAN SYSTEMS COMPANY

ABOUT PRODUCTS SERVICES NEWS CONTACT

Custom ROVs

SeaRobotics has extensive experience in designing and manufacturing custom ROVs for wireless inspection and cleaning. We work with commercial, government, and defense markets to extend ROV technology in the name of safety, efficiency and sustainability.

PRODUCT INQUIRY →



We BUY this SEABIRD - SBE 32 Carousel Water Sampler

The SBE 32 Carousel Water Sampler has been extensively deployed throughout the world's oceans, where it has built a reputation for reliability and ease of use. With an accessory Deck Unit, the Carousel provides water sampling and real-time CTD data acquisition with any Sea-Bird profiling CTD (requires electro-mechanical cable and slip-ring equipped winch).

With an accessory underwater unit, the Carousel can operate autonomously with a Sea-Bird profiling CTD and can be programmed to close bottles at selected depths, allowing deployment using non-electrical wire or line.

Notable Features

6,800 meter depth rating

Autonomous or real-time bottle closure when fitted with AFM or SBE 33 deck unit, respectively

Components

Electronics/release pylon with mounting hub, adapter plates, lifting bail, and guard frame; full-size Carousel includes extension stand for mounting CTD below Carousel frame.

Bottles, accessory Deck Unit (for real-time operation) or underwater unit (for autonomous operation), CTD mounting brackets and interface cable, and auxiliary sensors are ordered separately

RENTAL REQUEST

DOWNLOAD SPEC SHEET

WE NEED DEEPSEA P&L SEA LITE CAMERAS TO SEE THE SEAWATER SAMPLING

Capturing subsea applications with quality and accuracy requires superior underwater lights, video and still cameras, and lasers lights. Okeanus supplies a wide range of remote underwater cameras from RS-232 to HD quality, fully dimmable LED lights, halogen, and ultraviolet lights, and different color lasers.

Sidus SS501 Green Laser

View Product...

DeepSea P&L SeaLite Six

View Product...

DeepSea P&L SeaLite Sphere

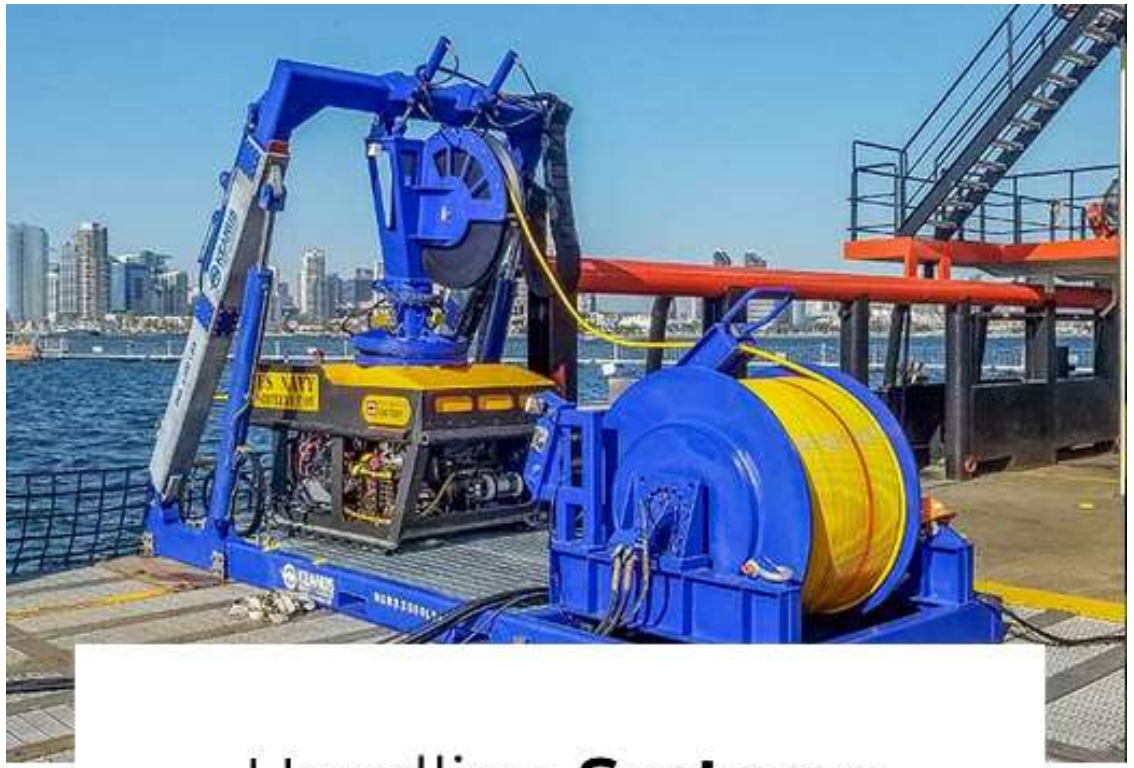
View Product...

We need 10 km of your Electro-Mechanical Cable and Wire Line – for Handling System to hook Seabird Rosette

Okeanus' rental inventory includes a range of turnkey oceanographic winches for rapid deployment. With various models available in multiple frame sizes and configurations, our expanding portfolio supports offshore commercial and government around the world, to any depth.

DT-3125	125	0.322"	14000m	20000 lbs	0-150 ft/min

Multi-Purpose Winch Rentals



Handling **Systems**

WE NEED LARS – 10KM LENGTH WINCH TO LOWER OUR SEABIRD 32 ROSETTE

A-FRAME STYLE LARS

Our A-Frame style LARS offers easy transport and rapid mobilzation on to and off vessels. These systems are fully contained, and include a winch, levelwind assembly, self erecting A-Frame, and docking head, mounted to a single base frame.

Notable Features

- Sized for ISO container or flat rack transportation
- All electric or electro-hydraulic configurations
- Supports multiple instruments and cables
- Telescoping frames to extend overboard reach
- Local, remote and fully autonomous control options
- Heave compensation
- Optional ABS or DNV certification

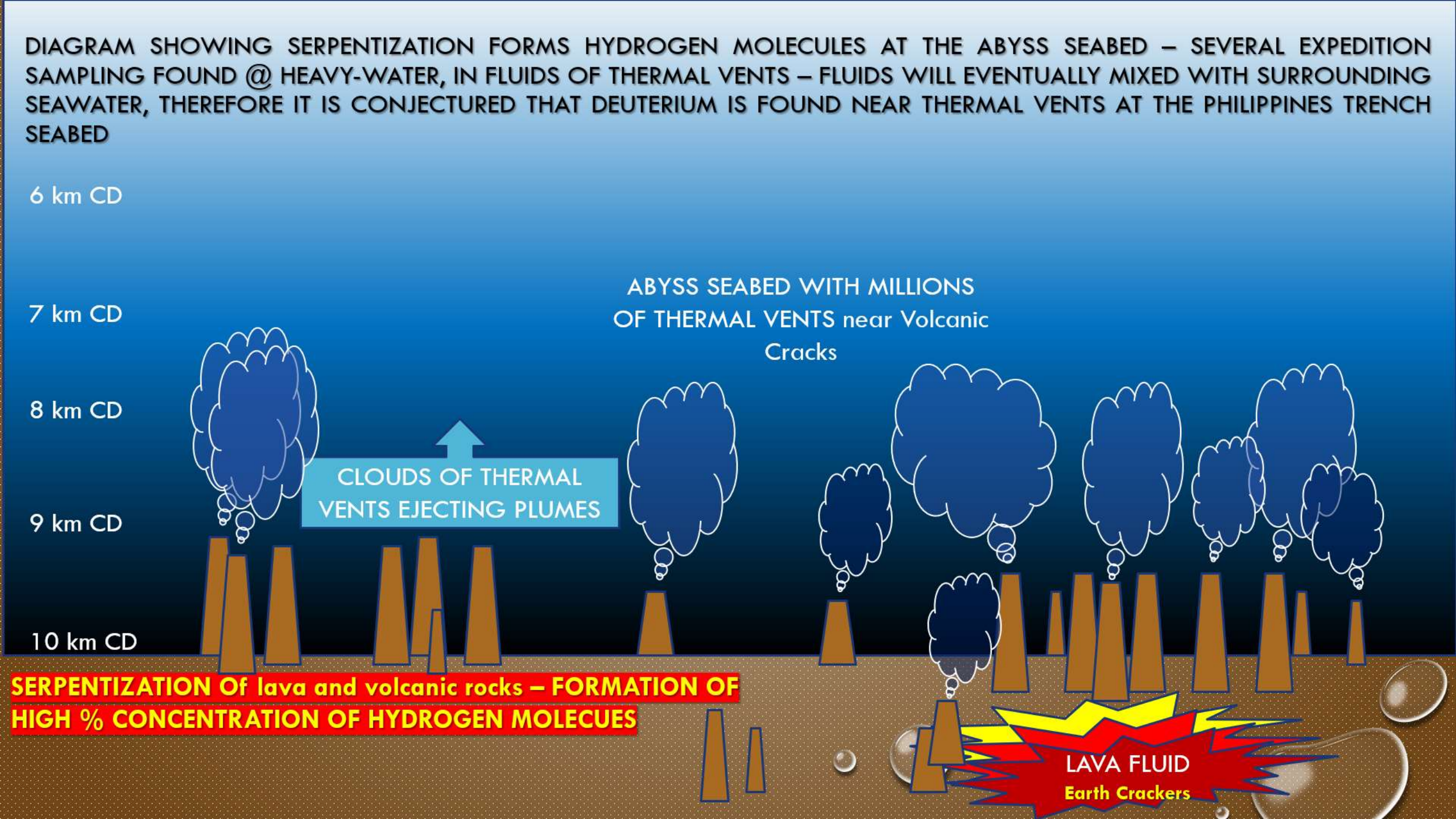
PRODUCT INQUIRY

ENERGEIA TRADE AND DEVELOPMENT

POSITION FOR DEUTERIUM CONCESSION Coordinates and Acreage (3.44 km2)

EXPLORATION SEABED & WATERS IN ABYSS OF PHILIPPINE TRENCH

DIAGRAM SHOWING SERPENTIZATION FORMS HYDROGEN MOLECULES AT THE ABYSS SEABED – SEVERAL EXPEDITION SAMPLING FOUND @ HEAVY-WATER, IN FLUIDS OF THERMAL VENTS – FLUIDS WILL EVENTUALLY MIXED WITH SURROUNDING SEAWATER, THEREFORE IT IS CONJECTURED THAT DEUTERIUM IS FOUND NEAR THERMAL VENTS AT THE PHILIPPINES TRENCH SEABED

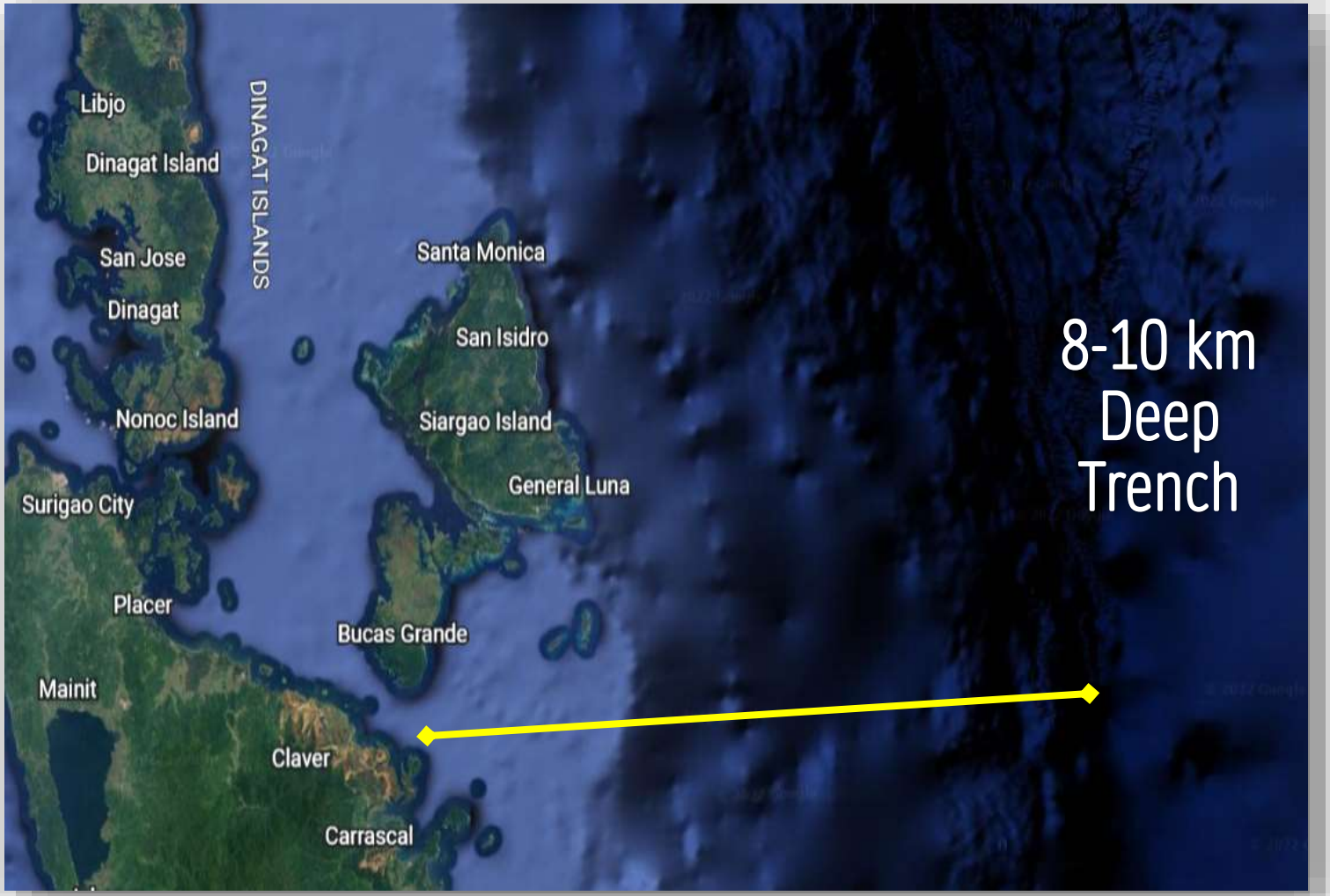


PRIMARY DEUTERIUM TEST & REASONS FOR ITS EXISTENCE

DEUTERIUM MINING & PRODUCTION PLAN FOR FEBRUARY-MARCH 2024/26

PLANNING	APPOINTMENT	DESIGN OF COMLEX	STRATEGY	LAUNCH
Getting the Land Development & Architectural Deuterium Complex	APPOINTMENT OF TURNKEY EPCC TO BUILD DEUTERIUM COMPLEX AND TANK FARMS	Coordinate With Mining and Building Permits from all Government and Provinces Surigao	Deuterium Production & EXPORT TO LNG POWER PLANT WORLD WIDE	OPERATION & COMMENCEMENT AND DEUTERIUM PRODUCTION

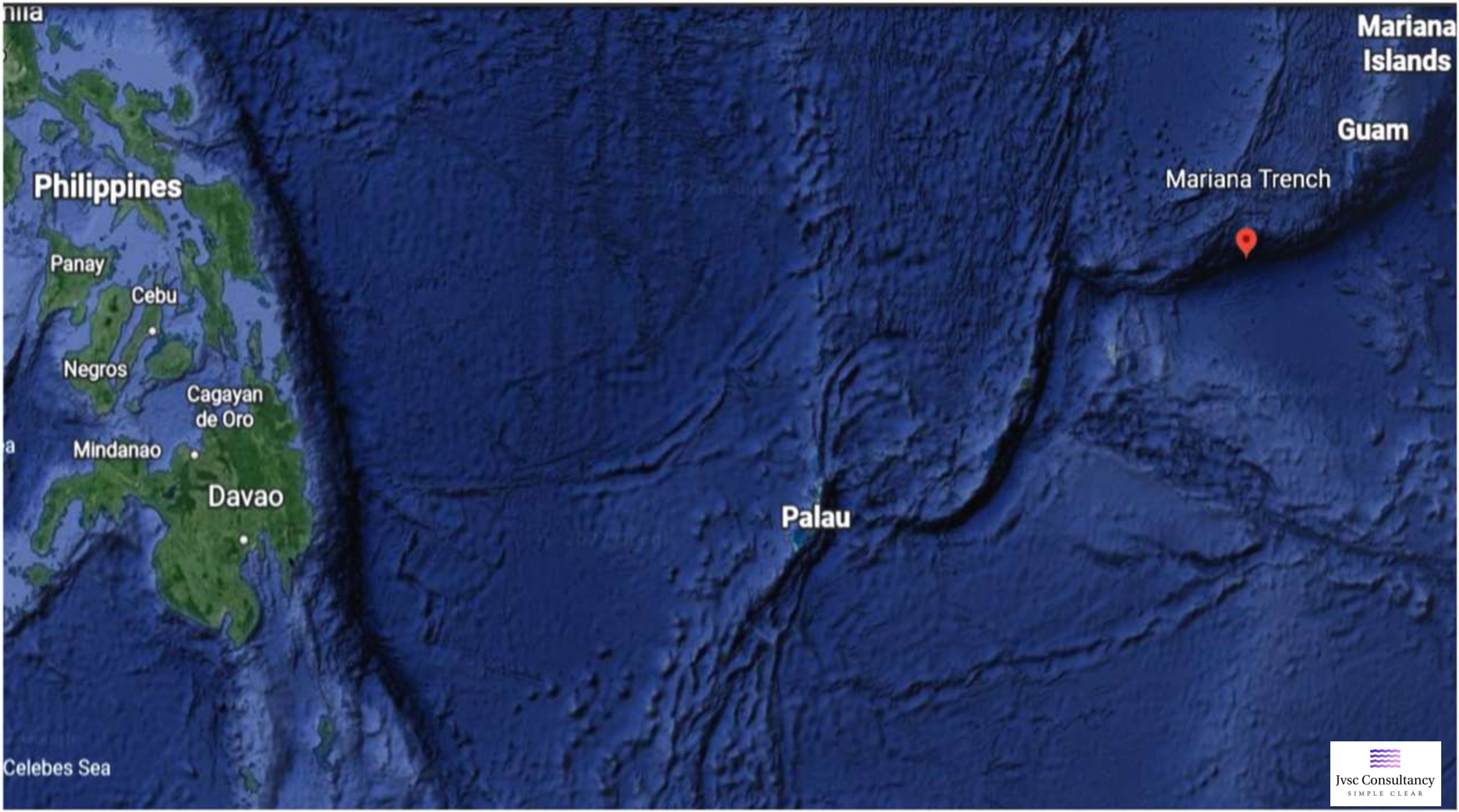
Deuterium Exploration in Philippine Trench



The Missions of Deuterium Exploration & OCEANOGRAPHIC CHallenges

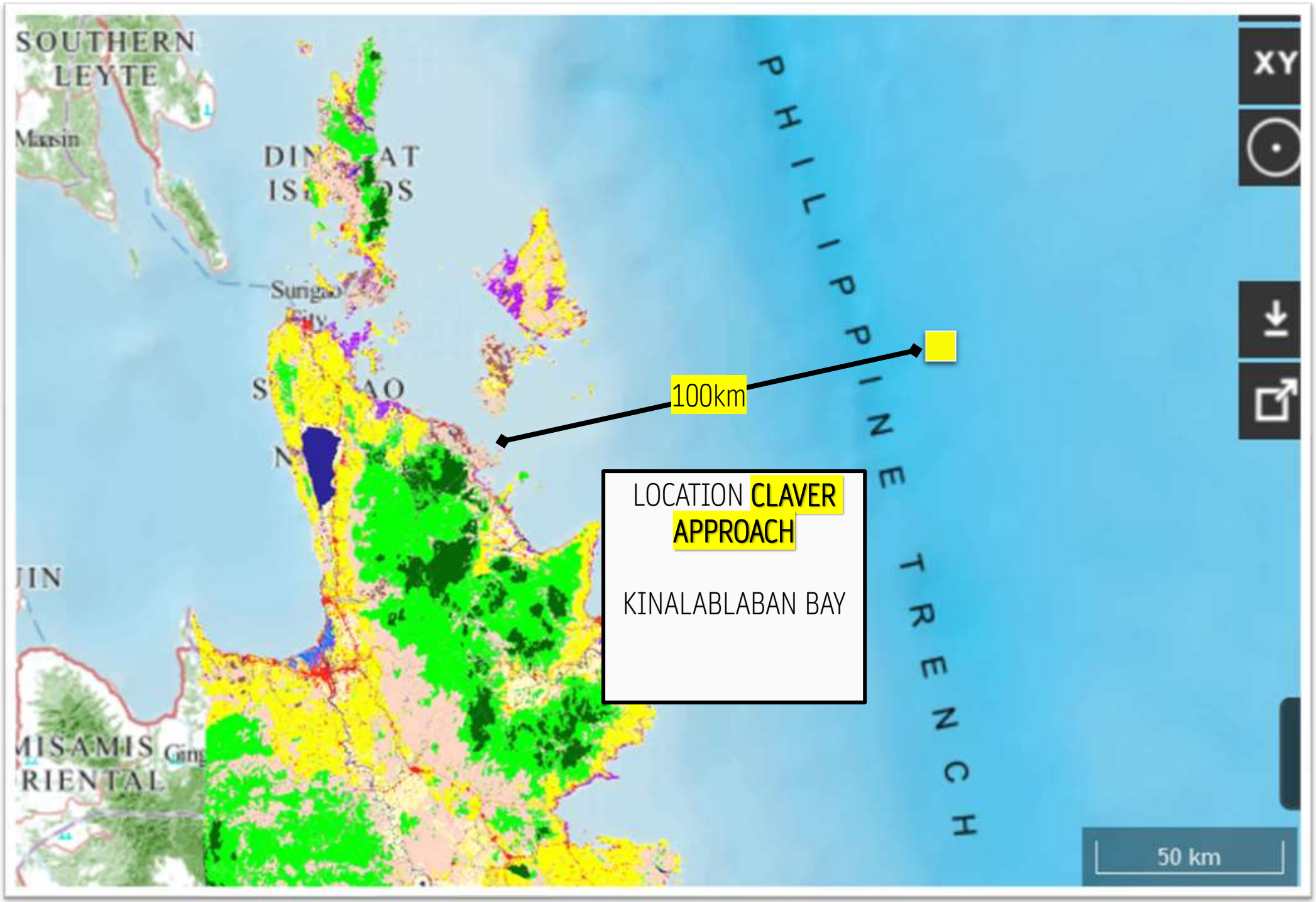
1. FLOAT-SPOOL-Laying DESIGN- STEEL HDPE over (86 -100) km to CLAVER Approach
2. Pumping Deuterium seawater over pipeline (80-100) KM TO DEUTERIUM EXIM TERMINALS & Tank FARM for Process & Export.

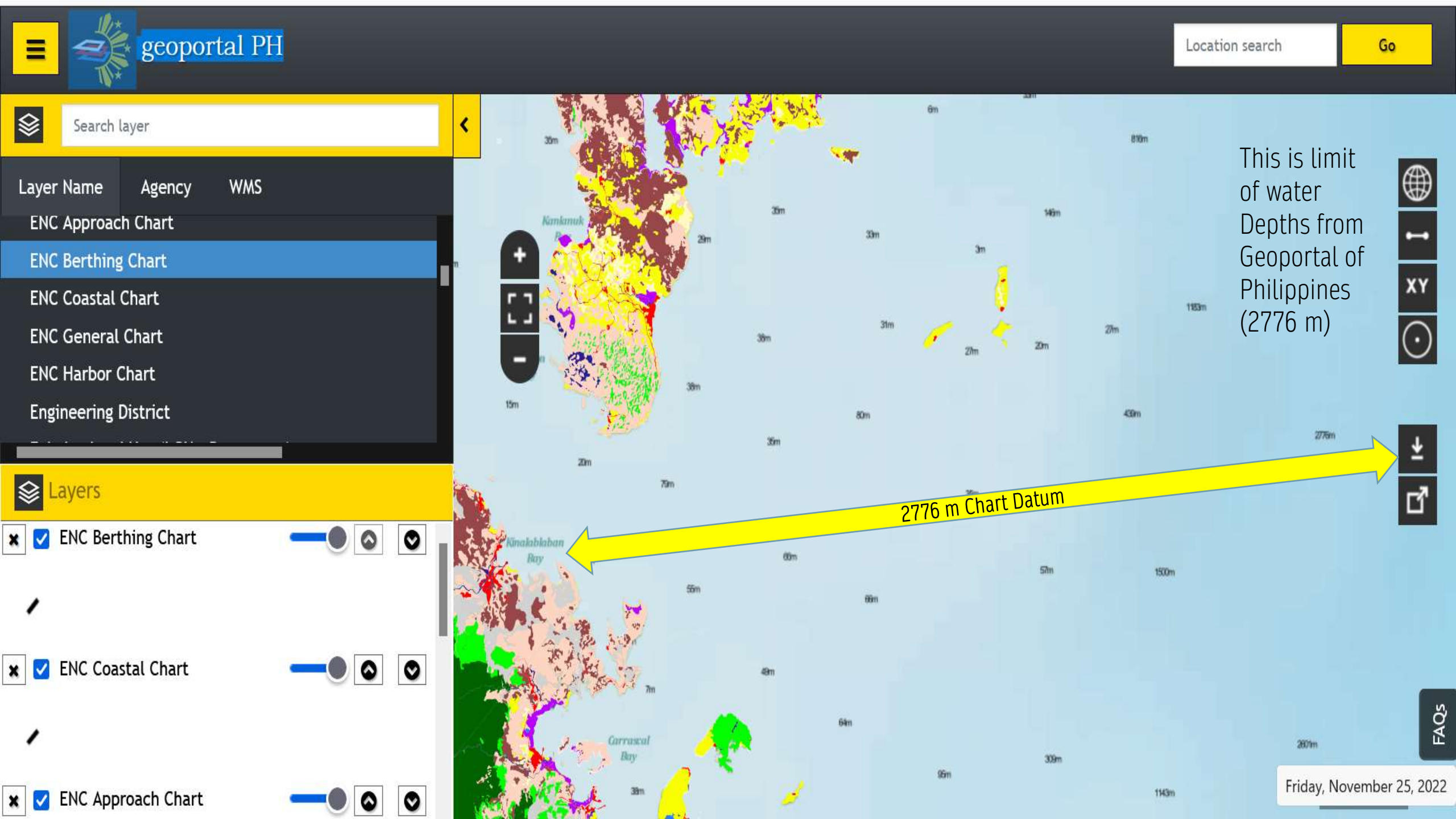
Jvsc Consultancy
SIMPLE CLEAR


Mariana
Islands
Guam
Philippines
Mariana Trench
Panay
Cebu
Negros
Cagayan
de Oro
Mindanao
Davao
Palau
Celebes Sea
Jvsc Consultancy
SIMPLE CLEAR

Geoportal PH

KINALABLABAN BAY




geoportal PH
Location search
Go
Search layer
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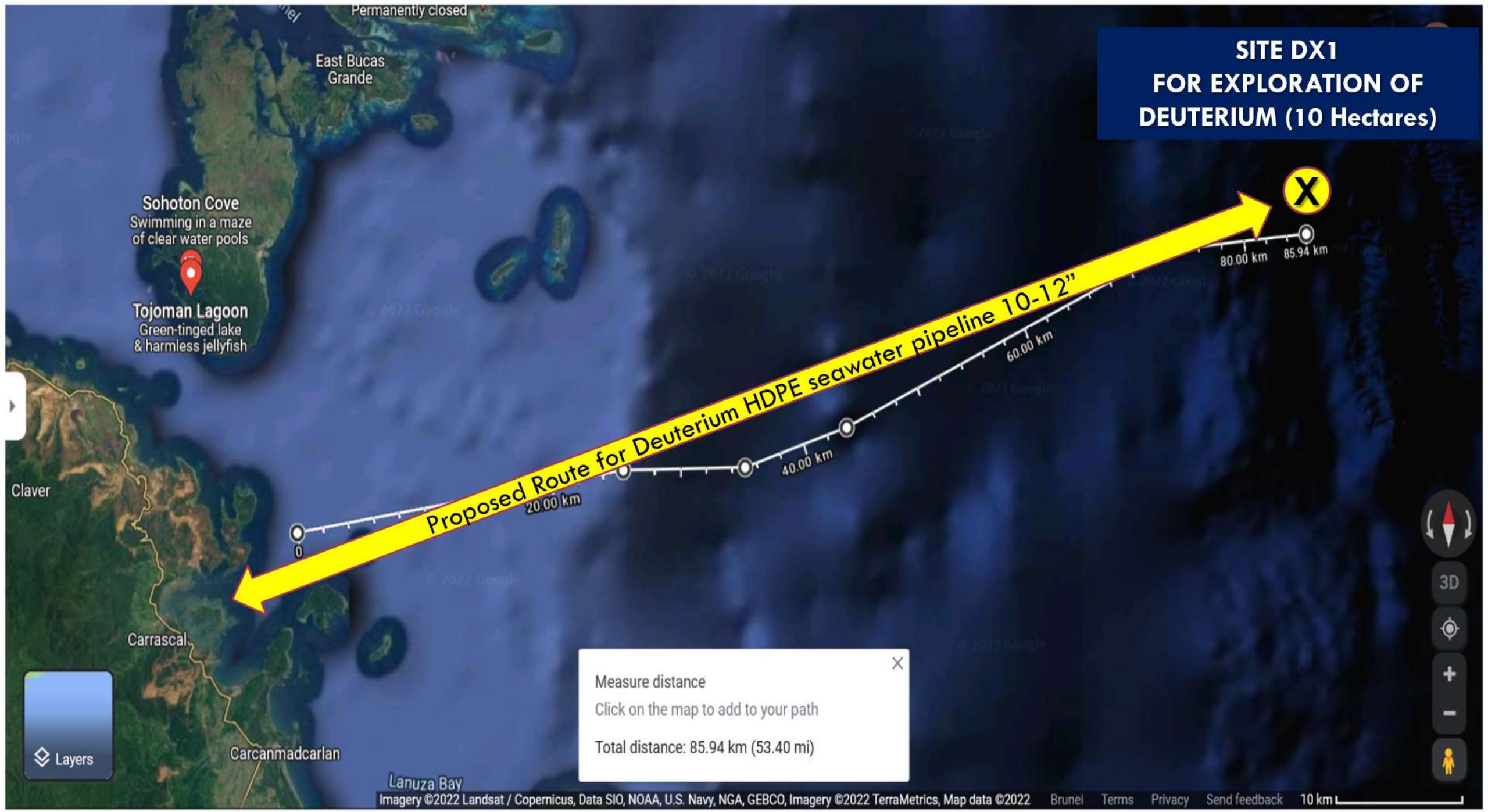
Agency
WMS
ENC Approach Chart
ENC Berthing Chart
ENC Coastal Chart
ENC General Chart
ENC Harbor Chart
Engineering District
Layers
ENC Berthing Chart
ENC Coastal Chart
ENC Approach Chart
This is limit of water Depths from Geoportal of Philippines (2776 m)
2776 m Chart Datum
Kinakiskisan Bay
Carrascal Bay
FAQs
Friday, November 25, 2022


SITE DX1
FOR EXPLORATION OF
DEUTERIUM (10 Hectares)
Proposed Route for Deuterium HDPE seawater pipeline 10-12”
X
0
20.00 km
40.00 km
60.00 km
80.00 km
85.94 km
Permanently closed
East Bucas Grande
Sohoton Cove
Swimming in a maze of clear water pools
Tojoman Lagoon
Green-tinged lake & harmless jellyfish
Claver
Carrascal
Carcanmadcarlan
Lanuza Bay
Measure distance
Click on the map to add to your path
Total distance: 85.94 km (53.40 mi)
Layers
3D
Imagery ©2022 Landsat / Copernicus, Data SIO, NOAA, U.S. Navy, NGA, GEBCO, Imagery ©2022 TerraMetrics, Map data ©2022
Brunei
Terms
Privacy
Send feedback
10 km

GP

https://www.geoportal.gov.ph

Other Bookmarks

geoportal PH

Location search

Go

Search layer

Layer Name | Agency | WMS

Comprehensive Land Use Plan (CLUP) Status
Contour 1:10,000
Contour 1:250,000
Contour 1:50,000
Critical Habitat
Critical Watershed

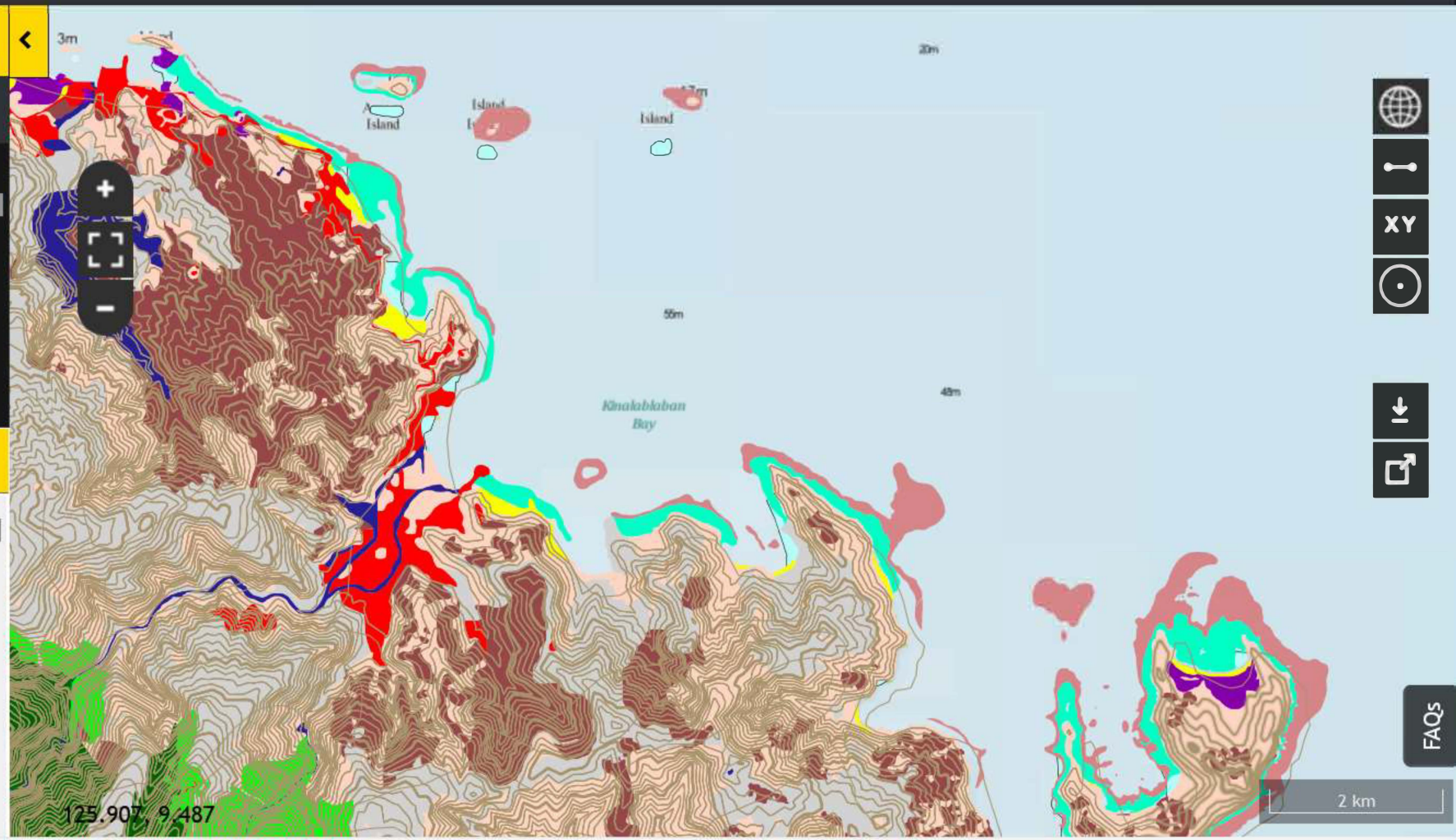
Layers

Contour 1:50,000

Intermediate
Index

Contour 1:10,000

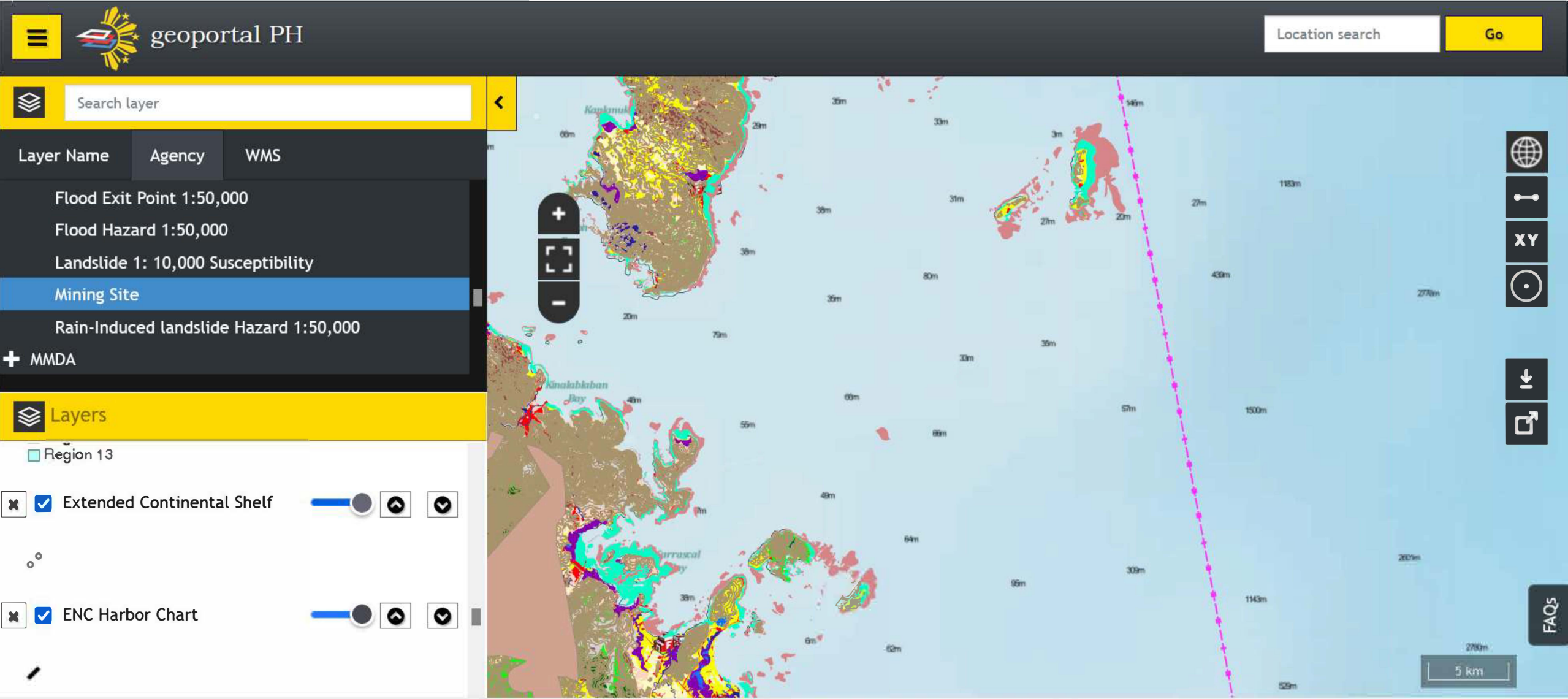
Intermediate
Index



FAQs

31°C
Cloudy

3:27 PM
11/25/2022


geoportal PH
Location search
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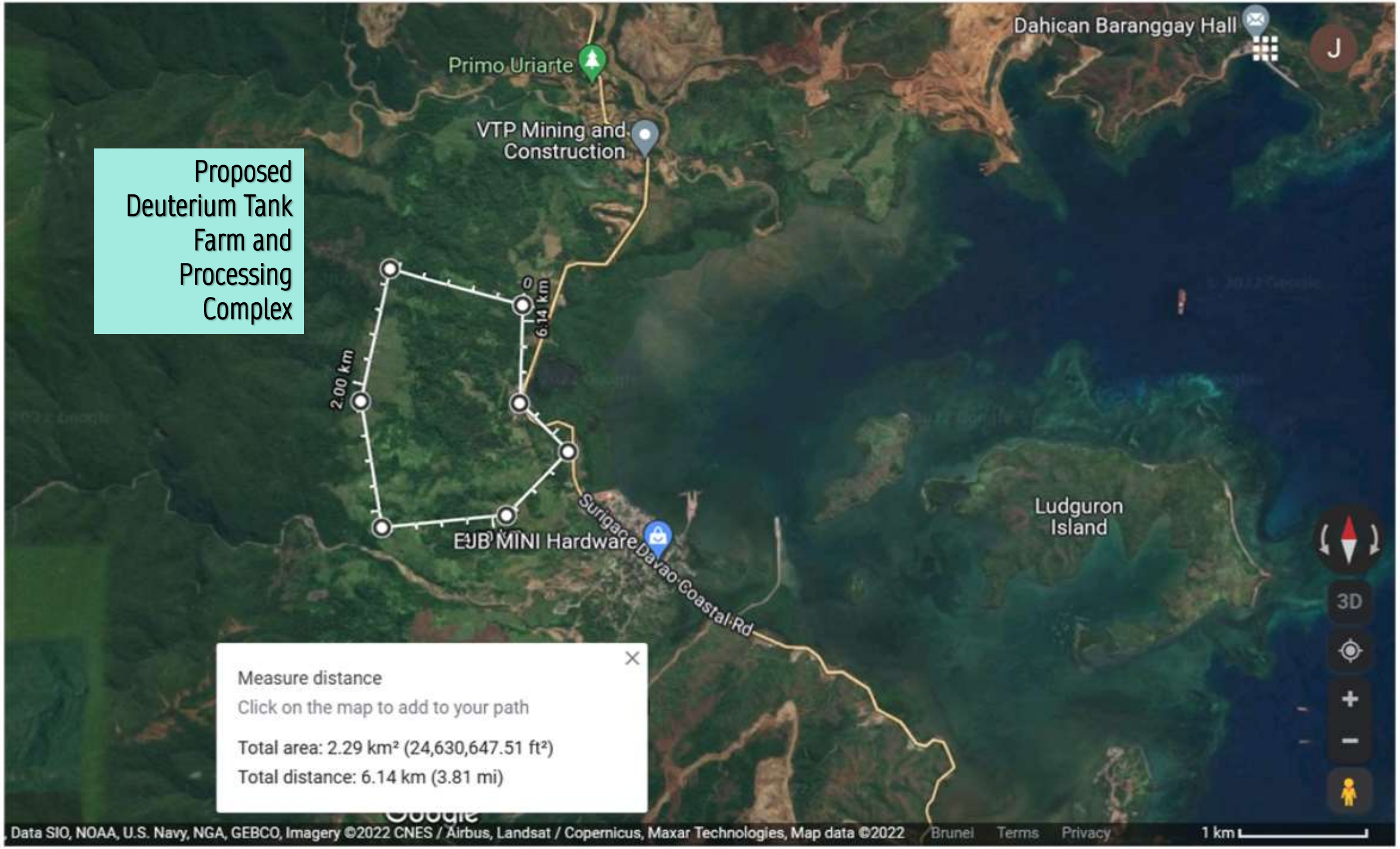
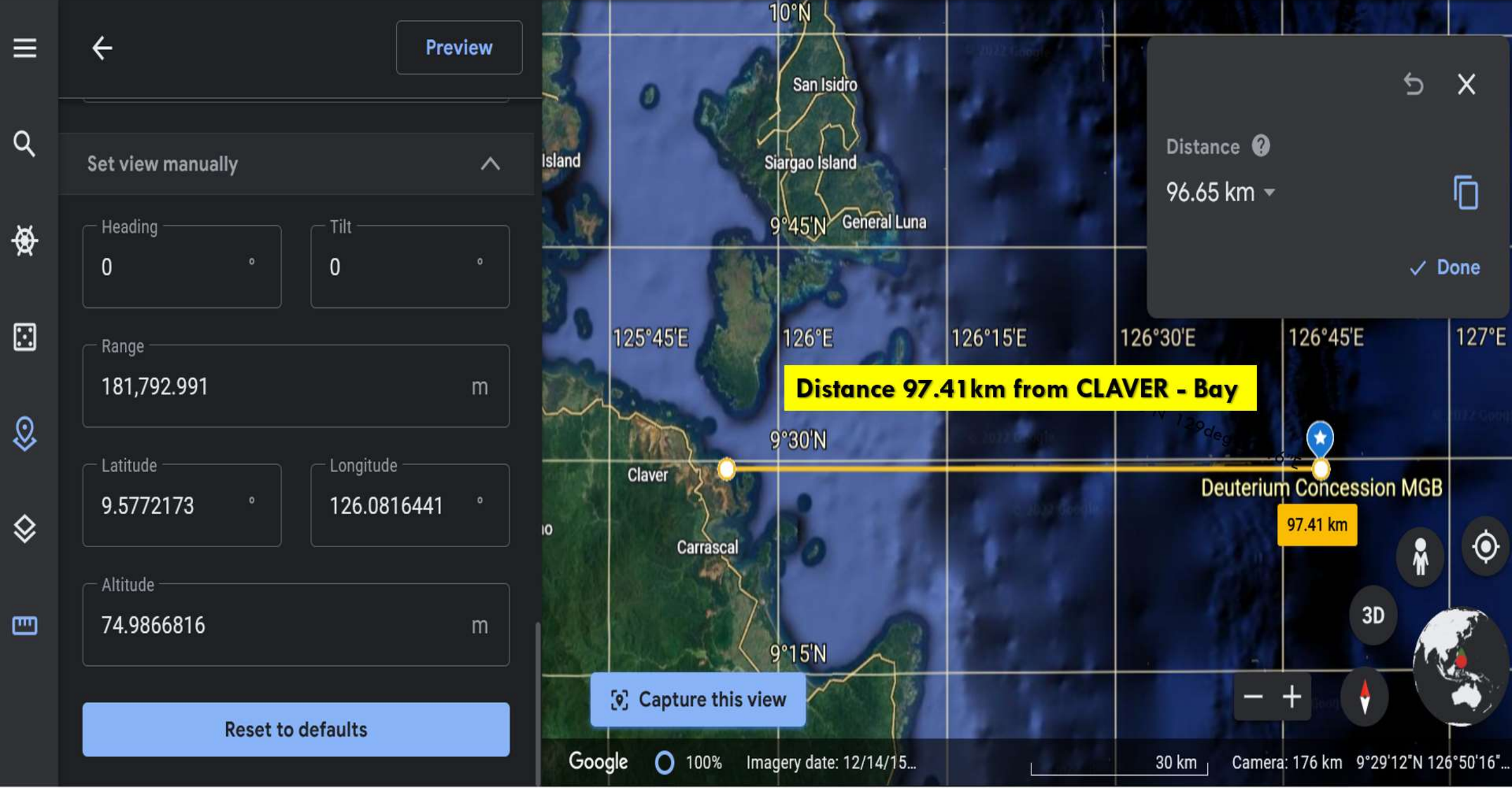
Flood Exit Point 1:50,000
Flood Hazard 1:50,000
Landslide 1: 10,000 Susceptibility
Mining Site
Rain-Induced landslide Hazard 1:50,000
MMDA
Layers
Region 13
Extended Continental Shelf
ENC Harbor Chart
XY
FAQs
5 km


VTP Mining and Construction
CTPCMC Head Office
Deuterium Tank farm and Production Refining Complex
Surigao - Davao Coastal Rd
EJB MINI Hardware
Ludguron Island
Carrascal Bay
Layers
Google
3D


Proposed Deuterium Tank Farm and Processing Complex
Dahican Baranggay Hall
Primo Uriarte
VTP Mining and Construction
6.14 km
2.00 km
EJB MINI Hardware
Surigao Davao Coastal Rd
Ludguron Island
Measure distance
Click on the map to add to your path
Total area: 2.29 km² (24,630,647.51 ft²)
Total distance: 6.14 km (3.81 mi)
3D
Data SIO, NOAA, U.S. Navy, NGA, GEBCO, Imagery ©2022 CNES / Airbus, Landsat / Copernicus, Maxar Technologies, Map data ©2022
Brunei
Terms
Privacy
1 km


Preview
Set view manually
Heading
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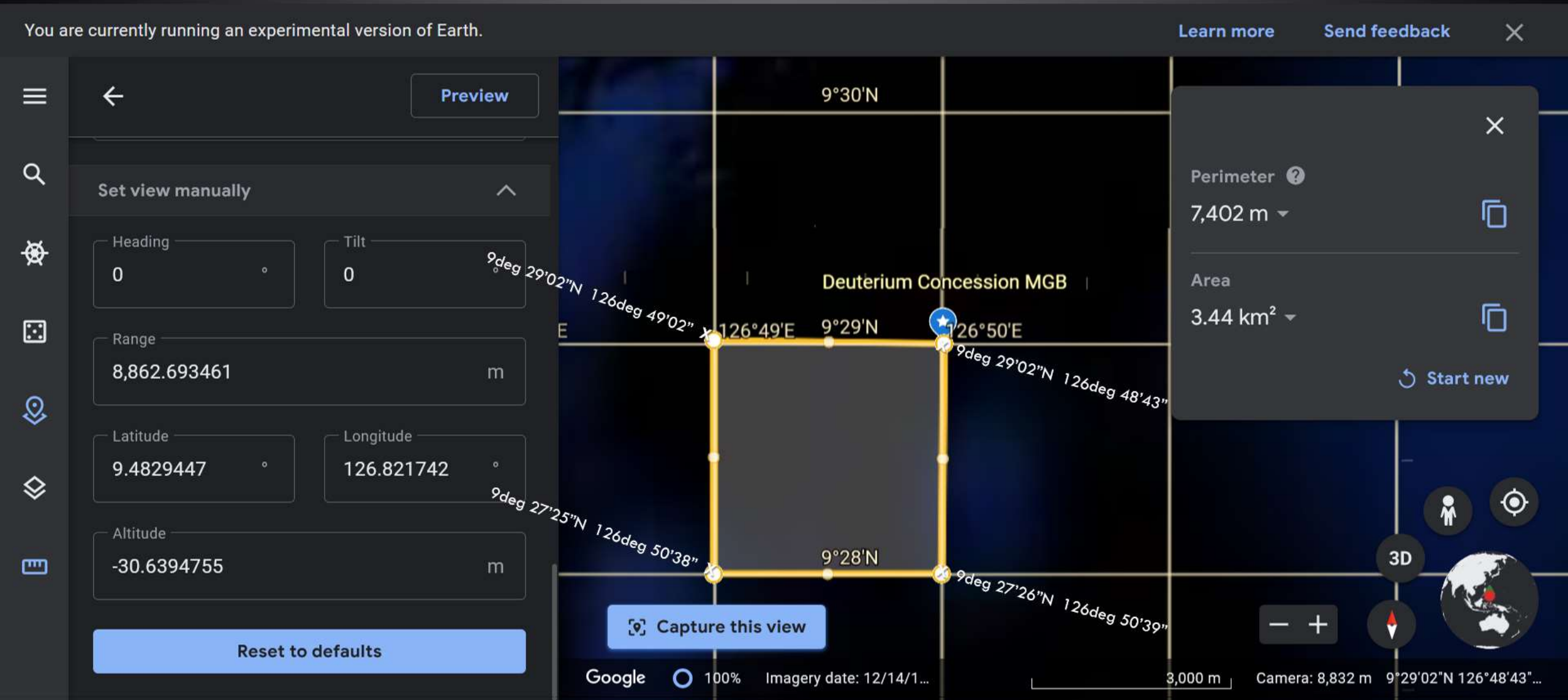
Range
181,792.991
m
Latitude
9.5772173
Longitude
126.0816441
Altitude
74.9866816
m
Reset to defaults
10°N
San Isidro
Siargao Island
9°45'N
General Luna
125°45'E
126°E
126°15'E
126°30'E
126°45'E
127°E
Distance
96.65 km
Done
Distance 97.41km from CLAVER - Bay
9°30'N
Claver
Carrascal
9°15'N
Deuterium Concession MGB
97.41 km
3D
Capture this view
Google
100%
Imagery date: 12/14/15...
30 km
Camera: 176 km
9°29'12"N 126°50'16"...

AREA OF DEUTERIUM CONCESSION (3.44 KM2)



SEAWATER SAMPLES EXPECTATION

- In seawater sample collected we are expected to find Deuterium water with Phytoplankton (microscopic plants such as diatoms, dinoflagellates and coccolithophores) fix carbon into an organic form during photosynthesis and thus are the foundation of the marine food web.
- Broad taxonomic differences in nutrient requirements mean that as RV will sails from one site to another we collect seawater sample to describe observe at the Abyss seabed at various regular internal of depth – (7-10 km CD) and to collect seawater sample to record the percentage of deuterium at various water column at seabed this include work on phytoplankton community composition and abundance.
- During the TRIPS down to the Abyss, direct measurements of seawater deuterium concentrations allow RV Team to estimate the quantity of Deuterium, with Mass spectrum meter (insitu) – payload

- The chemical composition of the water column both indicates and drives biological activity. RV Team research focuses on Deuterium and also essential nutrients, such as Hydrogen, nitrogen, phosphorus and silica, and dissolved oxygen.
- In most areas of the world's oceans, the primary sources of these nutrients are land-based; in the open ocean other processes are also important.
- Direct measurements provide both nutrient and oxygen concentrations for water samples collected using the ship's CTD-Carousel, allowing study of spatial- and depth-associated patterns.
- Nearshore, RV Team further examine the ways coastal runoff, waste/stormwater management, and pollution influence marine chemistry.

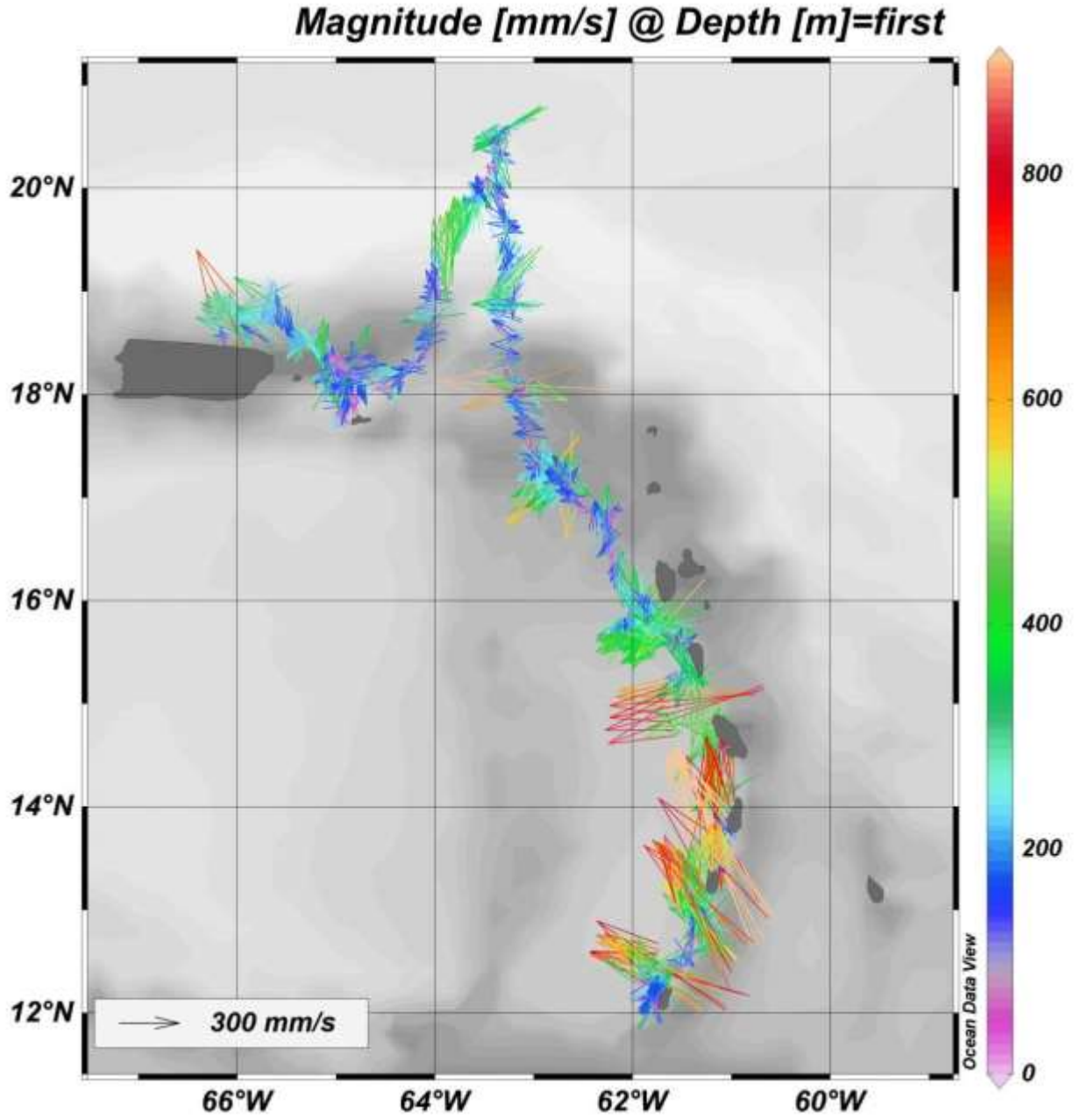
CTD ROSETTES FOR WATER SAMPLES

OBSERVATION OF ABYSS WATER CURRENT CIRCULATION

- Distinct water masses interact with the atmosphere and each other in many ways and at many spatial and temporal scales.
- Our RV TEAM shall also carry physical oceanographic research draws heavily upon the data collected by our ADCP system, which provides real-time current speed and direction through the upper water column, and CTD profiles measuring temperature and salinity characteristics below the sea surface. (Along the Trench to measure water current at Abyss Seabed along the Valleys.
- With these tools, RV Team will explore local- to basin-scale circulation patterns in the surface and deep ocean, as well as their impacts on global climate, marine biology, and seawater chemistry.
- These datasets also help us understand decades-long data archive offers Philippines University the opportunity to investigate temporal changes as well, such as shifting Gulf Stream conditions in the North Atlantic or El Niño Southern Oscillation dynamics in the tropical Pacific. (This will deepen our understand of Deuterium Circulation along the Philippines Tenches)

DEUTERIUM CIRCULATION

Our RV TEAM shall also carry physical oceanographic research draws heavily upon the data collected by our ADCP system, which provides real-time current speed and direction through the upper water column, and CTD profiles measuring temperature and salinity characteristics below the sea surface. (Along the Trench to measure water current at Abyss Seabed along the Valleys.

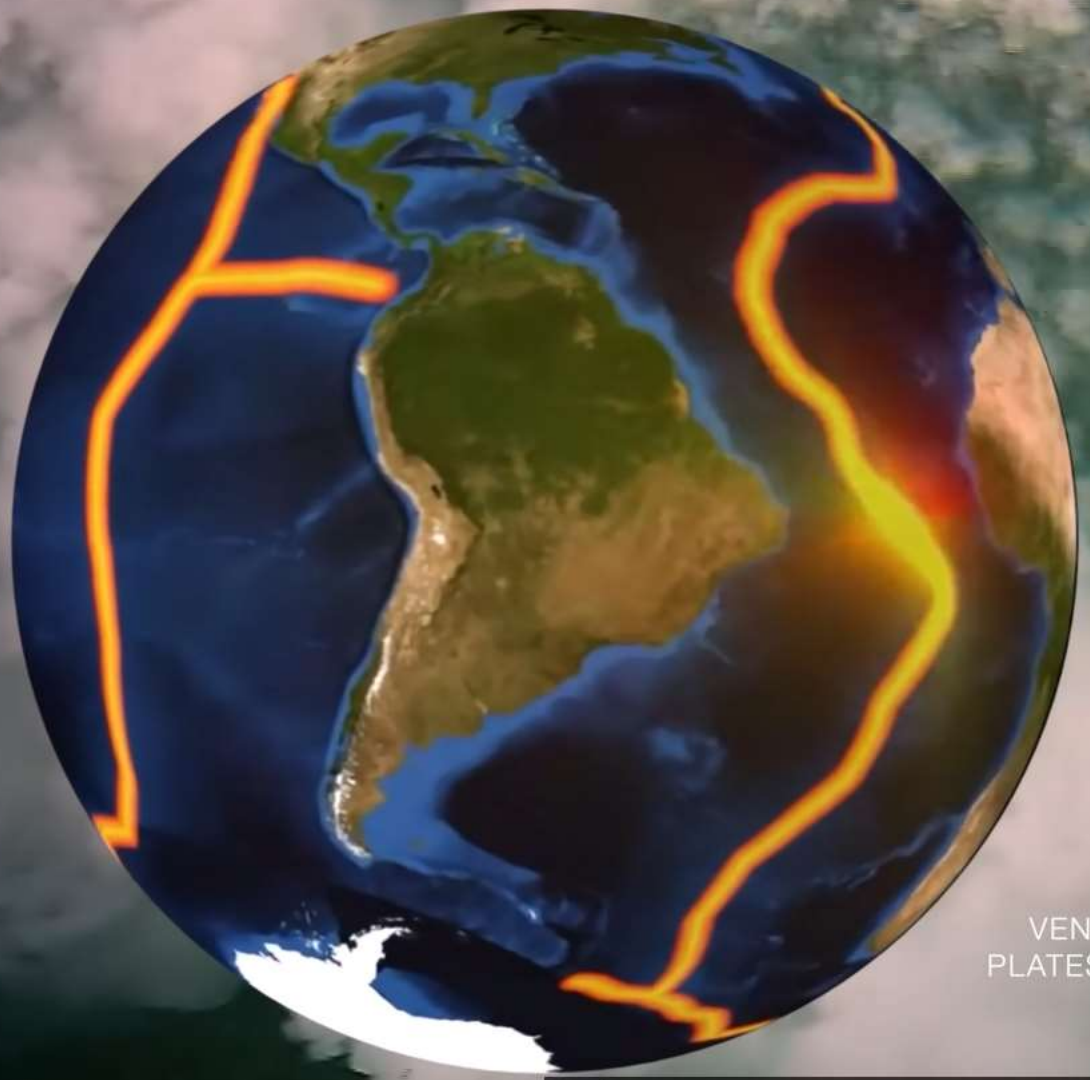


ENERGEIA TRADE AND DEVELOPMENT

POSITION FOR DEUTERIUM CONCESSION
Coordinates and Acreage (3.44 km2)

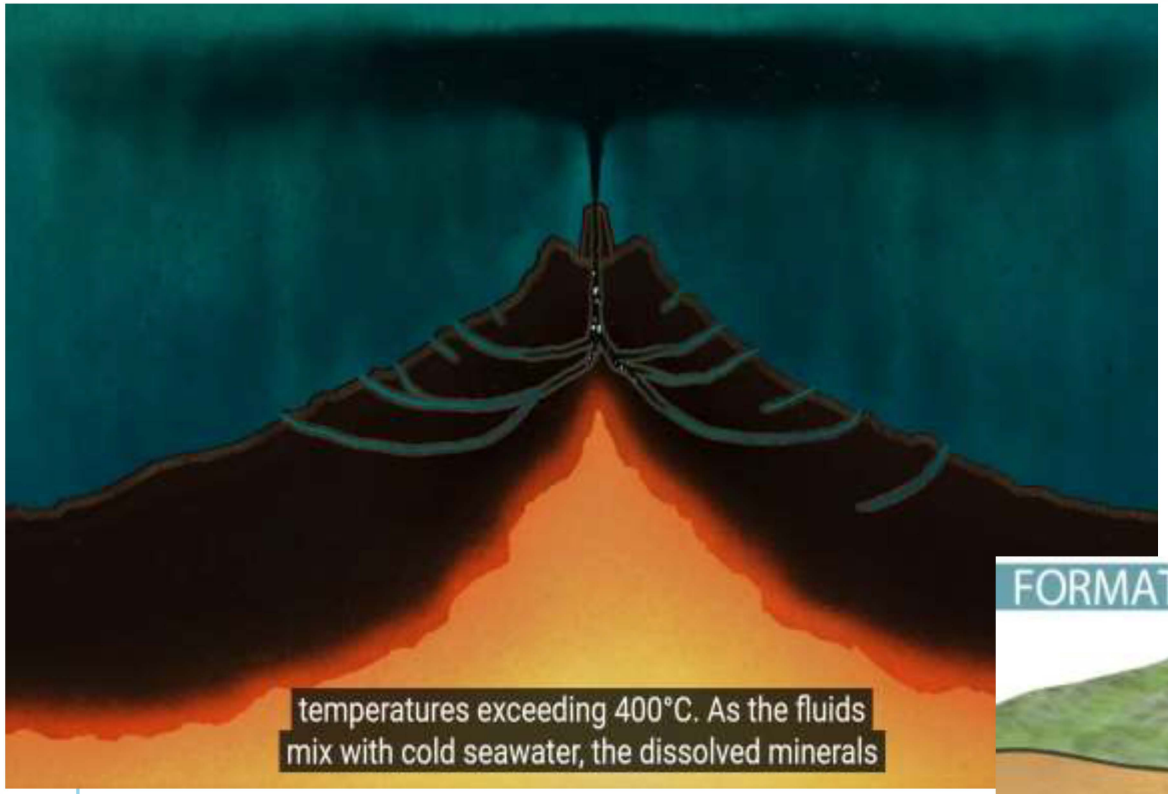
EXPLORATION SEABED & WATERS IN ABYSS OF PHILIPPINE TRENCH

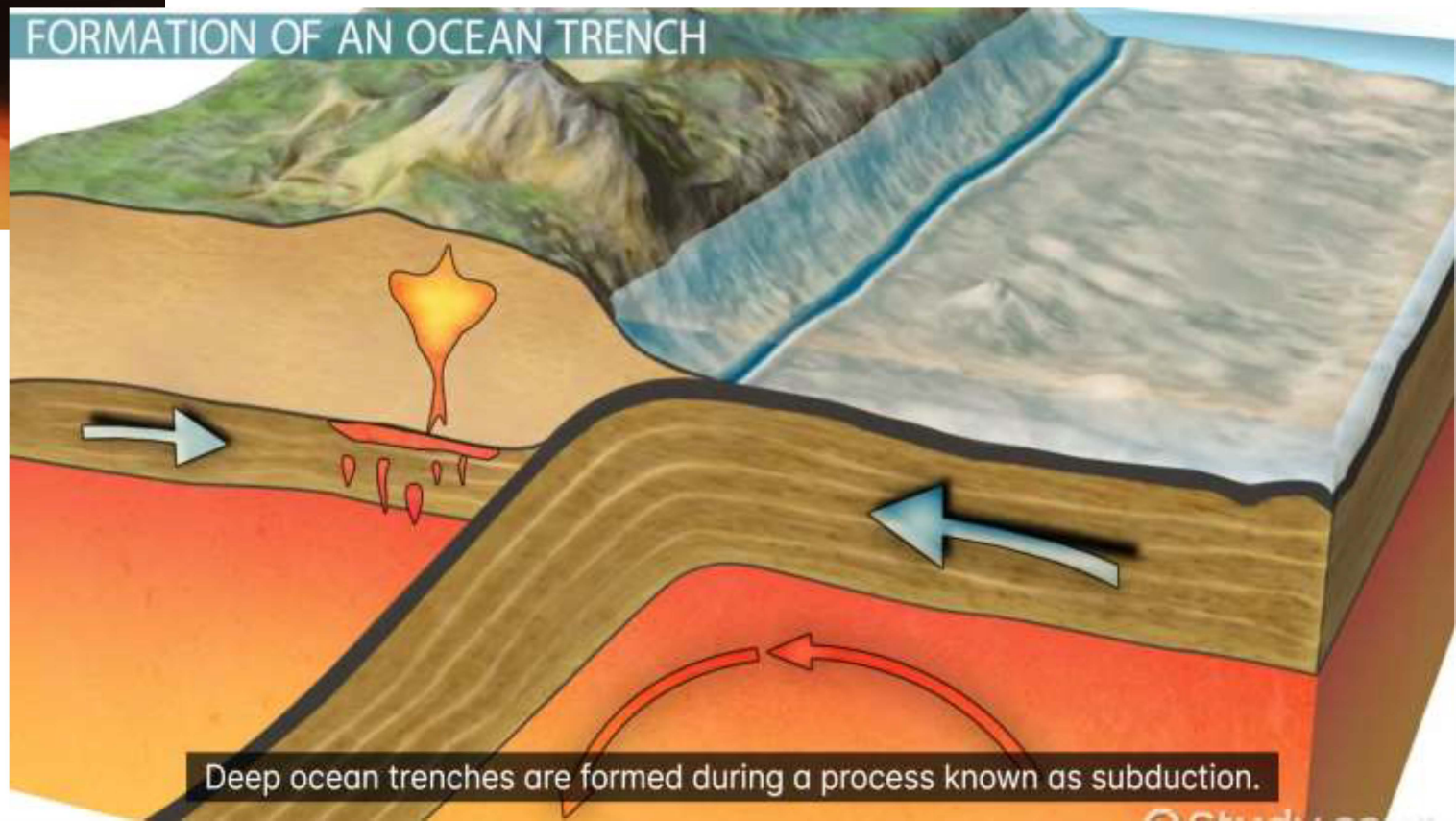
PHILIPPINE NAVY – OCEANOGRAPHIC VESSEL - BRP GREGORIO VELASQUEZ (AGR702)

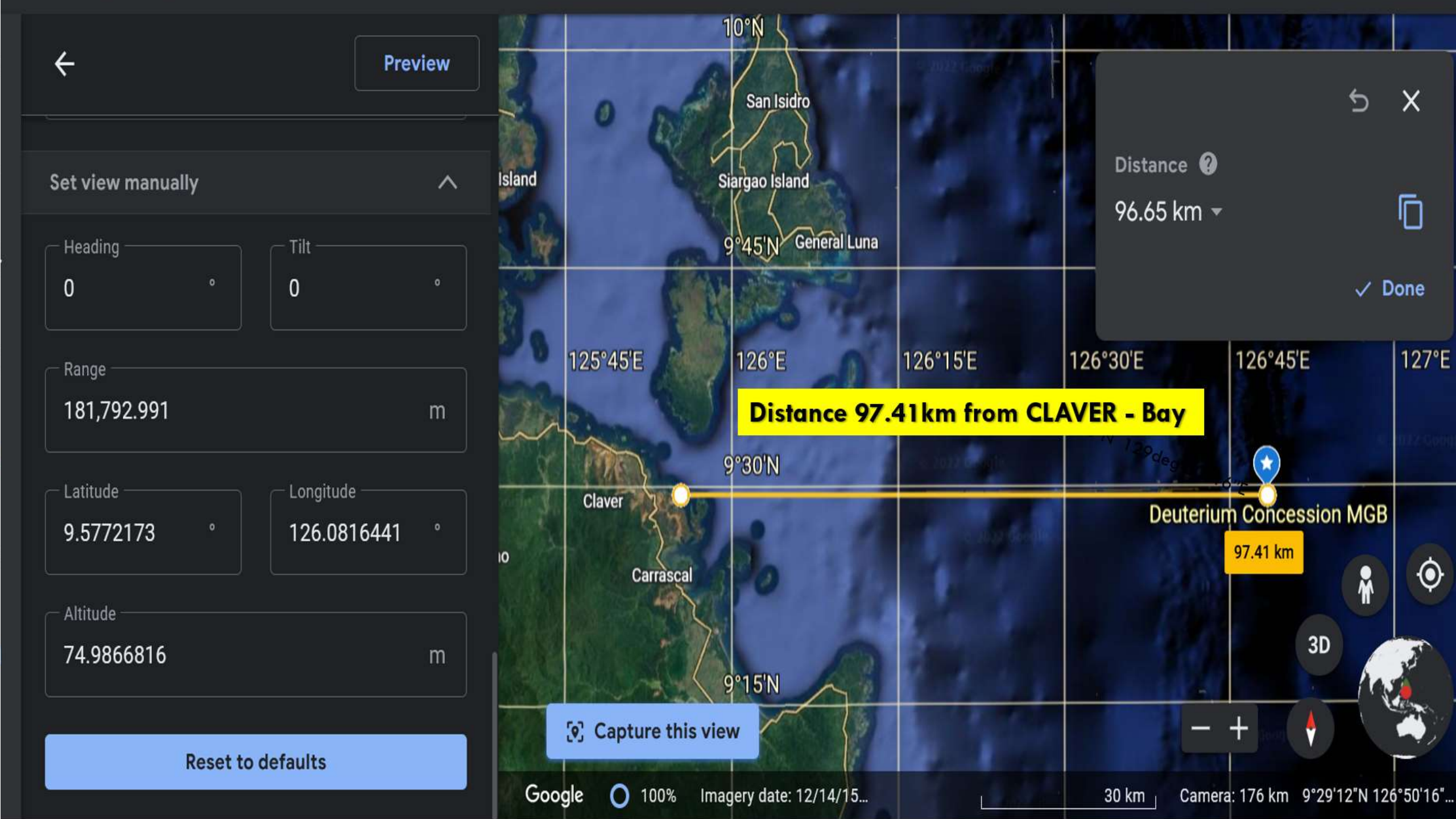


VENTS FORM AT CONVERGENT PLATE BOUNDARIES WHERE THE SPREADING PLATES CREATE FISSURES IN THE EARTH'S CRUST.

plate boundaries and at sea-floor spreading
regions where the oceanic crust is moving


temperatures exceeding 400°C. As the fluids
mix with cold seawater, the dissolved minerals


FORMATION OF AN OCEAN TRENCH
Deep ocean trenches are formed during a process known as subduction.


Preview
Set view manually
Heading
0
Tilt
0
Range
181,792.991
m
Latitude
9.5772173
Longitude
126.0816441
Altitude
74.9866816
m
Reset to defaults
10°N
San Isidro
Siargao Island
9°45'N
General Luna
125°45'E
126°E
126°15'E
126°30'E
126°45'E
127°E
Distance 97.41km from CLAVER - Bay
9°30'N
Claver
Carrascal
9°15'N
Deuterium Concession MGB
97.41 km
Distance
96.65 km
Done
3D
Capture this view
Google
100%
Imagery date: 12/14/15...
30 km
Camera: 176 km
9°29'12"N 126°50'16"...

SURIGAO DEUTERON INDUSTRIES CORPORATION – COMPLEX

PATENT STEEL MESH HDPE DEUTERON PIPE LINE – 97 set booster pumps

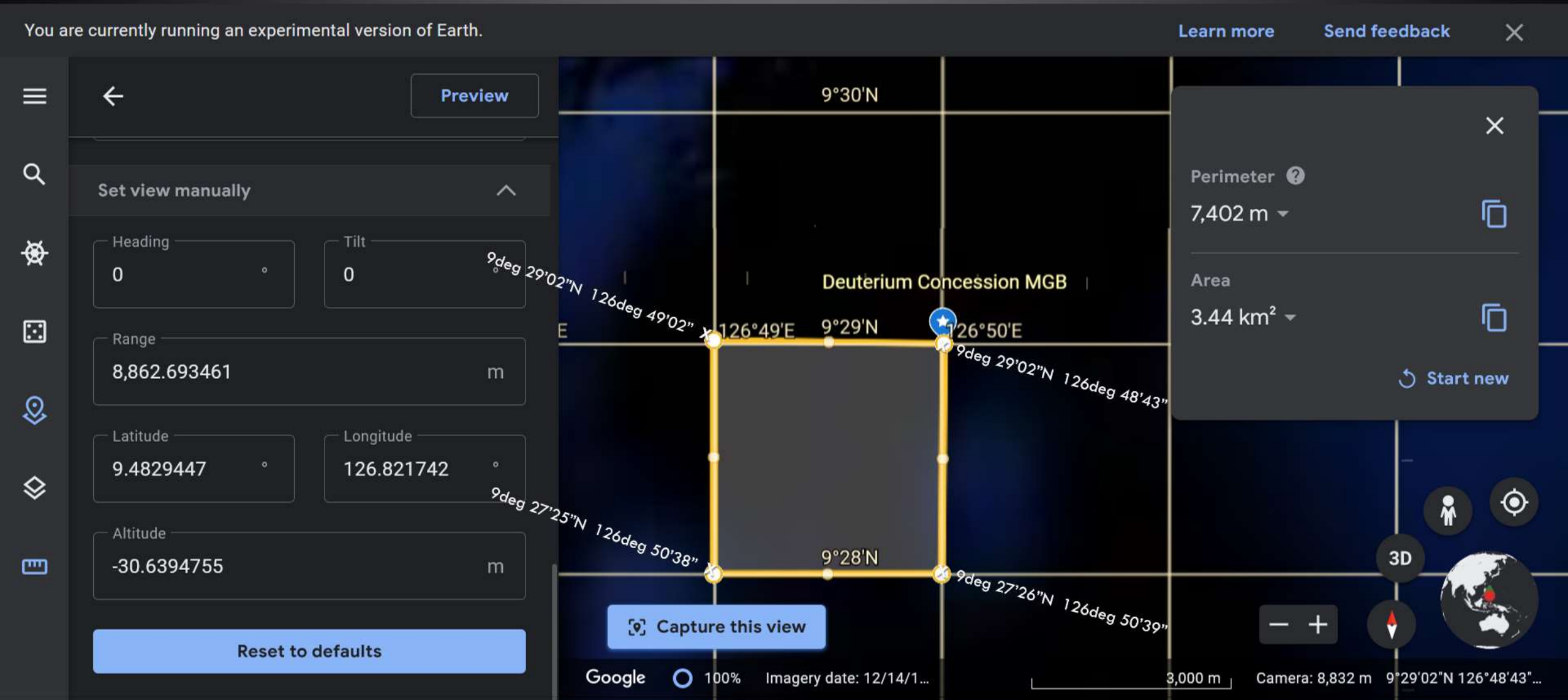
97 km

7-10km

Hydro Thermal Vents

Sampling-deoths

AREA OF DEUTERIUM CONCESSION (3.44 KM2)



Earth's vast oceans run deep, bottoming out around 4,000 meters (13,123 feet) in most places, although trenches can form underwater canyons extending another 7,000 meters (22,965 feet).

The seafloor and water column from 3,000 to 6,500 meters (9,842 to 21,325 feet) depth is known as the abyssal zone, or the abyss. Sunlight doesn't penetrate to these depths, so the waters here are extremely dark, and the animals that live here often use bioluminescence to communicate.

The seafloor itself consists of large plains broken by trenches, sea mounts, and oceanic ridges. These features are the result of geologic activity. Trenches occur where one tectonic plate is subducted under another. Ridges are areas where new oceanic crust is formed by volcanic activity and two plates are moving apart. Sea mounts, individual underwater volcanoes, form when a magma from a hot spot in the mantle below pushes its way up through the crust.

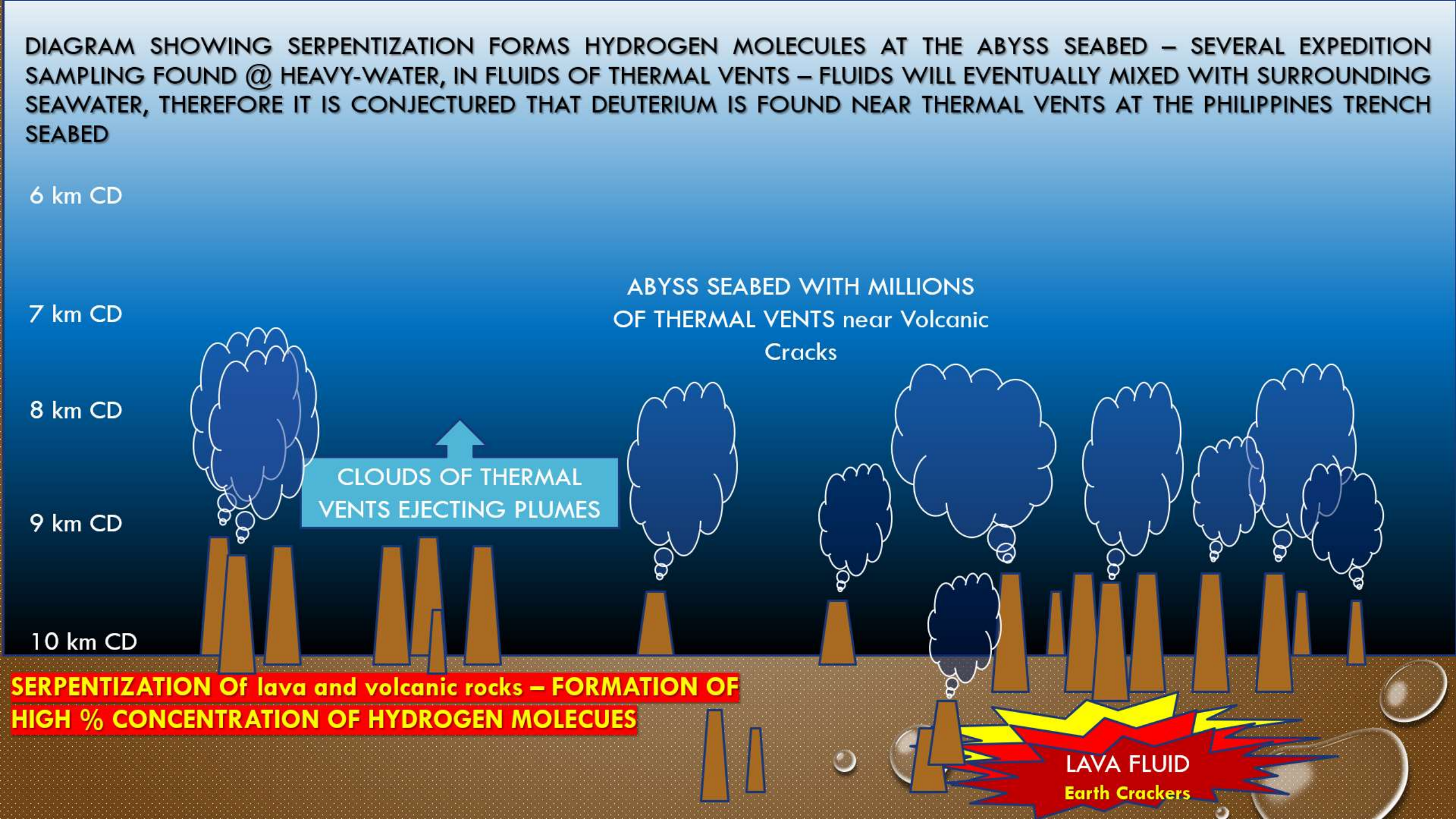
Repeated eruptions build ever-taller undersea mountains. When these eruptions persist long enough, mounts continue to grow, extending beyond the abyss into shallower waters, even creating volcanic islands when they break the water's surface.

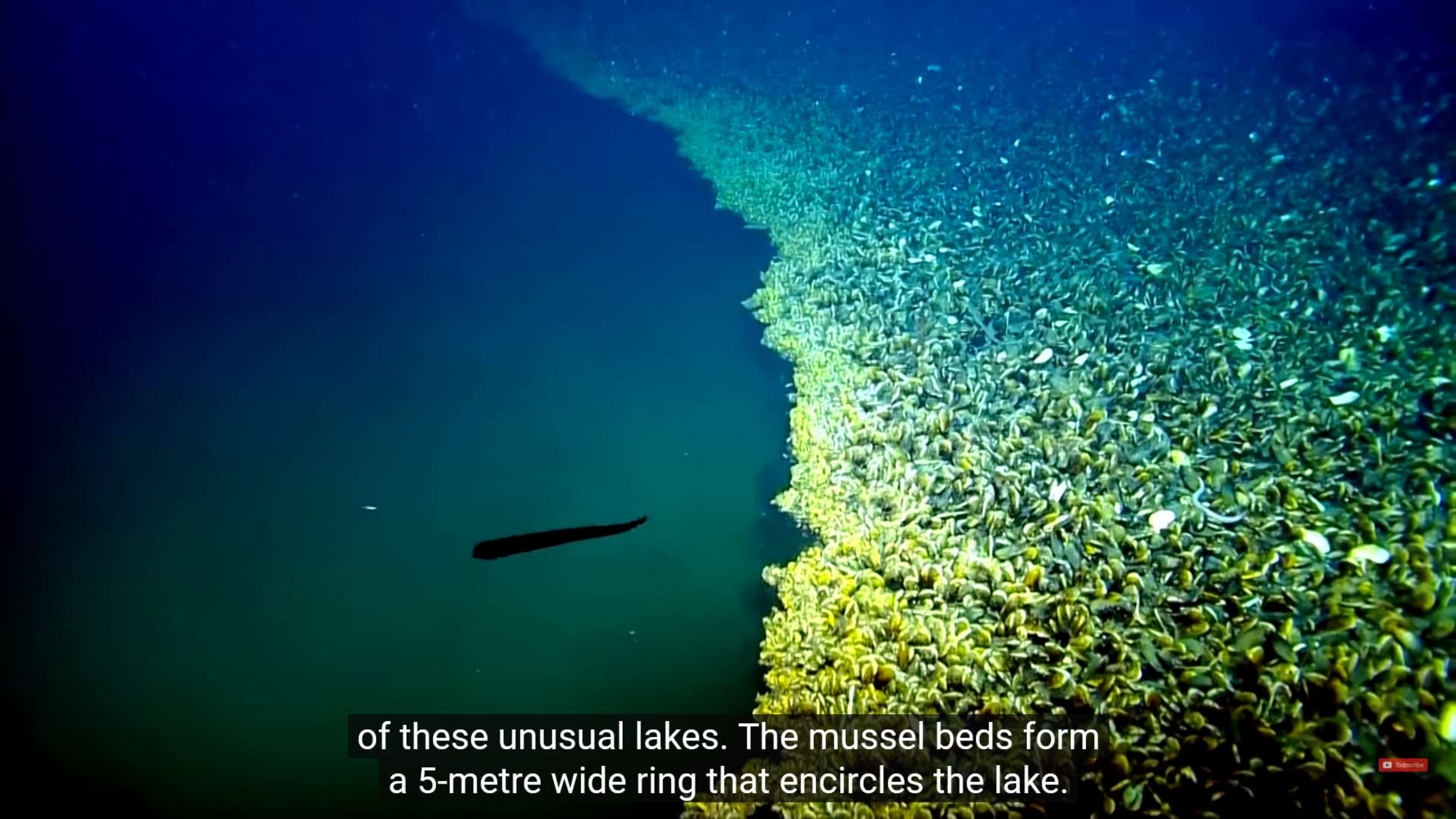
Human-occupied vehicles (HOVs) allow two or three people to descend in the submersible. HOVs can collect mid-column seawater samples, rest on the seafloor, or travel through rough geological features, making maps and collecting samples with its robotic arms along the way. WHOI's HOV, *Alvin*, is currently undergoing upgrades that will allow it to descend to 6,500 meters. This will provide access to the abyssal seafloor and will allow *Alvin* to spend more time exploring once there. This is an essential upgrade that will facilitate new areas of research into the geology, chemistry, and biology of the abyssal zone.

Researchers are currently interested in a wide variety of aspects of the abyss. Although trenches, ridges, and other geologic features have been studied, there is still much to learn about them. Even less is known about the abyssal plains and the organisms found there. Some of the metallic nodules found on plains are home to creatures that live nowhere else. Understanding the needs of these organisms is essential if people are to begin mining the nodules from the seafloor. Evidence to date shows that some of these communities do not recover from disturbance, even decades later, and more information is needed to ensure that future mining efforts do as little damage to deep sea life as possible.

The role of microbes in deep-ocean systems is also under investigation. Microbes, including bacteria and Archaea, are capable of surviving at extreme pressures, temperatures, and in chemical environments that would be hostile to many organisms. Their ability to metabolize chemicals seeping from Earth's interior is poorly understood but could lead to innovations on land. These microbes likely provide important ecosystem services to the deep ocean, and researchers are working to understand that role. This is essential information, since deep-sea mining would impact microbes as well as larger organisms, and harm to these microscopic communities could reverberate throughout our ocean systems

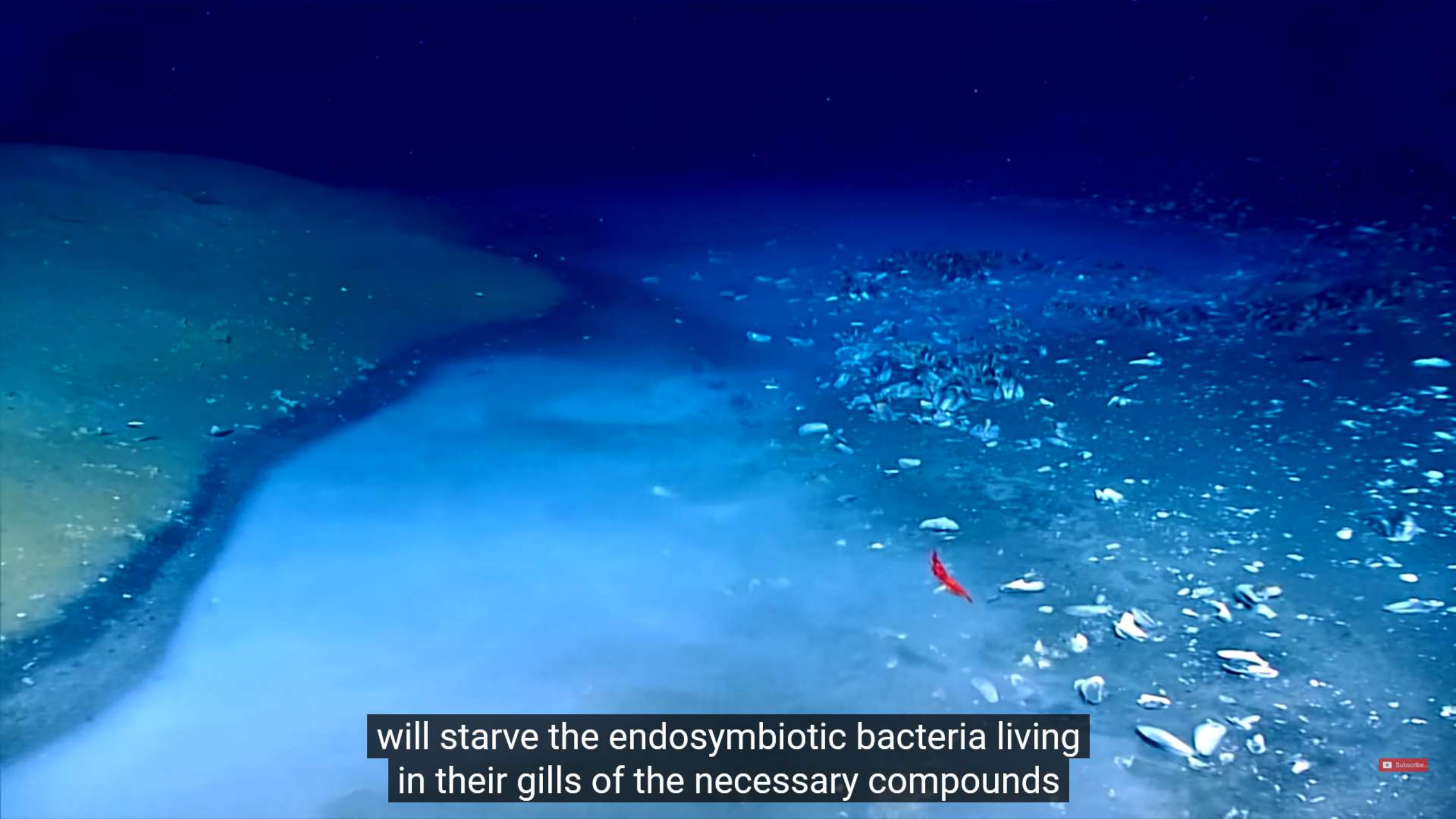
DIAGRAM SHOWING SERPENTIZATION FORMS HYDROGEN MOLECULES AT THE ABYSS SEABED – SEVERAL EXPEDITION SAMPLING FOUND @ HEAVY-WATER, IN FLUIDS OF THERMAL VENTS – FLUIDS WILL EVENTUALLY MIXED WITH SURROUNDING SEAWATER, THEREFORE IT IS CONJECTURED THAT DEUTERIUM IS FOUND NEAR THERMAL VENTS AT THE PHILIPPINES TRENCH SEABED

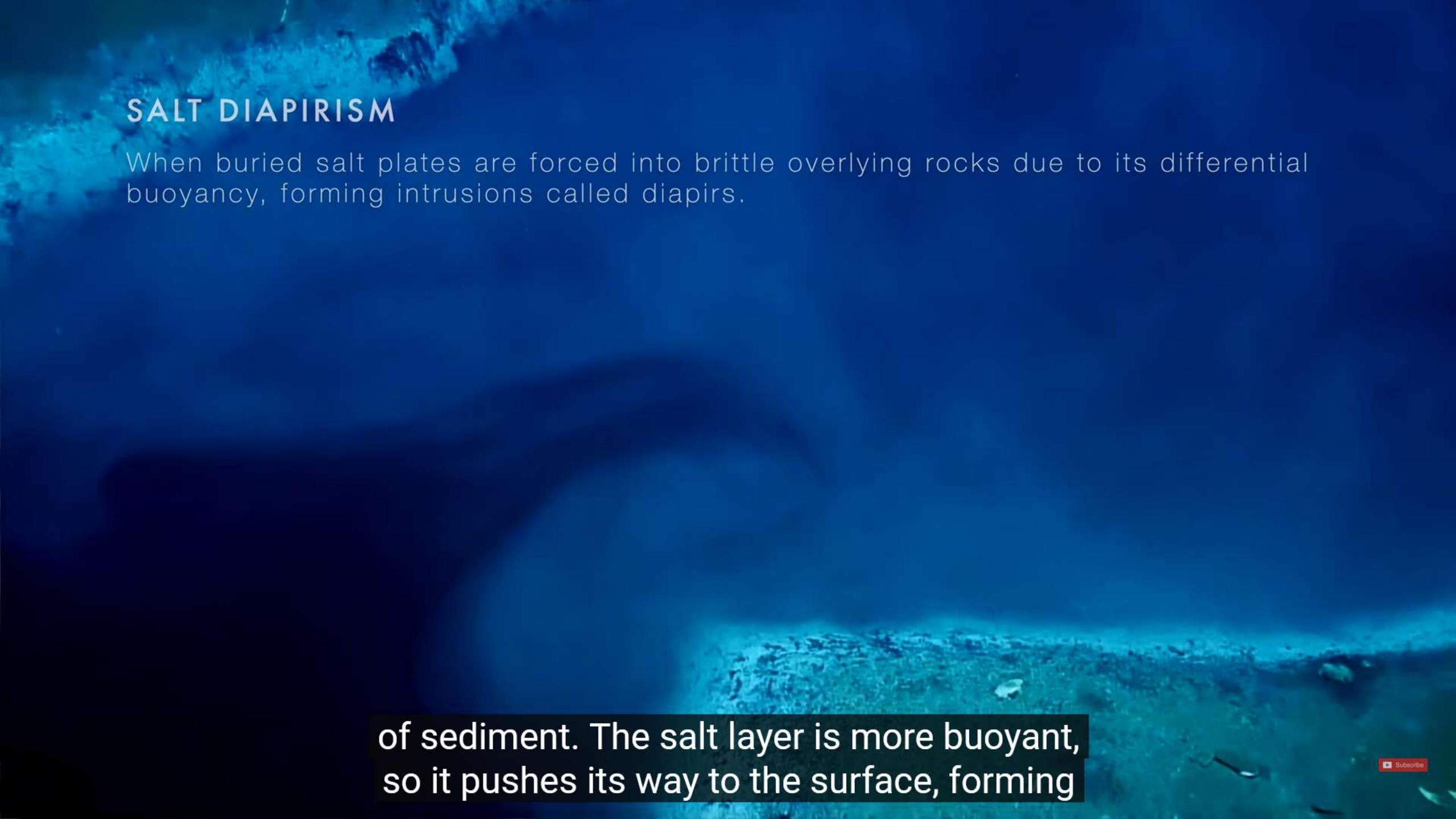



of these unusual lakes. The mussel beds form
a 5-metre wide ring that encircles the lake.
Subscribe


often coincide with cold seep activity**,** allowing
for chemosynthetic life to thrive. But what


makes brine pools unique among cold seep environments
is the zonation of the life found here. Due


will starve the endosymbiotic bacteria living
in their gills of the necessary compounds



of sediment. The salt layer is more buoyant,
so it pushes its way to the surface, forming


makes brine pools unique among cold seep environments
is the zonation of the life found here. Due

SALE OF DEUTERIUM

WORLD WIDE WEB

USING TURNKEY CONTRACTS

Envision Deuterium for the World Power Plant (LNG) MARKETING USING multimedia-based expertise and cross-media growth strategies

Engage worldwide LNG Hydrogen Electrolysis methodologies with HIGH TECH – Hydrogen technologies

HYRODGEN – TO POWER WORLD'S LNG - NICHE MARKETS

Pursue scalable World LNG's customer service through sustainable strategies and Shipping WATER TANKERS

Engage Market of Deuterium (XUSDP) top-line web services with cutting-edge deliverables

SHIPPING OF DEUTERIUM LNG SUPPLY CHAINS AROUND THE WORLD

Cultivate one-to-one LNG POWER PLANT customer service with robust ideas of Pre-Hydrogen Electrolysis Plant

Maximize timely deliverables for real-time schemas

DEUTERIUM
Refining
&
PRODUCTION
6 million m3

You are currently running an experimental version of Earth.

Learn more Send feedback

Preview

Set view manually

Heading 0 °

Tilt 0 °

Range 181,792.991 m

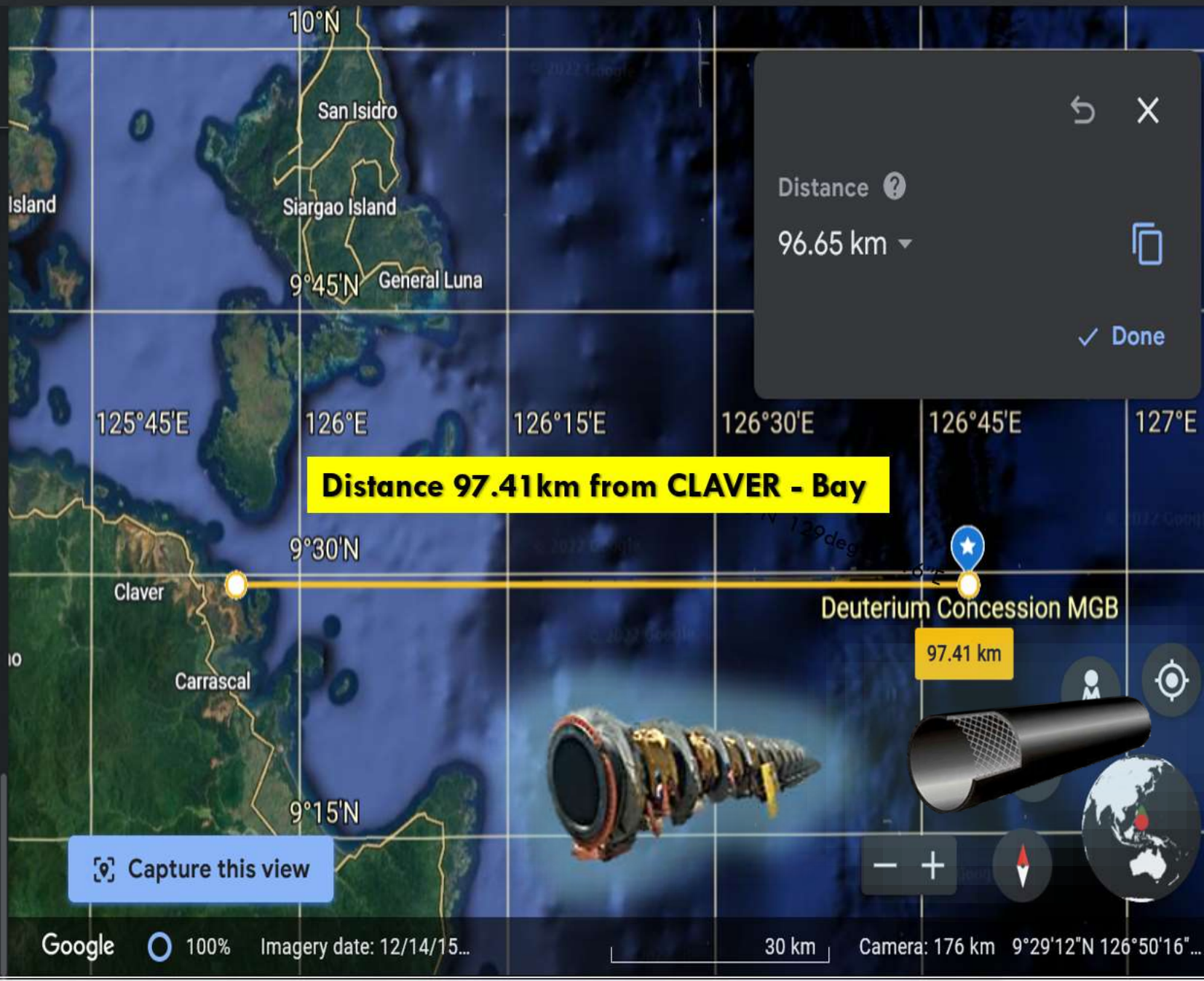
Latitude 9.5772173 °

Longitude 126.0816441 °

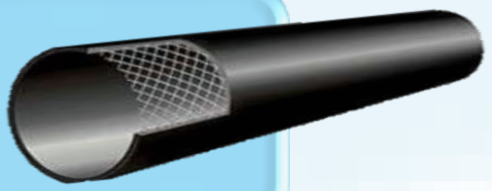
Altitude 74.9866816 m

Reset to defaults

Jvsc Consultancy
SIMPLE CLEAR



ENERGEIA DEUTERON INDUSTRIES



Deuterium Distillation Refinery

Sub-Sea pipeline, Seawater Tank Farms & Export Deuterium Storage Farms

Jvsc Consultancy
SIMPLE CLEAR

ENERGEIA DEUTERON INDUSTRIES CORPORATION – COMPLEX

PATENT STEEL MESH HDPE DEUTERON PIPE LINE – 97 set booster pumps

97 km

Hydro Thermal Vents

7-10km

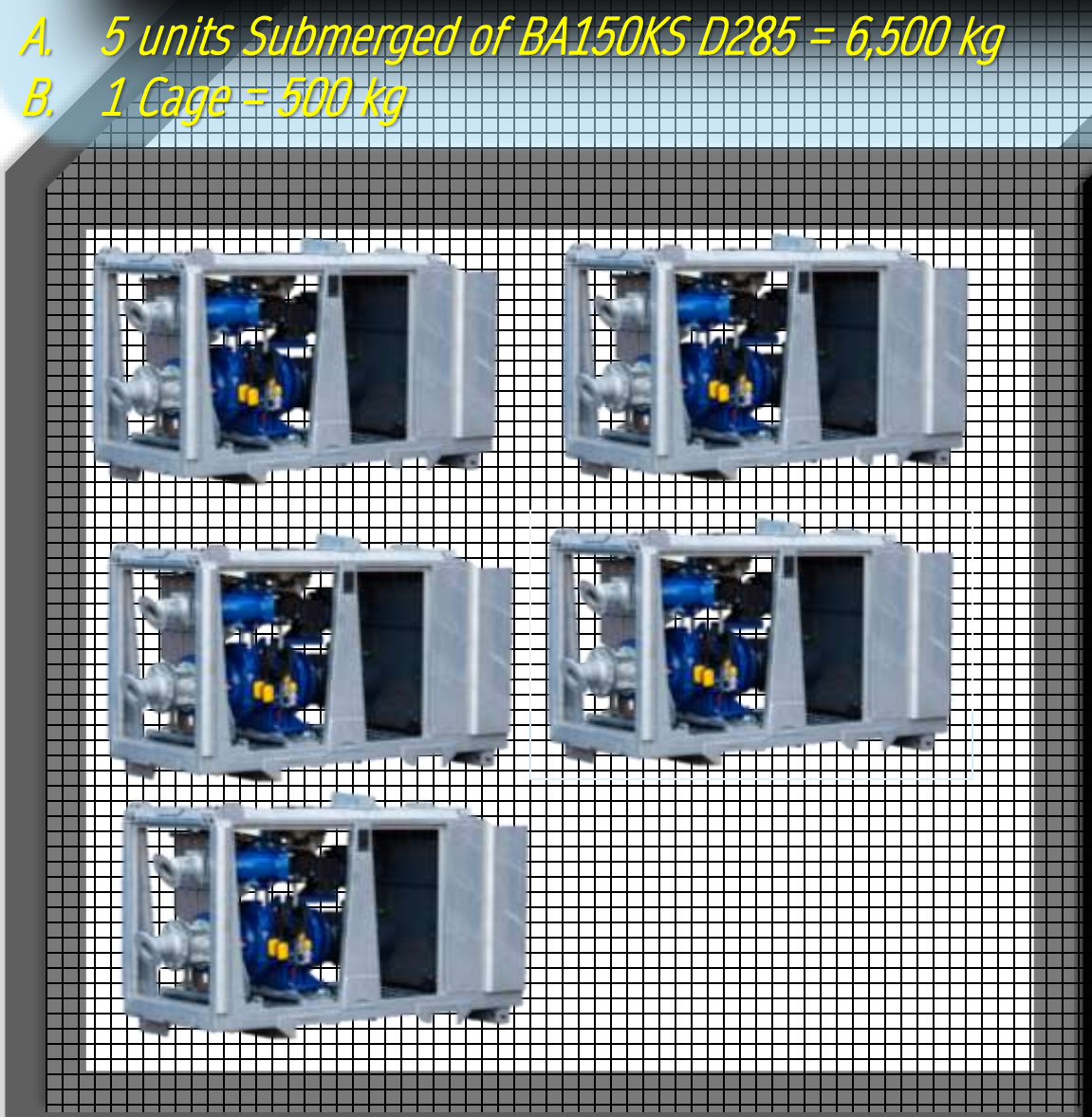
Sampling-depth

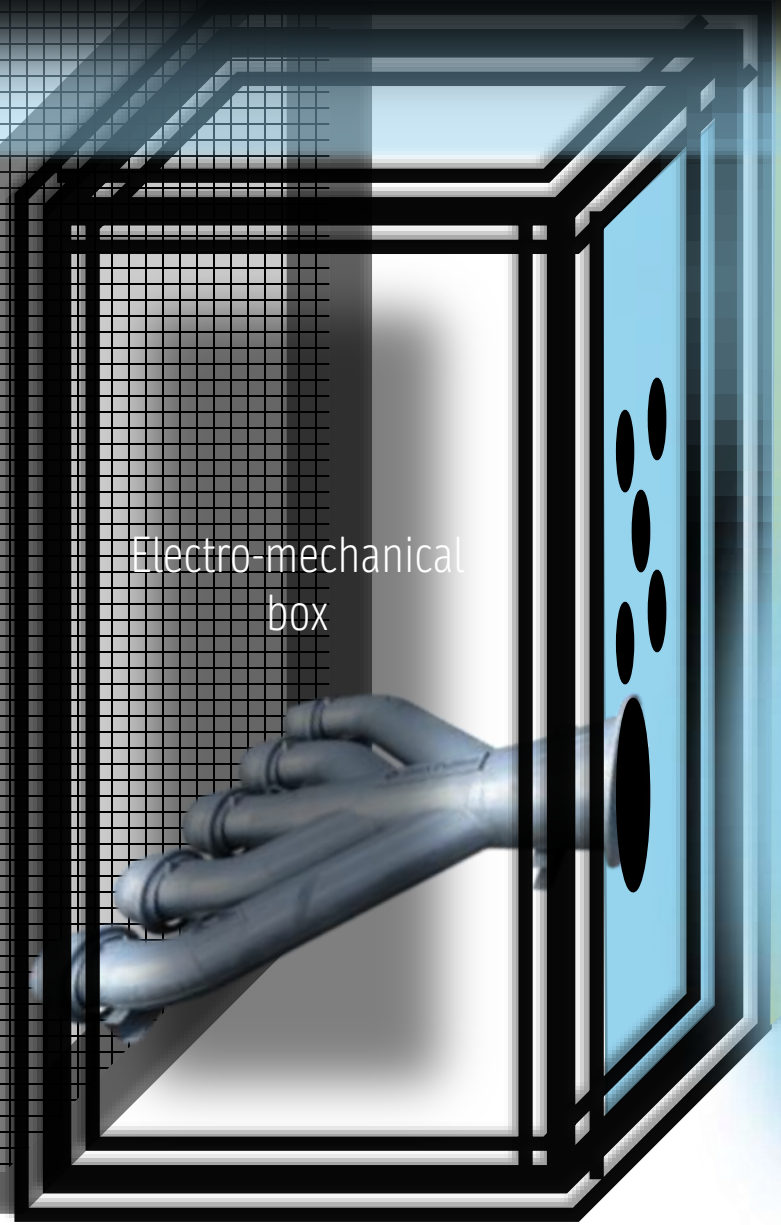
Jvsc Consultancy
SIMPLE CLEAR

Abyss Seawater – Deutron Cage Anchor Weight (7 tons) – Electric-mechincal DC Cable to run the 5 Backup seawater Pumps - Distribitor 100mm x 5 connected to 304.8 mm

A. 5 units Submerged of BA150KS D285 = 6,500 kg

B. 1 Cage = 500 kg





DEUTERIUM TANK GROUP AND DEUTERON PRODUCT COMPLEX

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SIMPLY CLEAR

WHAT IS THE DIFFERENCE BETWEEN SIMPLE DISTILLATION AND FRACTIONAL DISTILLATION?

Distillation is a general term that describes a group of specific methods that use heat to separate mixtures. The two main types are simple and fractional. What can make this confusing is that some people incorrectly call simple distillation just "distillation."

The two types use much of the same equipment and principles to separate mixtures, but the fractional method also uses a fractionating column.

Fractional distillation is used when the boiling points of chemicals in a mixture are close to each-other, while the simple method is generally used when the boiling points are significantly different.

I. Normal Sea Water boil at 100 deg.

II. Deuterium Heavy water boils at 250 deg.

Residual Sea Salts from Hyper – Salinity of Abyss more different salty types and volumes, bi-products

- *Brad Cole Last Modified Date: November 21, 2022*

Jvsc Consultancy
SIMPLE CLEAR

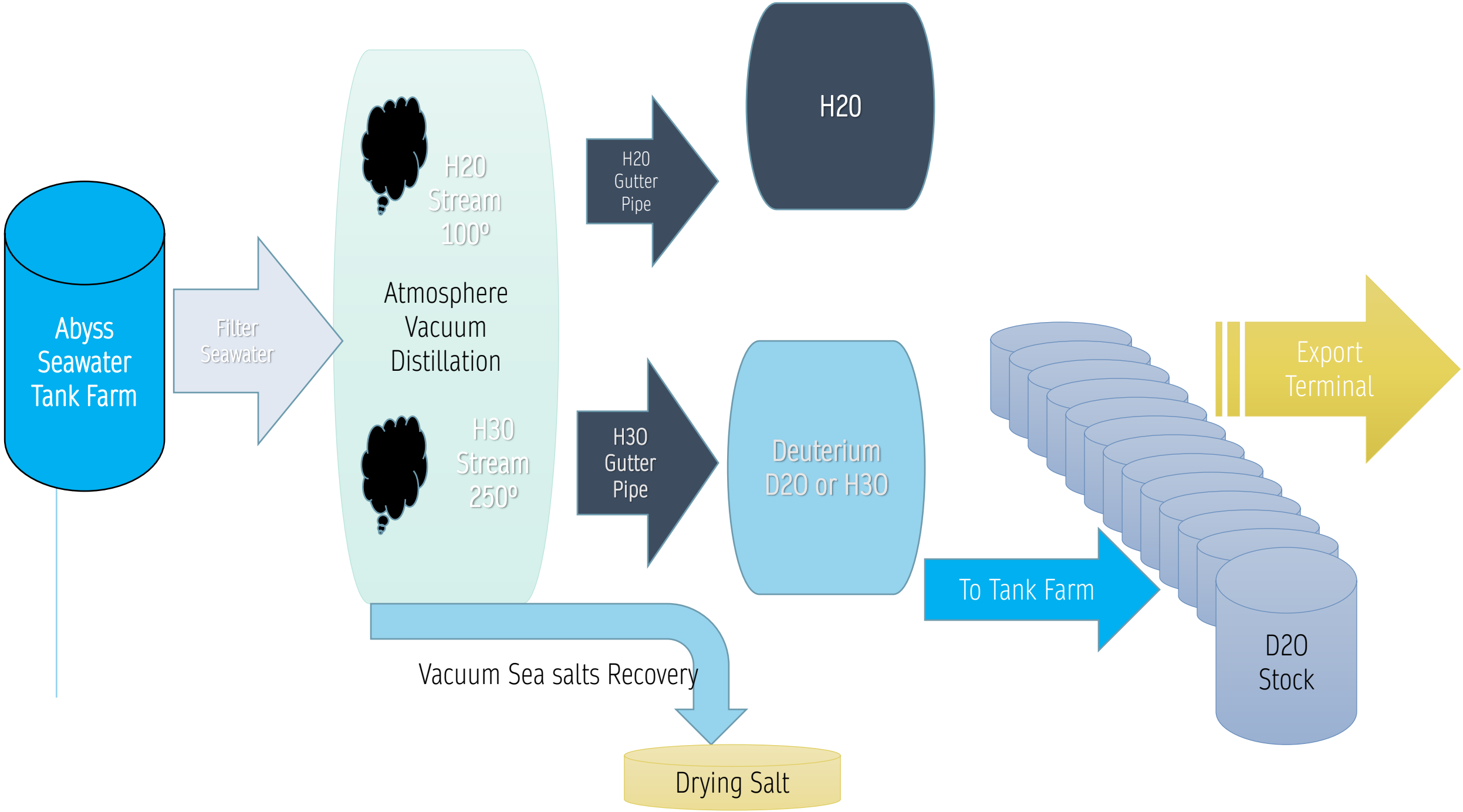
SIMPLE DISTILLATION

In simple distillation, a mixture containing chemicals with different boiling points is heated to a gentle boil.

- The chemical, now in gaseous form, travels upward and then over into a cooled tube called a condenser, where it becomes a liquid again.
- The condenser is angled slightly downward, and a purer version of the desired chemical- Salt empties into a receiving vessel at the bottom.

FRACTIONAL DISTILLATION

- Fractional distillation is used when the boiling points of chemicals in a mixture are close to each other, usually within 77°F (25°C). In this method, heat is added to the mixture until it begins to boil.
- The gas, usually purer than the mixture but still containing all of the chemicals, then travels up into a fractionating column.
- The fractionating column blocks the gas from directly rising by putting a large amount of surface area in its way, either by using a series of trays or plates, or by filling the entire column with packing material.
- The rising gas then condenses on the trays or other materials and becomes a liquid. The rising gases from below, however, heat this liquid again, causing it to distill again, and an even purer gas travels up to the next level of the column.
- Eventually, the gas makes it out of the fractionating column, is cooled to liquid, and empties into a receiving vessel.


Abyss
Seawater
Tank Farm
Filter
Seawater
H20
Stream
100º
Atmosphere
Vacuum
Distillation
H30
Stream
250º
H20
Gutter
Pipe
H20
H30
Gutter
Pipe
Deuterium
D20 or H30
Vacuum Sea salts Recovery
Drying Salt
To Tank Farm
Export
Terminal
D20
Stock

Jvsc Consultancy
SIMPLE CLEAR

< 25 °C
< 25-60 °C
< 60-180 °C
< 180-220 °C
< 220-250 °C
< 250-300 °C
< 300-350 °C
< 350 °C

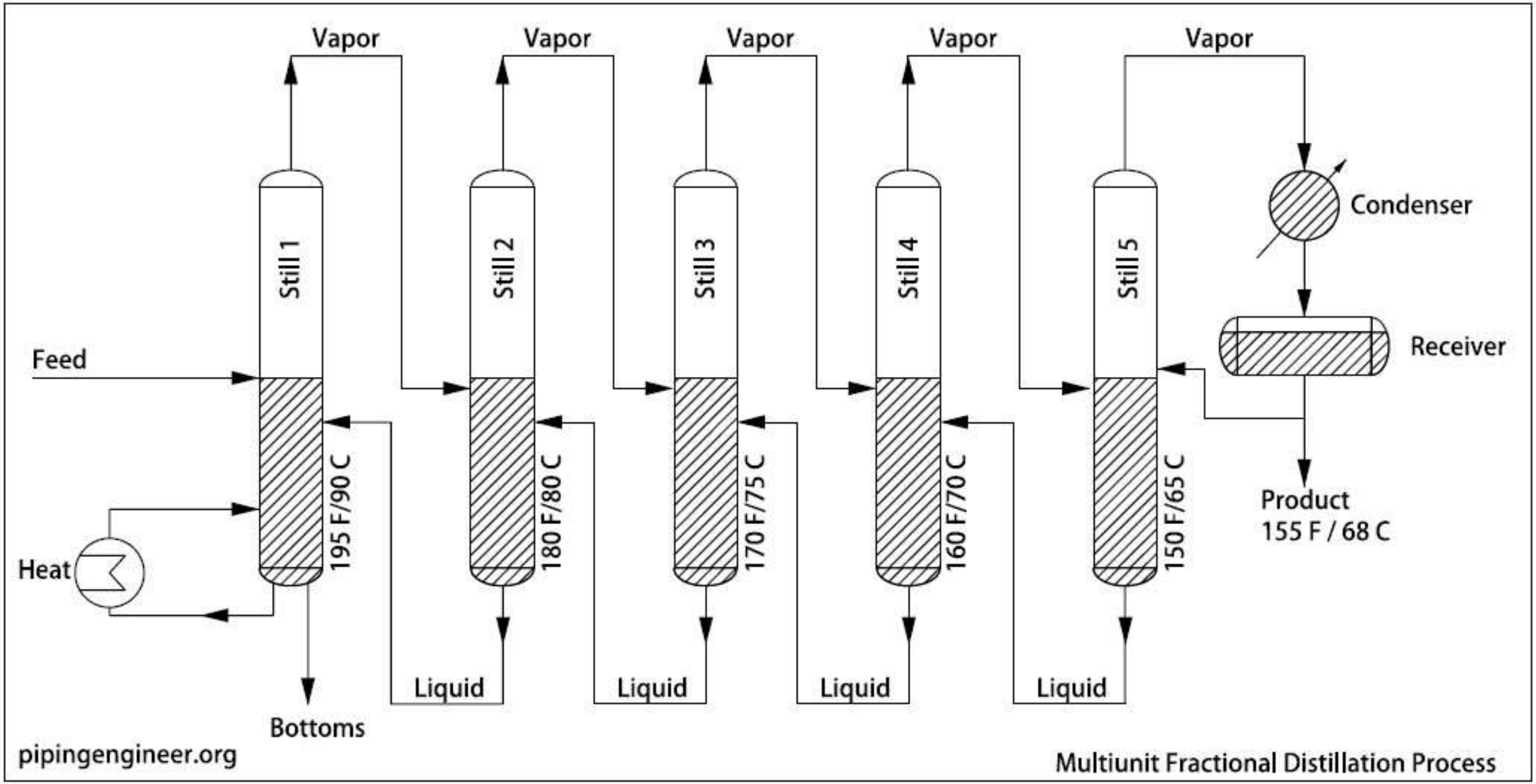
Steam

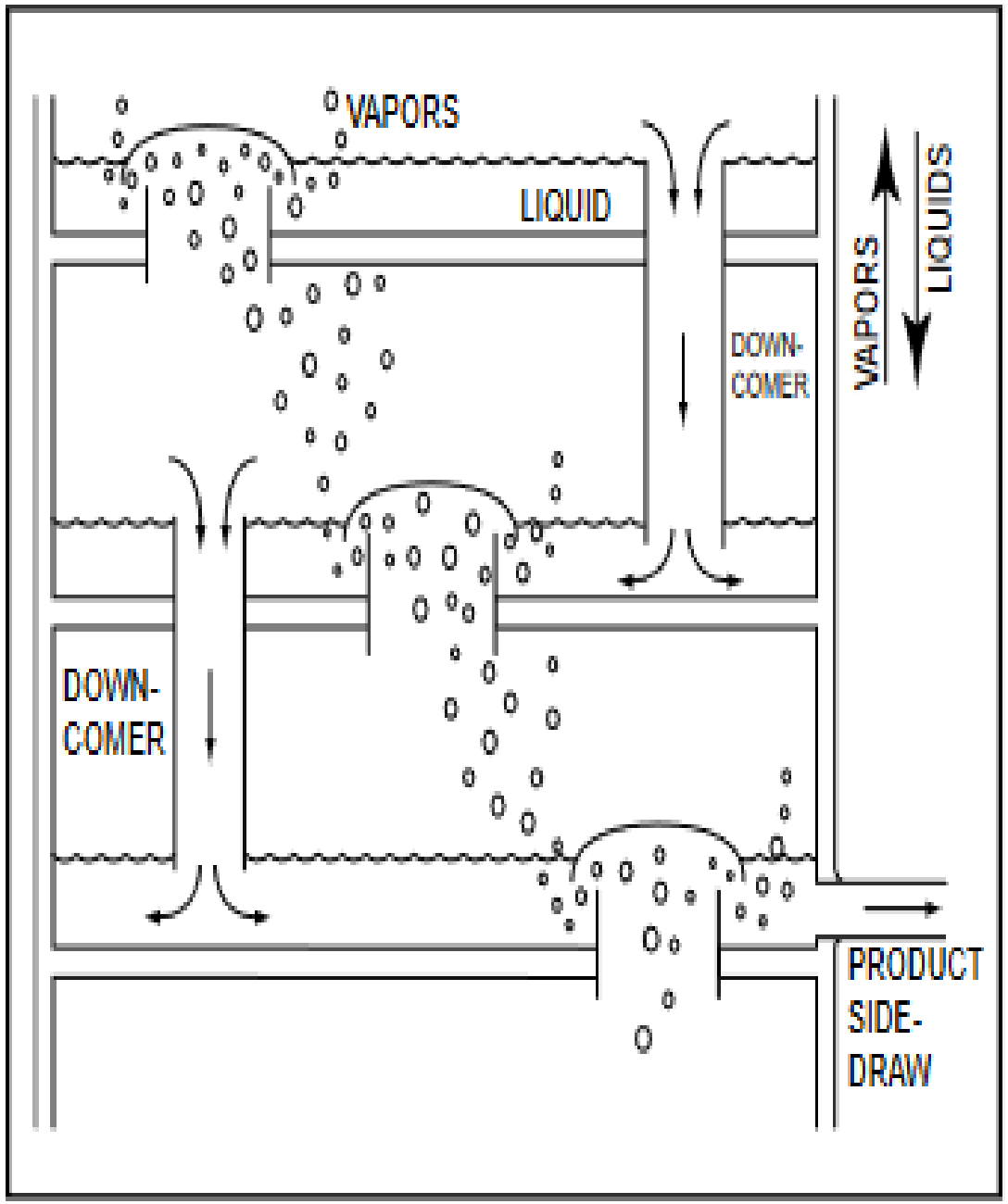
Normal Seawater boil @100 °

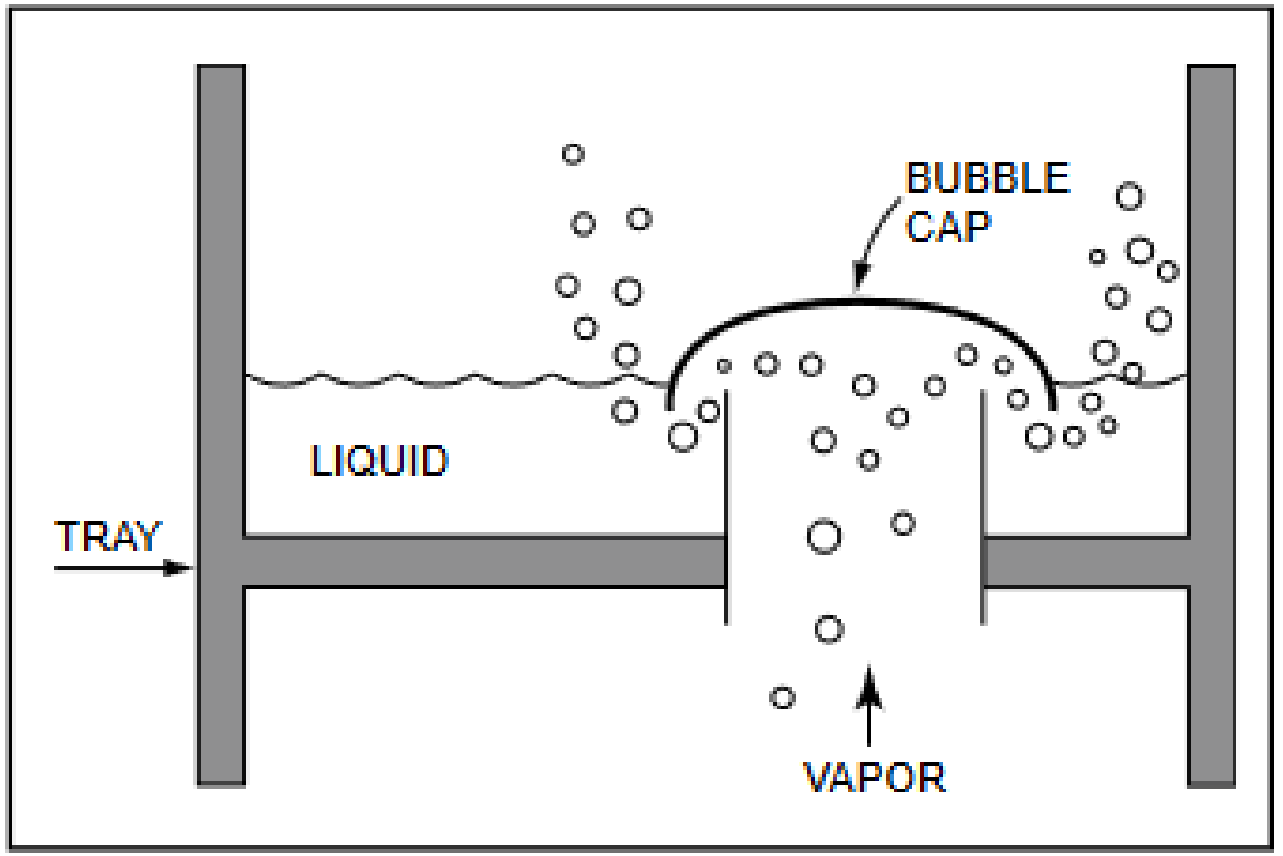
Deuterium Boil @ 250°

Deuterium 99.9%
TANK FARM

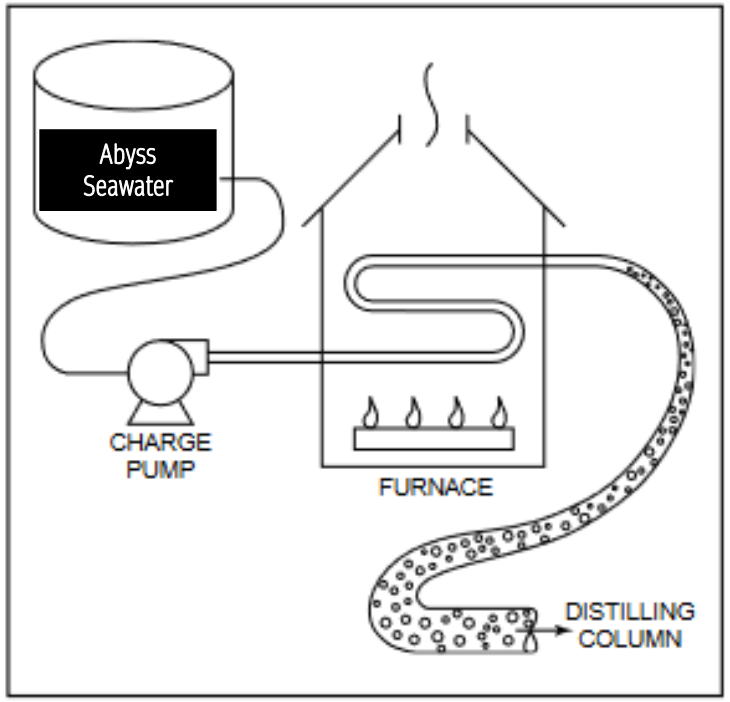
Hyper – Sea Salt for Sale

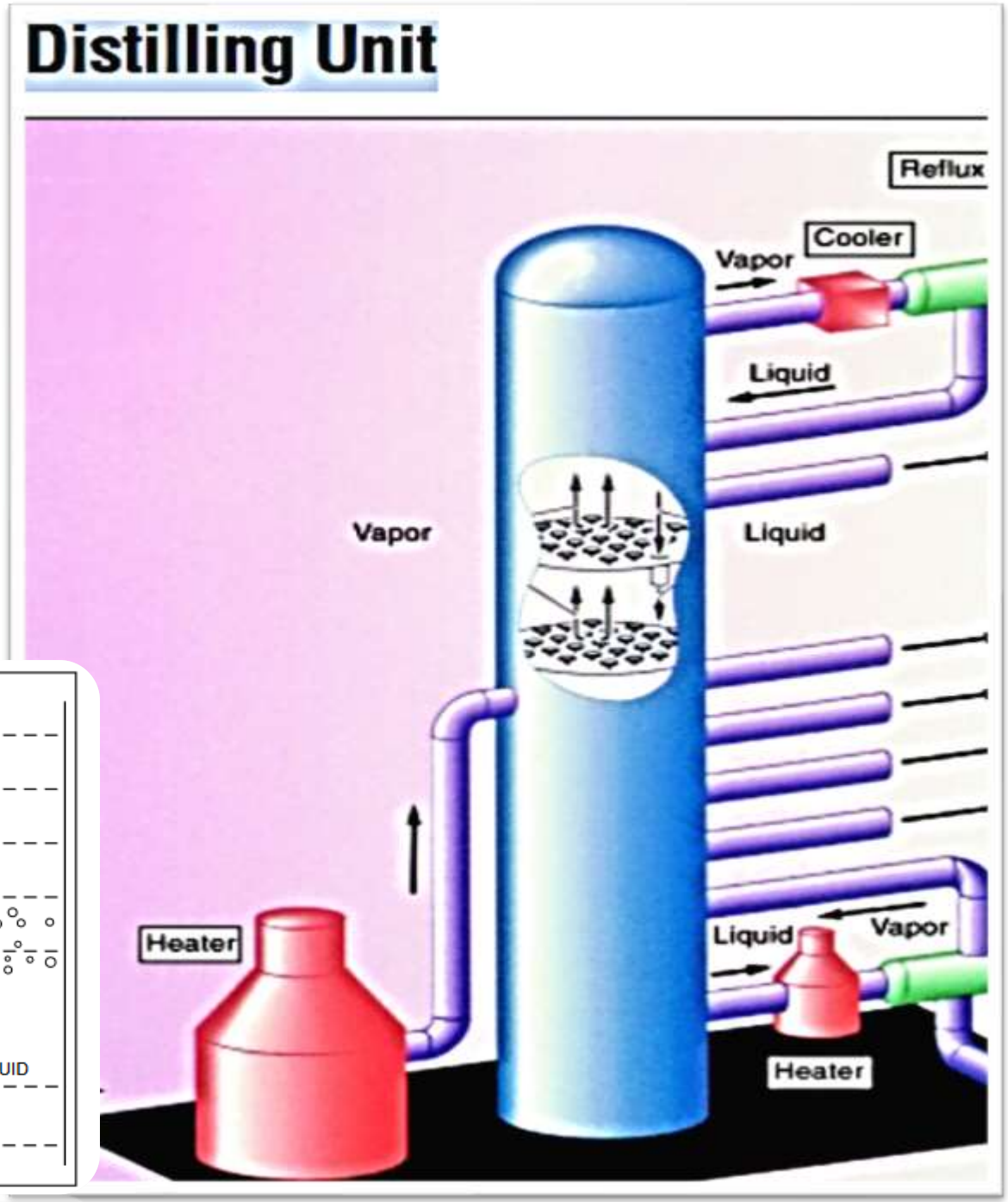

Vapor
Vapor
Vapor
Vapor
Vapor
Still 1
Still 2
Still 3
Still 4
Still 5
Condenser
Receiver
Feed
Heat
195 F/90 C
180 F/80 C
170 F/75 C
160 F/70 C
150 F/65 C
Product
155 F / 68 C
Liquid
Liquid
Liquid
Liquid
Bottoms
pipingengineer.org
Multiunit Fractional Distillation Process

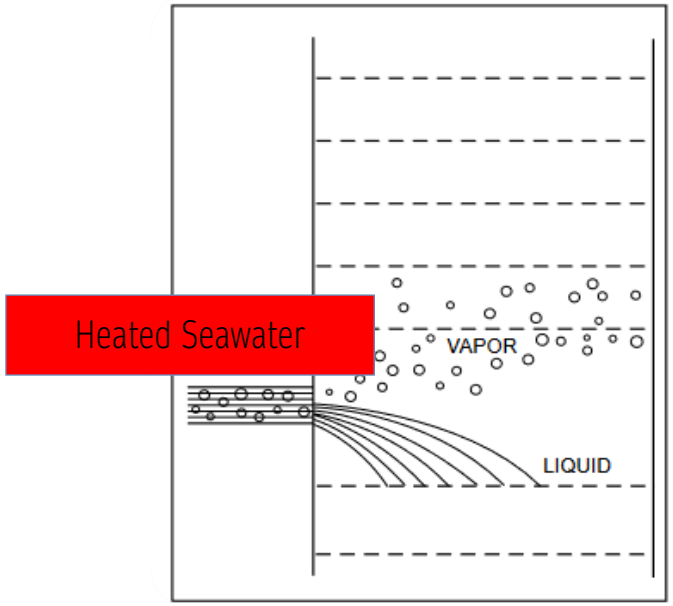




Bubble Cap on a Distilling


Abyss
Seawater
CHARGE
PUMP
FURNACE
DISTILLING
COLUMN


Distilling Unit
Reflux
Cooler
Vapor
Liquid
Vapor
Liquid
Heater
Liquid
Vapor
Heater


Heated Seawater
VAPOR
LIQUID

MODEL MINI SIZE

View larger image

Hot Sale Low Running Cost Automatic Fractional Distillation Equipment Factory Directly Supply Molecular Distillation System

1 - 1 sets	2 - 2 sets	>= 3 sets
BND 810,060.00	BND 742,555.00	BND 675,050.00

PayPal OFFER Save up to US $30 off with PayPal

Benefits: Quick refunds on orders under US $1,000 Claim now

Model Number: YUAN-FD-Q

Lead time:

Quantity (sets)	1 - 1	> 1
Lead time (days)	180	To be negotiated

For product pricing, customization, or other inquiries:

Contact supplier

Chat now

Oushangyuan Process & Equipment...

Manufacturer,Trading Company

CN 1YR

Response Time ≤5h

On-time delivery r. 100.0%

TOP

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Product Company

View larger image

newest technology reflux distillation condenser tower for refinery machine

FOB **Reference** Price: Get Latest Price

BND 54,004.00 - BND 472,535.00 / set | 1 set/sets (Min. order)

PayPal OFFER Save up to US $30 off with PayPal

Benefits: Quick refunds on orders under US $1,000 Claim now

Quantity: 1 sets

Lead time:

Quantity (sets)	1 - 1	> 1
Lead time (days)	60	To be negotiated

Shipping: Ocean freight

For product pricing, customization, or other inquiries:

Contact supplier

Chat now

Henan Barui Environmental Protecti...

Trading Company

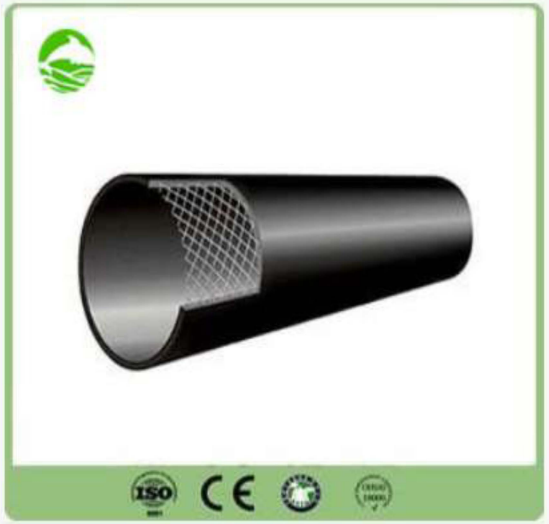
CN 6YR

Response Time	On-time delivery r...
≤3h	100.0%


四海

PRODUCTS

HDPE PIPE



Steel Mesh Reinforced HDPE Pipe

Marine Application

Another great "marine"-application - parallel strings, each string is 600 m (so in total 1200m) - with just one concrete ballast. Total length is 15 km, all jointed by electro fusion. marine application is one of the greatest application for JUNNUO Pipes. Good job is done (again) in the middle east.

Flow (m3/h)

- [ ] Max. 0 - 25
- [ ] Max. 25 - 50
- [ ] Max. 50 - 100
- [ ] Max. 100 - 200
- [ ] Max. 200 - 300
- [ ] Max. 300 - 500
- [ ] Max. 500 - 1000
- [ ] Max. 1000 - 2500
- [ ] Max. 2500 - 10.000

Head (mwc)

- [ ] Max. 0 - 10
- [ ] Max. 10 - 20
- [ ] Max. 20 - 40
- [ ] Max. 40 - 60
- [ ] Max. 60 - 80
- [ ] Max. 80 - 100
- [ ] Max. 100 - 150
- [ ] Max. 150 - 200

Drive

- [ ] Diesel
- [ ] Electric

BA100K D193

The electrically driven vacuum assisted pumps from the BA series are available in many different versions. BBA Pumps has a line-up of standard models with stackable frames or sound attenuated canopies for mobile applications. In addition, we can also deliver customer-specific electric pumps for special requirements, for example with 316 stainless steel wet-ends or with ATEX certification.

Electric BA pumps are used for: sewage, dredging and shipping, the rental market, seawater, chemical industry, disaster relief and in civil engineering.

Check out the advantage of an electric pump with a canopy compared to an open frame.

Read more

Ask for price

Details | **Curves** | **Download**

Discharge x Suction (inch)	4" x 4"
Max. flow (m3/h)	130
Max. head (mwc)	15
Free passage (mm)	82
Priming system (m3/h)	MP50 (50 m3/h)
Motor	7,5 kW - 4 pole
Voltage	400/690V - 50 Hz
Starting method	soft starter
Frame	BF10-18
Dimensions L x W x H (mm)	1800 x 1040 x 1405
Dry weight (kg)	1100
Warranty	4 years

Flow (m3/h)

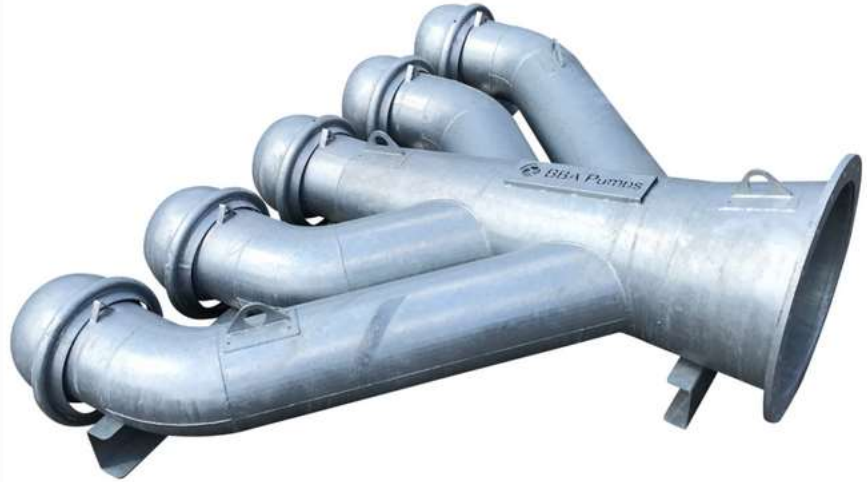
- [ ] Max. 0 - 25
- [ ] Max. 25 - 50
- [ ] Max. 50 - 100
- [ ] Max. 100 - 200
- [ ] Max. 200 - 300
- [ ] Max. 300 - 500

Pump discharge manifold

In emergency situations, like stormwater or flood disasters, it is vital that your pump is quickly up and running. With a BBA Pumps discharge manifold you will save major time when installing the pump system. One flange connection and after that your piping system consists of multiple lightweight HDPE and quick couplings.

The hot dip galvanized manifolds are available in various designs and dimensions for large-volume water pumps. Please contact us to discuss your needs with a product specialist.

Read more



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Max. head (mwc)	15
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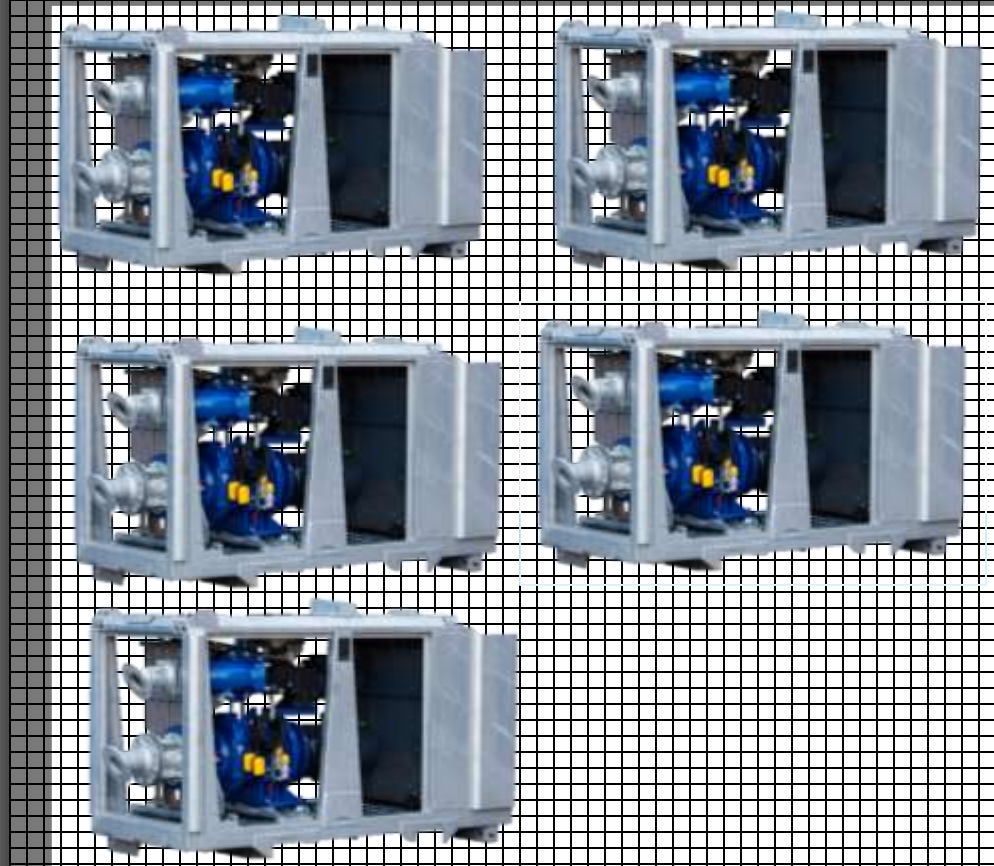
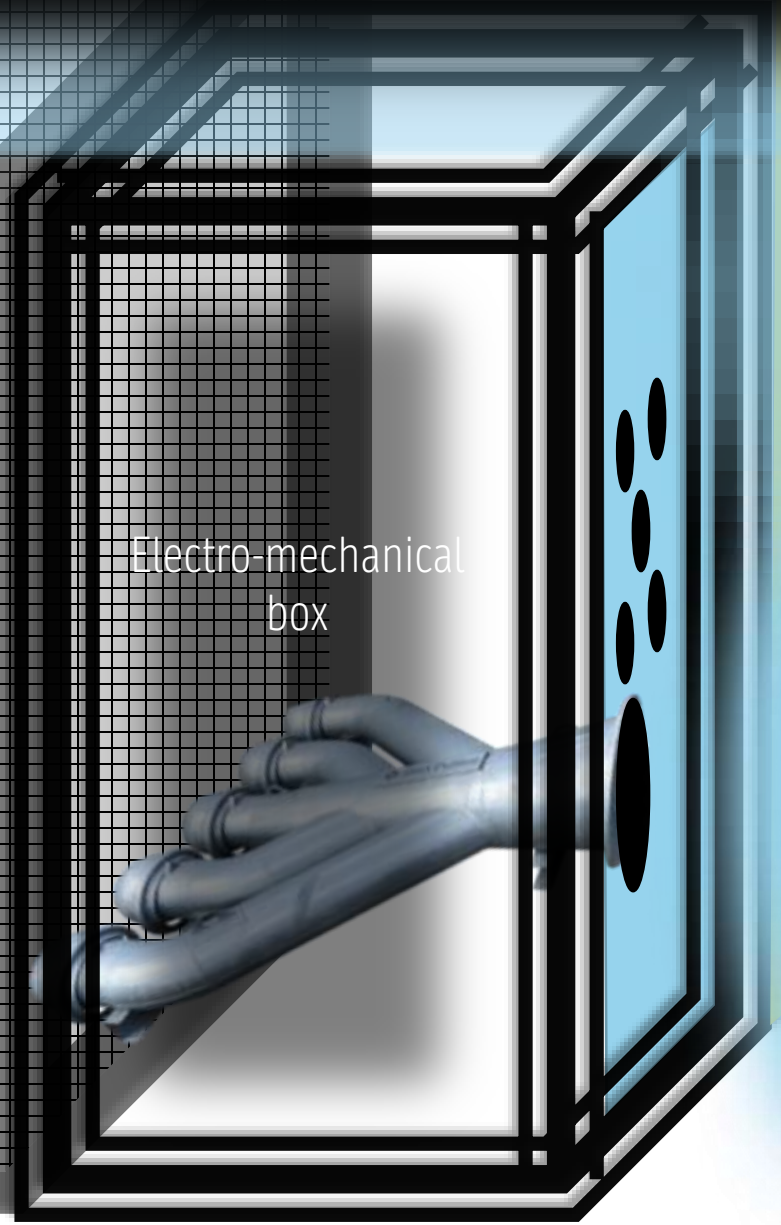
Dry weight (kg)	1100
Warranty	4 years

Abyss Seawater – Deutron Cage Anchor Weight (6 tons) – Electric-mechincal DC Cable to run the 5 Backup seawater Pumps - Distribitor 100mm x 5 connected to 304.8 mm

A. 5 units Submerged of BA100K D193 = 5,500 kg
B. 1 Cage = 500 kg





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(One (1) m3 of Deuterium should be only a little over 264 gallons or almost 6.3 barrels.)

Storage Capacity

750,000 barrels = 89,430 m3
x12
9,000,000 barrels = 1,073,160 m3

So For 6,000,000 m3, it will take 6 years = $3 Trillion

Thereafter 7th year, Energeia will produce for Philippine Government

$170,472,000 - tanks alone.
$550,285,000 - total CAPEX for tank faarm

$61.14 per barrel → $512.77 per m3

A 5% discount rate plus a 4% operating rate translates to

Per Barrel
61.14*(0.05/(1−1/1.05^30)) = $3.97724/year CAPEX + $2.44560/year OPEX

$6.42284/year/barrel

~$0.54 per barrel month storage cost.

Per M3
512.77*(0.05/(1−1/1.05^30)) = $33.3564/year CAPEX + $20.1508/year OPEX

$53.8672/year/m3

$4.4889/m3/month → $0.1474/m3/day

TANK FARM AND STORAGE TERMINAL COST ESTIMATE

All Costs in US $ based on USGC / 4Q 2013

Deuterium Plant Model to CAPEX Refinery
US$278,460,000 @ 9,000,000 barrels per year

Description	Base Materials Cost	MTO Allowance	Cut & Waste Allowance	Design Allowance	Total Material Cost	Subcontract Costs	Fabricate & Installation Cost	Subtotal Cost	Contingency	Total Cost
TANKS										
Butane Tanks						$ -		$ -	$ -	$ -
Propane Tanks						$ -		$ -	$ -	$ -
Condensate Tanks						$ -		$ -	$ -	$ -
Crude Oil Tanks (750K BBL x 12)						$ 148,236,000		$ 148,236,000	$ 22,235,400	$ 170,472,000
Syncrude Tanks (500K BBL x 7)						$ -		$ -	$ -	$ -
Diluent Tanks (250K BBL x 7)						$ -		$ -	$ -	$ -
Fire Water Tanks (80K BBL x 2)						$ 5,000,000		$ 5,000,000	$ 750,000	$ 5,750,000
Gas Storage Tank (7K m3 x 1)						$ -		$ -	$ -	$ -
Diesel Fuel Tank (15K BBL x 1)						$ 500,000		$ 500,000	$ 75,000	$ 575,000
Subtotal Tanks	-	-	-	-	-	153,736,000	-	153,736,000	23,060,400	176,797,000
EQUIPMENT										
Scada & Telecomm	$ 6,221,200	$ 186,636	$ 124,424	$ 311,060	$ 6,532,260		$ 186,636	$ 6,718,896	$ 1,007,834	$ 7,727,000
Vessels	$ 1,399,770	$ 41,993	$ 27,995	$ 69,989	$ 1,469,759		$ 139,977	$ 1,609,736	$ 241,460	$ 1,852,000
Tank Mixers	$ 3,300,000	$ 99,000	$ 66,000	$ 165,000	$ 3,465,000		$ 231,000	$ 3,696,000	$ 554,400	$ 4,251,000
Electrical Equipment	$ 8,709,680	$ 261,290	$ 174,194	$ 435,484	$ 9,145,164		$ 435,484	$ 9,580,648	$ 1,437,097	$ 11,018,000
Pumps	$ 3,594,576	$ 107,837	$ 71,892	$ 179,729	$ 3,774,305		$ 143,783	$ 3,918,088	$ 587,713	$ 4,506,000
Packages	$ 1,399,770	$ 41,993	$ 27,995	$ 69,989	$ 1,469,759		$ 48,992	$ 1,518,750	$ 227,813	$ 1,747,000
Miscellaneous	$ 1,244,240	$ 37,327	$ 24,885	$ 62,212	$ 1,306,452		$ 62,212	$ 1,368,664	$ 205,300	$ 1,574,000
Cathodic Protection	$ 1,648,618	$ 49,459	$ 32,972	$ 82,431	$ 1,731,049		$ 82,431	$ 1,813,480	$ 272,022	$ 2,086,000
Loading Arms	$ 9,309,953	$ 279,299	$ 186,199	$ 465,498	$ 9,775,450		$ 2,327,488	$ 12,102,938	$ 1,815,441	$ 13,919,000
SPARES - Operating / 1 Years	$ 813,255	$ 24,398	$ 16,265	$ 40,663	$ 853,917			$ 853,917	$ 128,088	$ 983,000
Subtotal Equipment	$ 37,641,061	$ 1,129,232	$ 752,821	$ 1,882,053	$ 39,523,114	$ -	$ 3,658,003	$ 43,181,118	$ 6,477,168	$ 49,663,000
CIVIL WORKS										
Site Development						$ 7,528,212		$ 7,528,212	$ 1,129,232	$ 8,658,000
Civil Works For Piping & Equipment						$ 1,882,053		$ 1,882,053	$ 282,308	$ 2,165,000
Underground Utilities						$ 2,258,464		$ 2,258,464	$ 338,770	$ 2,598,000
Pilings						$ -		$ -	$ -	$ -
Buildings						$ 9,410,265		$ 9,410,265	$ 1,411,540	$ 10,822,000
Jetty Construction						$ 34,329,588		$ 34,329,588	$ 5,149,438	$ 39,480,000
Road Work						$ 1,882,053		$ 1,882,053	$ 282,308	$ 2,165,000

Purchase prices from China calculation

- 10,000 m x $132.78 / meter = $1,327,800

- Connectors - Cement weight @$5,000 /unit x 100 connections
- = $500,000 x 2 = $1,000,000
- For 20 to 50 boosters pump $1,000 =$20,000 to $100,000
- Material Total = $2,427,800

- Workmanship Installation Ship and barges - mobilization

@$6,000,000.00
Rate/meter = $500/meter
=$1,000,000

- Total $9,427,800
- Approximate $10 million

Better to setup buy our own HDPE pipe factories to produce Patented Design for our pipe, so that we can determined our own length ...

Budget: $300,000.00 Development of HDPE Factory for business.

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Place of Origin:	Henan, China	Brand Name:	Exlon
Model Number:	Steel mesh hdpe pipe	Material:	PE100/ PE80
Specification:	50mm-630mm or customized	Length:	5.8m, 11.8m or customized
Thickness:	5.5mm~23.0mm or customized	Standard:	ISO4427, EN, DIN, AS, ASTM
Processing Service:	Moulding, Cutting	Color:	Black or customized
Application:	Water supply pe pipe	MOQ:	1000 Meters
Size:	50mm-630mm or customized	Name:	pressing hdpe pipe
Type:	Round Pipe	Feature:	Corrosion Resistant
Certification:	ISO 9001:2000/ISO 14001:2004	Working pressure:	0.4/0.5/0.6/0.8/1.0/1.25/1.6/2.0Mpa/2.5Mpa//3.5Mpa
Working Temperature:	0-60℃		

Supply Ability

Supply Ability: 10000 Meter/Meters per Day

Packaging & delivery

Packaging Details: 6m/package or as requriedb for hdpe pipe
Port: Tianjian port, Shanghai Port, Qingdao Port
Picture Example:

Lead time:

Quantity(meters)	1 - 1000	1001 - 5000	>5000
Lead time (days)	7	15	To be negotiated

High pressure Steel wire mesh reinforced hdpe pipe DN50-630MM

Supply	HDPE pipes and fittings
Standard	ISO4427, EN, DIN, AS, ASTM
Sizes	DN50-DN630

For product pricing, customization, or other inquiries:

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Verified supplier

Henan Exlon Environmental Protection ...
Multispecialty supplier
CN 2YRS

Store rating: 5.0/5	On-time delivery rate: 80.0%
Response time: ≤3h	Transactions: $120,000+

Company profile | Visit store

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HOW MUCH WILL IT COST TO BUILD A 300,000 BBL PER DAY DEUTERIUM REFINERY?

= BUDGET @ US$ 1 BILLION

Estimated Budget for Deuterium Exploration and Development to produce 6 million m3 of 99.9% Deuterium is about Approximately

$1 Billion;

1. $0.3 billion Surface facilities, Tank Farm, Terminals, Pipeline from Abyss Seabed (Deuterium Distillation Plant @ US$300,000), *Installation of new business of 50-100 megawatt Power Plants.*
2. $0.3 billion (97 km), Deployment-laying, *Setup owned new factory to Manufacturing Mesh Steel HDPE pipe 12" or 304.8 mm* – 5 subsea pumps, 50 boost connector pump,
3. $0.1 billion Exploration of Deuterium Seabird Rosette CTD, Mass Spectrometer
4. Drilling, $0.1 billion Deuterium Refinery Complex Base and roads,
5. Drilling, $0.2 billion Project management.

- Processing 300,000 BBL Abyss Seawater per day or processing of Seawater Deuterium 47,619 m3 per day (Ratio H3O output % depending seabed depth of extraction 6-9km)

DISCUSSION WITH OKEANUS

ARRANGE TELECONFERENCE USING ZOOM or GOOGLE MEET LINK

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THANK YOU

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