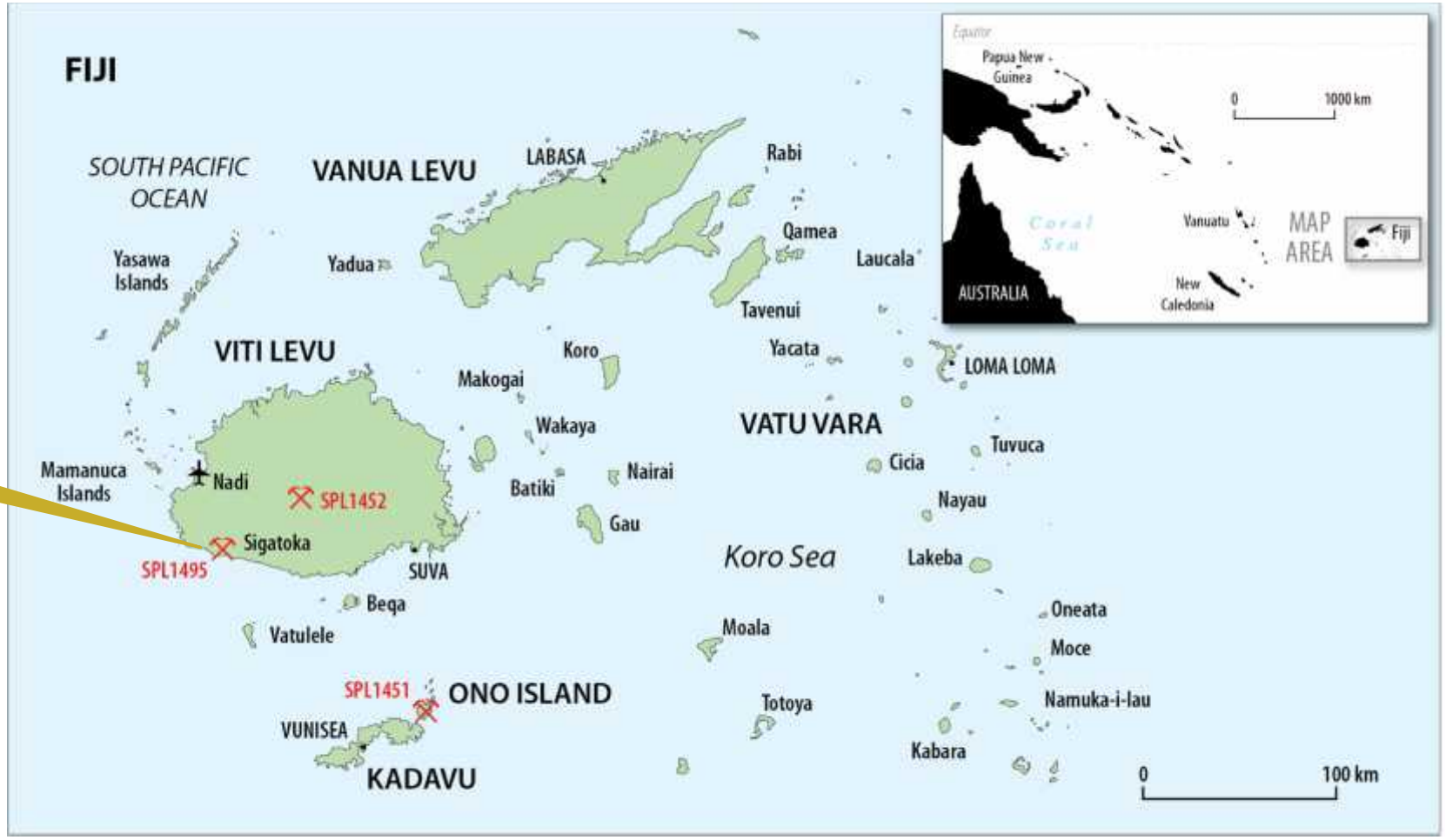
DOME GOLD MINES

# SIGATOKA

## IRON SANDS PROJECT

SPL1495 (2,522 ha)

# SIGATOKA LOCATION




Sigatoka

# SIGATOKA IRON SANDS PROJECT

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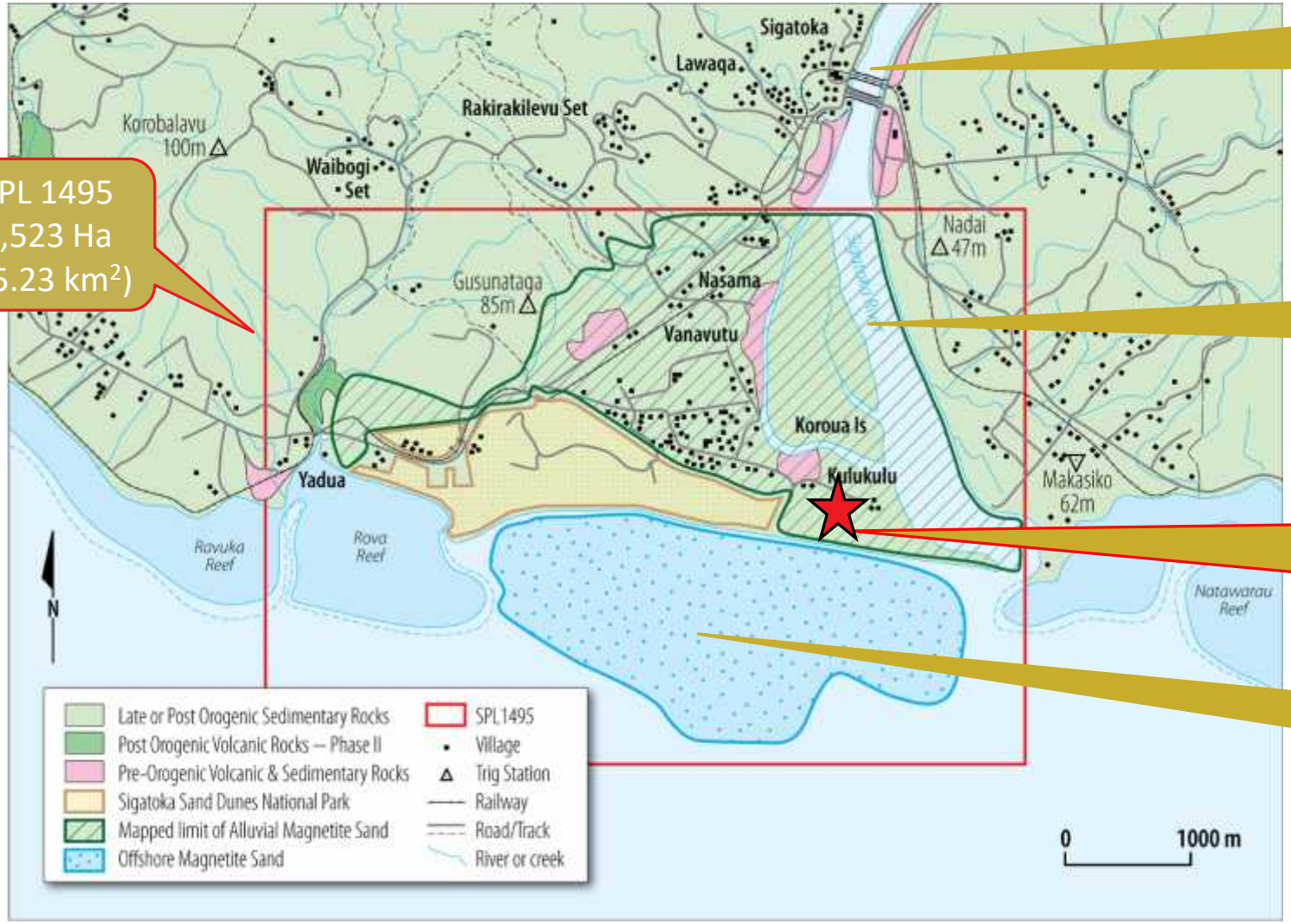
# SIGATOKA DEVELOPMENT AREA




SPL 1495
2,523 Ha
(25.23 km$^2$)

PPP Extra + 6km
Riverbed sand
deposit

Riverbed
sand
deposit

Onshore
sand deposit
Kulukulu

Offshore
sand deposit

# ABOUT SIGATOKA PROJECT

- Located within SPL1495 on the south coast of Fiji's main island of Viti Levu (SPL1495 is valid until 26th April 2025- (currently in process of renewal, SPL is still valid) Held 100% by Dome (through its wholly owned subsidiary **Magma Mines**)
- An emergency "desilting order" from Ministry of Waterways now provides Dome with a fast-track opportunity to rapidly advance to Stage 1 riverbed dredge mining and product sales
- SPL1495 covers the Sigatoka River delta, including the riverbed, riverbanks and offshore
- The currently defined onshore resource is **189.3 million tonnes**
- Further large-sand deposit, also owned by Dome, is present **offshore** from the river mouth
- The offshore deposit represents long-term continuation for future expansion of mining
- SPL1495 will be converted to a mining lease upon completion and submission to MRD of the Feasibility and Environmental Impact Studies
- Final stages of Feasibility Study now underway and scheduled for completion

# ABOUT SIGATOKA PROJECT

- Dome is developing a long-term mining operation at Sigatoka
- Mining will utilise conventional and proven sand mining and processing technologies
- A staged development is proposed
- The project is expected to have robust economics and offer attractive returns
- The onshore and riverbed sand resource is large enough for a mine life of 25+ years production
- The offshore sand, not yet defined, offers another 20+ years of production
- The Minister of Agriculture and Waterways has stated that he is keen to see the Sigatoka desilting project proceed as fast as possible
- Local landowners and other stakeholders are also very supportive

# HISTORY OF SIGATOKA PROJECT

- Below is a list of milestones for the Sigatoka Project – total Dome investment approx. $28M
- Acquisition of Sonic Drill, completion of over 350 exploration holes (Sigatoka River, Koroua Island, Kulukulu and South Kulukulu areas – holes spaced at 50 m and 25 m)
- Thousands of drill samples analysed in Australian laboratories (IHC; Dimantina)
- Three JORC 2012 resource reports as drilling progressed with total of 189.3 million tonnes JORC 2012 presently
- Completion of a scoping study by AMC Engineers
- Completion of a PFS by Trevor Hines
- Completion of a second PFS by IHC Mining
- Completion of two pilot plant programs by IHC Mining, the second involving an 18-tonne sample as part of the current Feasibility Study.
- Completed both an initial EIA (Coreregа) and final comprehensive EIA (Robert Smith)
- Completed a comprehensive review of the final draft of the Feasibility Study resulting in significant reductions in CAPEX and OPEX
- Completed testing of Sigatoka construction sand for use in cement and asphalt with results showing Sigatoka sand has major advantages – high MPa, rapid setting, resistance to sea water corrosion and concrete cancer

# SIGATOKA DEVELOPMENT

- Dome is now in the final review phase of a Feasibility Study for sand production at Sigatoka
  - Development of the mine is planned to consist of three growth stages
  - Production will expand in step with market penetration, especially for valuable construction sand products

- The final Feasibility Study report will:
  - Specify the best way to mine and process the deposit
  - Quantify the project economics in a robust financial model
  - Provide the basis for raising project development finance, and
  - Deliver a schedule for construction of the initial mining operation

# SIGATOKA FORWARD

Dome is progressing towards:

- Complete the Feasibility Study
- Submission of the final Feasibility Study and Environmental Impact Assessment (EIA) to MRD
- Produce a mine plan and schedule with the initial mineable reserve at Kulukulu South
- Enter contract for Private-Public project to undertake desilting dredging of Sigatoka riverbed as an emergency flood mitigation project
- The Private-Public project will greatly accelerate Stage 1 construction sand-mining and sales
- Convert the existing exploration tenement (SPL1495) into a Mining Lease
- Obtain all Fiji Government approvals required for the project to proceed

# SIGATOKA FINAL FEASIBILTY STUDY

As a result of the comprehensive review of the first draft of the Feasibility Study, the following activities are required to complete the final Feasibility Study and Financial Model, and to minimise the CAPEX/OPEX and maximise project revenue.

1. Test work at IHC Brisbane and by the Drum Magnet manufacturer in China to obtain absolute magnetite recovery performance and establish slurry flowrate per drum magnet using Sigatoka sand.
2. Establish logistics for bulk sea transport of magnetite concentrate and construction sand by a survey of water flow and other river mouth dynamics to be completed by marine infrastructure and bulk transport experts BMT Marine.
3. Complete a Geotech drilling program at the process plant site at Kulukulu South to provide data for civil works and weight bearing specifications for the process equipment and associated access roads.
4. Finalise the draft AMC Mine Plan and Excavation Schedule for Kulukulu South.
5. Engage Stantec Engineers to finalise the Financial Model and compile and sign-off on all aspects of the Feasibility Study.

# SIGATOKA FORWARD PLANS

Following Fiji Government approvals, Dome will:

- Recruit and build a project development and operating team of qualified professional and ancillary staff - underway
- Carry out market testing of products to establish prices and sales volumes - underway
- Raise project finance for development
- Advance rapidly to Stage 1 production and sales by entering PPP for desilting program
- Negotiate contractor supply of dredge and delivery of sand processing plant and other equipment on signing of Government-Dome contract

# SIGATOKA RESOURCES

- Drilling has so far delineated a mineral resource of **189.3 million tonnes.**
  - (Released on ASX 5 November 2020)
- This resource estimate meets the standards set by the Australian JORC (2012) Code (Joint Ore Reserve Committee Code )
- The sand contains an average of 12.7% total heavy minerals (includes Magnetite, Diopside, Garnet, etc.)

Darker layers are more magnetite-rich

Part of the Sigatoka sand resource, located on Koroua Island

# SIGATOKA PRODUCTS

- The Sigatoka deposit contains several commercial minerals, which are:
  - **Magnetite** – a valuable form of iron ore for production of steel
  - **Construction sand** – tests prove suitability for high MPa (>60) concrete, and has confirmed prevention of concrete cancer and resistance to saltwater corrosion
  - **Gravel** – suitable for concrete aggregate, road base and other applications

- **Note:** "MPa" is a measurement of compressive strength used to certify concrete for special high-strength applications such as high-rise buildings, bridges and pre-stressed concrete

# SIGATOKA PRODUCTS

## MAGNETITE : Iron ore

- Magnetite is an iron oxide mineral ($Fe_3O_4$) that is a valuable ore of iron
- Sigatoka magnetite also contains some titanium (6.6% $TiO_2$) and vanadium (0.67% $V_2O_5$)
- Magnetite concentrate is in demand for specialised steel making, coal washing, heavy marine cement and the recycling of scrap iron
- Dome expects to sell its magnetite in Fiji, Korea, Japan or China
- The sale price will reflect international benchmarks
- The presence of titanium and vanadium in Sigatoka ore add to market appeal

# SIGATOKA PRODUCTS

## MAGNETITE

Magnetite is a highly magnetic mineral, which makes its metallurgical recovery quite simple

# SIGATOKA PRODUCTS

## CONSTRUCTION SAND

**High quality construction sand is a valuable and increasingly rare resource**

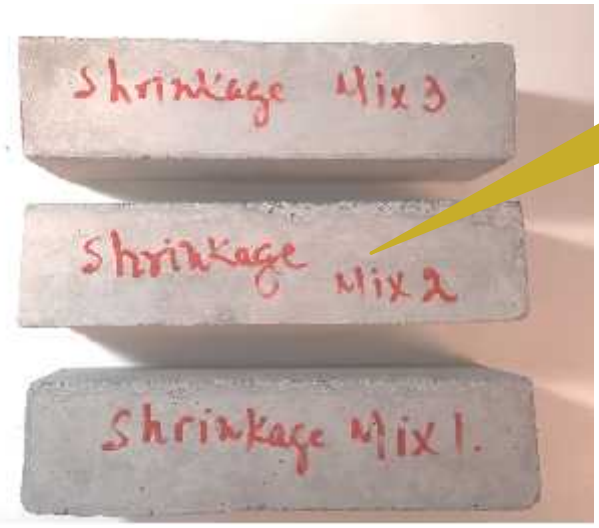
- Across the world, sand is the most widely used raw material
- Each year, the world uses 50 billion tonnes of sand to make concrete, but not all sand is suitable for this purpose
- The Sigatoka construction sand product exceeds Australian standards for special concrete mixes – very high MPa (>60) concrete; concrete cancer remittance; marine structure applications, such as flood prevention seawalls and wharf structures, etc

# SIGATOKA PRODUCTS

## CONSTRUCTION SAND

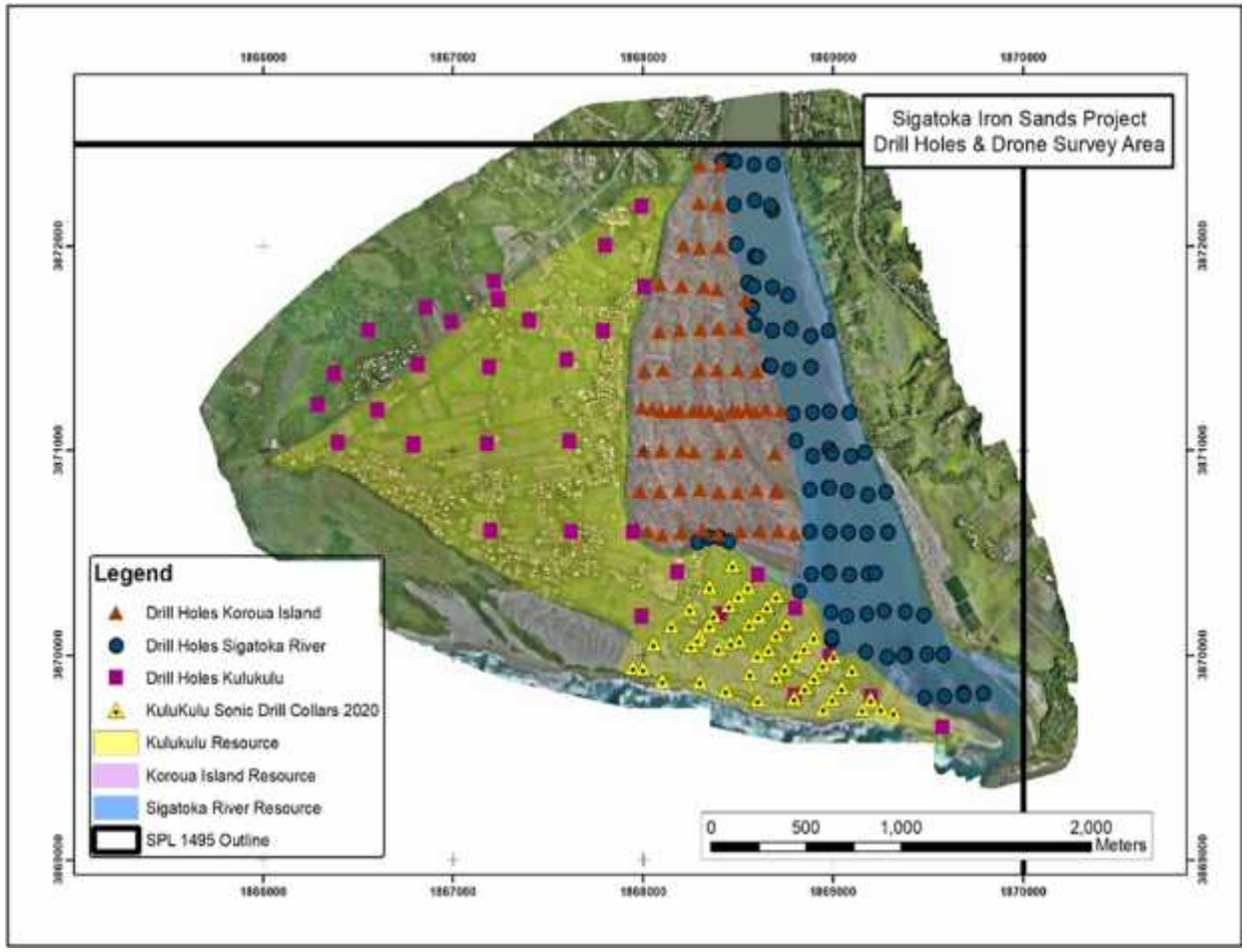
- Sigatoka construction sand will be sold first into the Fiji market
- After that, export markets may be opened up in Southeast Asia, Japan and elsewhere
- Product pricing will be negotiated with consumers at the time, reflecting the current supply/demand balance

Sigatoka sand


High MPa Concrete samples

# SIGATOKA MINERAL RESOURCES

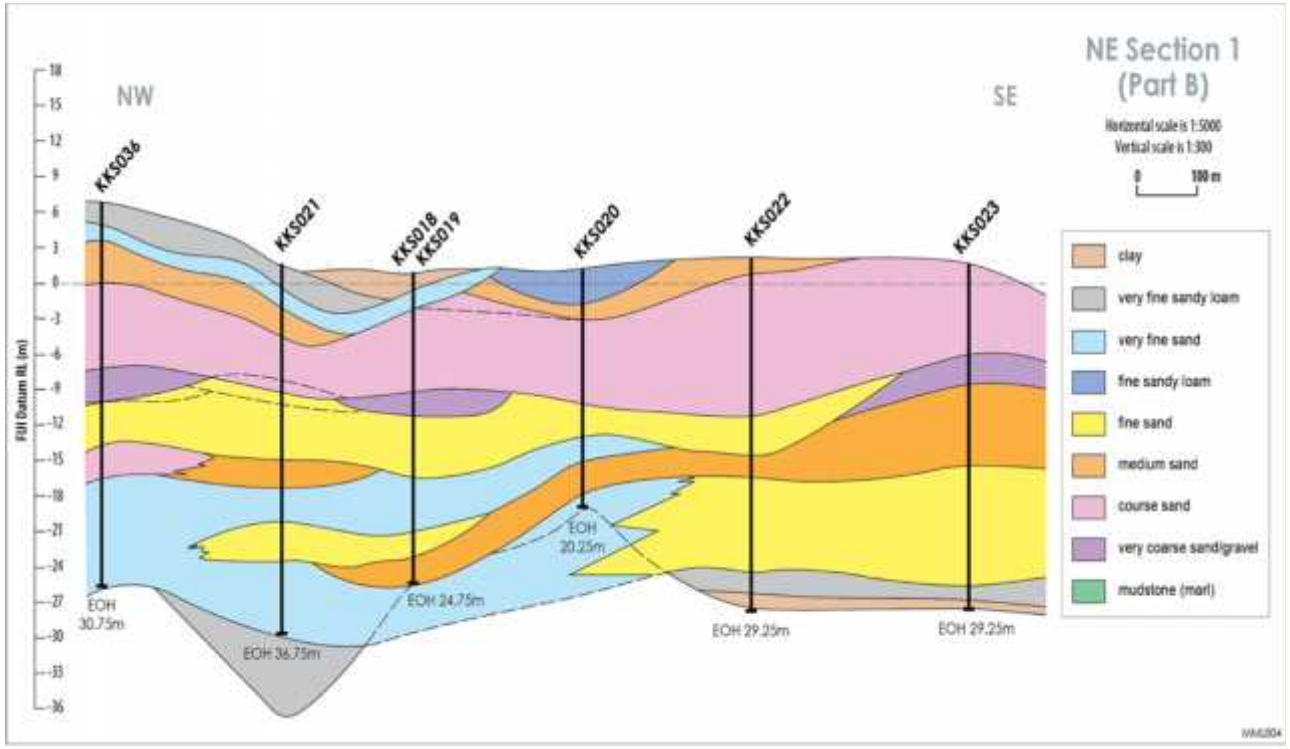



The current JORC 2012 mineral resource inventory at Sigatoka stands at **189.3 million tonnes** (Mt) of sand containing 12.7% total heavy minerals (HM).

This is made up of four parts:

- 34.6Mt @ 20.2% HM – Kulukulu South
- 52.5Mt @ 13.2% HM – Koroua Island (Indicated)
- 23.9Mt @ 11.5% HM – Sigatoka River (Indicated)
- 5.3Mt @ 10.8% HM – Sigatoka River (Inferred)

# SIGATOKA MINERAL RESOURCES

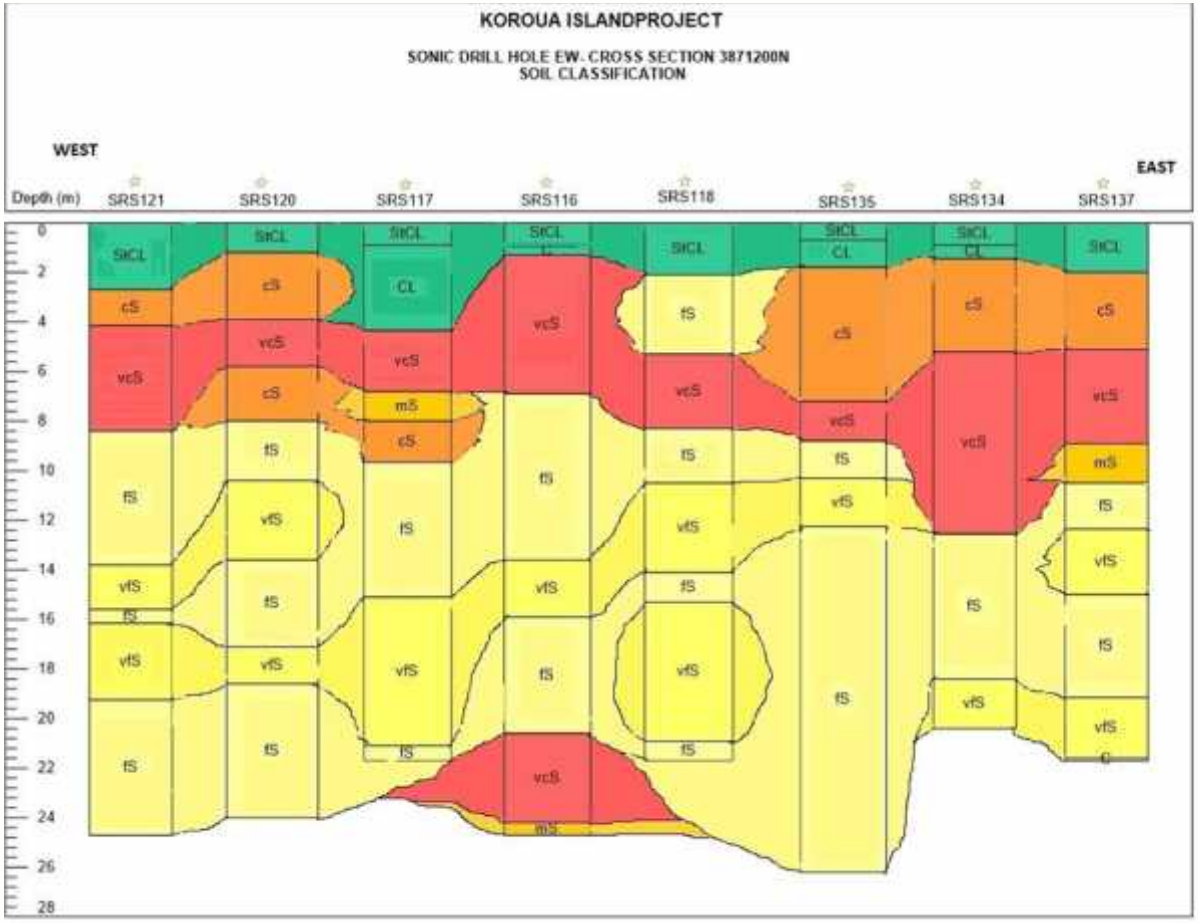



A typical cross-section through the Kulukulu part of the Sigatoka resource

Large thicknesses (over 25 m) of mineable sand are present

Note that different layers offer different grain sizes

# SIGATOKA MINERAL RESOURCES




Typical cross-section of the sand resource at Koroua Island

Once again, large thicknesses of sand are present

# SIGATOKA MINERAL RESOURCES

- Dome's sonic drill rig at Sigatoka produces high quality sand cores
- Providing accurate and reliable samples for laboratory analysis
- And allowing high confidence in geological data and resource estimation

Sand cores from drilling

# SIGATOKA MINERAL RESOURCES

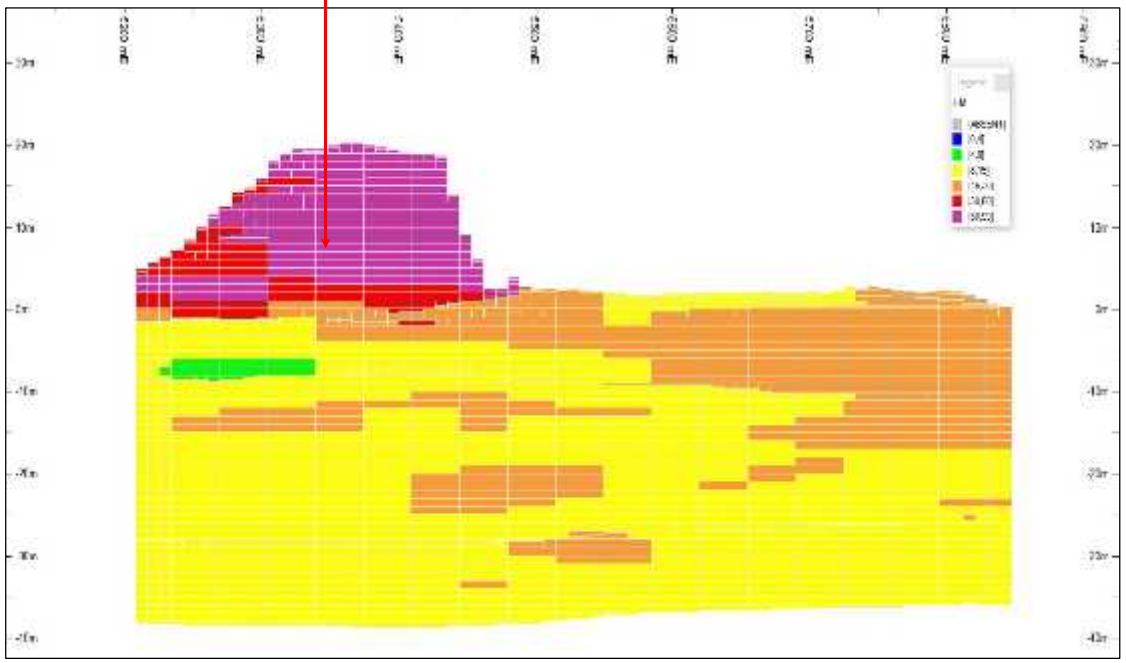
The sonic drill rig can be used on land or, with a barge, on water

Logging and sampling the sand from drilling

# SIGATOKA MINERAL RESOURCES

## PROPOSED MINING AREA AT KULUKULU SOUTH


**This high grade area is targeted for production**



# Proposed Sand Processing Plant Location

1. The main project will start mining in the Kulukulu South area, where Club Masa and Work Estate are located (an area with a high magnetite content).

The mined sand will be put into a liquefaction plant to turn it into a slurry, which will then be sent to the sand processing plant.
The site will also have a sand processing plant, product processing, office, maintenance building, etc.
The area is not close to any villages that may be disrupted by the work and has easy access to major highways.

2. The flood mitigation project will follow the main project and use a dredger on the Sigatoka River to pump the dredged sand and gravel to the processing plant as a slurry.


**Proposed Position of all major mining, processing and support infrastructure equipment in Kulukulu South area**

# SIGATOKA MINING METHODS

**Example : Front loader and shovel digger will be used in Kulukulu South area**

"Pictured equipment is not the property of Dome, but for display purposes"

# SIGATOKA MINING METHODS

Mobile Mining Plant

"Pictured equipment is not the property of Dome, but for display purposes"

# SIGATOKA MINING METHODS

For mining in the River, Dome plans to utilise conventional dredging technology, such as this Suction-cutter dredge

Stage 3 will probably involve at least more than two such dredges or mining equipment

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# SAND PROCESSING PLANT


**Example of CDE construction sand processing plants and products**

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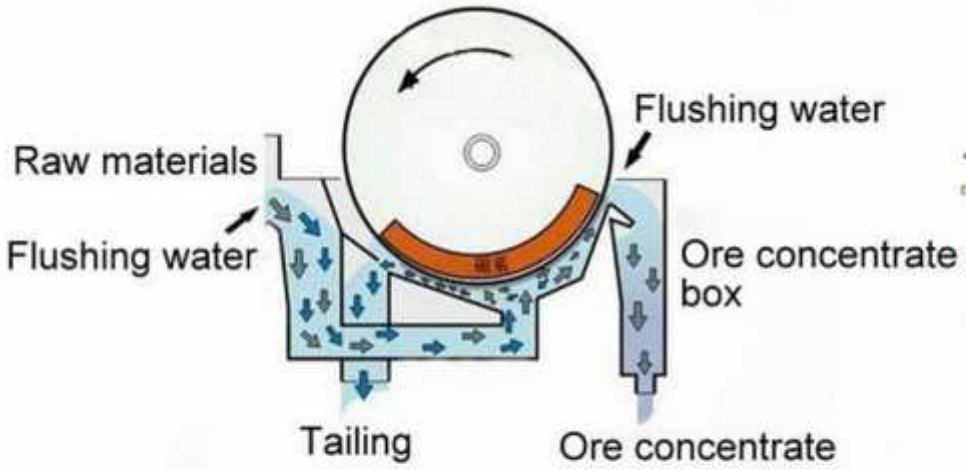
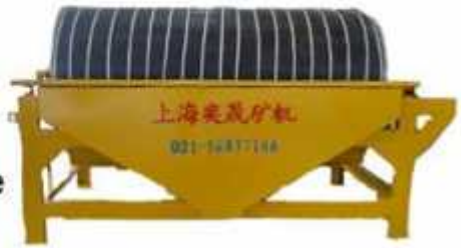
# SIGATOKA ORE PROCESSING



Magnetite will be recovered using wet magnetic separators

"Pictured equipment is not the property of Dome, but for display purposes"

Example: Drum Magnet Plant set-up

"Pictured equipment is not the property of Dome, but for display purposes"

# Sand processing & Iron sand recovery Flowchart

Front end loader
Mineral sand mining

Mobile mining plant
Makes sand into slurry/mud
Pumps it to CDE sand plant

CDE
Main/Primary
Sand Sorting Equipment

Magnetic processing
Drum magnet
(to be designed)

*non-magnetic material*

*Magnetic Materials*

Iron sand products/Magnetite (magnetic)

CDE
Slime
removal/dehydrati
on device

Sand products
(Non-magnetic)

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Example: Sand processing plant with magnetite recovery section

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# MARKETING AND SHIPPING

**Marketing**

- Magnetite concentrate will find ready markets in Japan, Korea or China, and also in Fiji.
- Initial discussions with cement manufacturers in Fiji have indicated keen interest in our construction sand products
- Enquiries in Australia, Singapore and Hong Kong have identified large prospective markets

**Shipping**

- Fiji market to be supplied by trucking directly from mine site, or by barging around the coast
- Export market will involve sea-going barge trains or loading of ships offshore
- In the longer term, a port may be built at the river mouth
- A Sigatoka port would be very beneficial for the Fiji agricultural export industry and add much value to future Sigatoka mining economics

# SIGATOKA AND THE ENVIRONMENT

- Sigatoka will be an environmentally benign project
- The mine and processing operations will not use any noxious chemicals
- The sand has a low slime content, minimising muddy water issues
- Dome will exercise best practice environmental protection and state-of-the-art landscape rehabilitation

**Example of nursery to supply plants for revegetation of mined land**

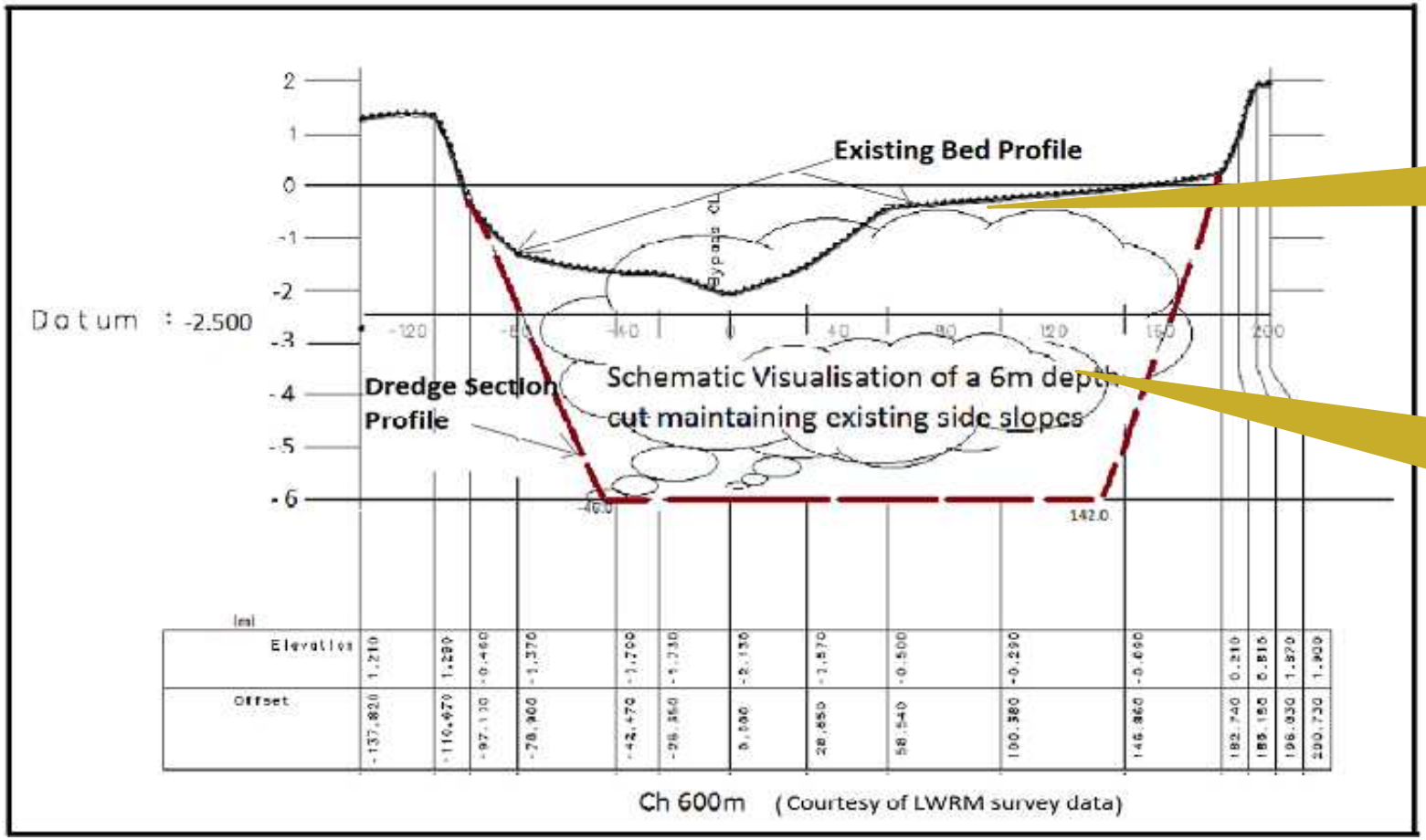
DOME GOLD MINES

# POSITIVE IMPACT ON SIGATOKA RIVER

- The Sigatoka River is currently choked with sand and averages only about 1 m deep
- The river mouth is also partly blocked by a sand bar
- Severe flooding of town and district is therefore common during the annual wet season
- Dome's dredging of the river will deepen it and significantly reduce flooding
- Removal of the sand bar will open the river to tidal flushing
- This will rejuvenate what is essentially a dead river at present and allow flood waters to escape more quickly

# POSITIVE IMPACT ON SIGATOKA RIVER

River cross section showing beneficial impact of dredging on river flow capacity




Existing river bed averages only 1 m deep

Mining this sand to a 6 m depth will substantially reduce flooding

# CONTRIBUTION TO THE COMMINITY

- Sigatoka is well supported by the Fiji Government and local residents
- In turn, Dome has a long history of supporting the local community
- This includes building police posts, women's shelters, school and village amenities and bridges
- Dome will continue to expand its community support as the mine is developed and operates
- The mine is expected to employ approximately 100 people, most of them hired locally
- In addition, the mine will look to the local business community to supply goods and services

Walking bridge
and road bridge
to Koroua Island,
constructed by Dome

# COMMUNITY SUPPORT

Dome supports local school and community facilities


Kulukulu school covered walkway constructed by Dome

Kulukulu community & Police Post renovated by Dome

# FIJI IS AN ATTRACTIVE MINING JURISDICTION

Operating benefits in Fiji

- High exploration potential
- Attractive royalty and taxation structure (25%)
- Stable business environment
- Reliable legal and financial systems
- English language
- Skilled workforce and low cost of labour

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