mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: TRANS HEX OPERATIONS (PTY) LTD

MINING WORK PROGRAMME

SUBMITTED FOR A MINING RIGHT APPLICATION

AS REQUIRED IN TERMS OF SECTION 23 (a), (b) AND (c) READ TOGETHER WITH REGULATION 11(1) (g) OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT 28 of 2002)

STANDARD DIRECTIVE

All applicants for mining rights are herewith, in terms of the provisions of Section 23 (a), (b) and (c) and in terms of Regulation 11 (1) (g) of the Mineral and Petroleum Resources Development Act, directed to submit a Mining Work Programme, strictly under the following headings and in the following format together with the application for a mining right.

1. REGULATION 11.1.(a): FULL PARTICULARS OF THE APPLICANT

ITEM	COMPANY CONTACT DETAILS
Name	Trans Hex Operations (Pty) Ltd
Tel no	021 510 1881
Fax no:	
Cellular no	
E-mail address	aaronl@transhex.co.za
Postal address	P.O. Box 723 Parow 7499

ITEM	CONSULTANT CONTACT DETAILS (If applicable)
Name	No Applicable
Tel no	
Fax no:	
Cellular no	
E-mail address	
Postal address	

2. REGULATION 11(1)(b) PLAN SHOWING THE LAND AND MINING AREA TO WHICH THE APPLICATION RELATES (the plan required in terms of Regulation 2(2))

The application relates to a conversion of the prospecting right granted to Trans Hex Operations (Pty) Ltd with DMR reference number WC30/5/1/1/2/10335PR in respect of sea concession 13(b) situated on the West Coast of South Africa within the Matzikama Local Municipality.

The following prospecting right is currently in force for the concession:

- Sea Concession 13(b) DMR reference number WC30/5/1/1/2/10335PR see Figure 1. The Plan (Annexure1)

3. REGULATION 11(1)(c): THE REGISTERED DESCRIPTION OF THE LAND TO WHICH THE APPLICATION RELATES

Concession 13(b) is situated directly south of the Olifants River mouth, extending about 12 km southward from the river mouth. Concession 13(b) lies seaward of Concession 13(a) (to which Trans Hex Operations (Pty) Ltd also have the mining rights), extending to a straight-line boundary approximately 5 km from the high-water line.

Lambert's Bay is the closest available port from which exploration, prospecting and mining can be undertaken. It is situated 50 km south of the Olifants River mouth. Doring Bay, about 15 km south of the river mouth, is a small fishing port with access only in fair weather

conditions, making it unsuitable for exploration and prospecting vessels.

Figure 2. Locality of Concession 13(b) (Annexure 1).

4. REGULATION 11(1)(d): THE DETAILS OF THE IDENTIFIED MINERAL DEPOSIT

4.1 Resource particulars

ITEM	DETAIL
Type of mineral	Alluvial Diamonds
Locality (Direction and distance from nearest town)	Sea concession 13(b) is situated 47km west of Vredendal.
Extent of the area required for mining	3983.91ha
Extent of the area required for infrastructure, roads, servitudes etc	Existing infrastructure only
Depth of the mineral below surface	~14 to 64m water depth

Geological formation

Diamonds in the offshore environment are found in trap sites such as potholes, gullies and submerged beaches. A geophysical survey defined the following features which indicate a high potential for diamond entrapment.

Description of the Bathymetry

The water depth within the concession extends from -14m in the far northeastern corner down to -64m in the southwestern corner. The relief of the sea floor changes considerably from large areas of sediment cover with uniform, gentle gradients to steep rocky cliffs in the central-west. The shift from sediment covered bathymetry to rocky bathymetry is extremely abrupt suggesting relatively deep sediment packages adjacent to steep rocky outcrops.

The extent and features of the outcropping rocks are easily apparent from observing the bathymetry. The isolated rocky clusters in the northern quarter of the concession display a somewhat subdued character, either indicating that they are partially covered by sediment or that they are just less ragged.

Within the wide (1,4km) discontinuity between the northern reefs and the central reef lies the palaeo-Olifants River. This gorge has been completely filled in and masked by sediment. The average gradient of this sediment-covered seafloor is approximately 1:80.

The central reef is a prominent feature within the concession. It extends from west of Bruinpunt seaward in a WNW direction. The shallowest part of this feature is -27m, representing a 7 meter high pinnacle raised above the surrounding sediment. This pinnacle is situated approximately 2,5 km west of Pikkersbaai. The deepest isolated part of this reef is a small hollow 52 meter deep situated 150 meters inside of the seaward concession boundary and 100 meters north of

6,480,000mN utm grid line.

The sediment filled palaeo-Sandlaagte River channel dissecting the reef can be clearly seen. It extends from the present river mouth in a south westerly direction and then at the -50m water depth suddenly alters course by 90degrees and exits the reef into the southern basin. Another minor palaeo-river channel can be observed in the central northern half of the reef trending ESE-WNW.

The bathymetry highlights five distinct sediment basins of particular interest:

- The southern basin being the deepest from -30m to -64m.
- A near-shore, elongated basin between -25m and -35m orientated roughly parallel to the shoreline.
- The Sandlaagte palaeo-channel.
- A very large (+-15km^2) basin in the northern half of the concession with ware depths from 15 meters to +40 meters. The seafloor gradient sloping seaward is extremely uniform and regular suggesting a significant sediment thickness.
- A northern irregular shaped basin with an indistinct boundary with water depths of between 30 meters and +50 meters.

Brief Description of the Seafloor Geology

The present seafloor reveals distinct boundaries between rocky outcrop and clastic sedimentary deposits. Five distinct sediment-filled areas have been recognised:

South of the large central reef lies an extension of a deep-water sediment wedge forming roughly a large (+-4km^2) circular basin. The depths to bedrock (water depth plus thickness of sediment) range from -30 meters, adjacent to the nearshore, to > -80 meters in the southwest. The sediment thickness in the centre of the basin is approximately 25m (Airgun data). The topography of the bedrock is moderately rugged and similar to the exposed central reef but representing a lower separate terrace.

West of Kleinsee lies a prominent palaeo-river channel orientated parallel to the coast. The channel is clearly visible from the airgun data as a tributary of the Sandlaagte palaeo-river. Depth to bedrock within the channel is approximately 50 meters with sediment thickness between 16 and 18 meters. The surrounding sediment thickness outside the centre of the channel averages generally, 6 - 10 metres. A straight ridge of rugged rock forms a significant barrier against the deep-sea swell bound the western edge of this basin.

The Sandlaagte palaeo-river channel is a prominent feature incising the central reef. This channel is presently choked with sediment. An airgun estimated sediment thickness of +-30 meters for the first leg and 14 to 30 metres for the second leg orientated NE-SW. Depths to bedrock within isolated potholes along its course of +-65 meters occur with average depths between 50 and 60 meters.

The nearshore northern half of the concession consists of a large (+-15km^2) clastic sediment wedge. Sediment thickness and depths to bedrock vary considerably. Average depths to bedrock range from 30 to 50 meters in the area south of the Olifants palaeo-river and sediment thickness in an around the 20m mark. The topography of the bedrock in this area indicates relatively depressed relief.

The Olifants Palaeo-river valley lies submerged within the northern half of this basin and extends out beyond the western boundary of the concession. This river has incised deeply into the inner shelf and has been completely filled in by unconsolidated sediment. Sediment thickness within

the channel, derived from airgun data, averages 40 meters with the thickest at 56 meters. Bedrock topography suggests that the palaeo-river has eroded a 20 to 30 meters gorge into the surrounding country rock.

A minor tributary of the Olifants palaeo-river trending parallel to the present shoreline and approximately 2.5km offshore, dominates the extreme northern part of the concession. Depths to bedrock average 50 meters and sediment thickness of approximately 18 meters occur.

The present day exposed rocky outcrops consist of a dominant central-western rugged to very rugged NNW-SSE trending peninsular and isolated outcrops of subdued rocks in the extreme south and north of the concession. A distinctive NW-SE and NE-SW pattern of jointing or faulting can be observed on the central reef. The course of the Sandlaagte palaeo-river has been dominated by this structure.

Beach Levels

Four prominent sea level stillstands were identified for presentation:

-26m Level:
The entire central reef is submerged at this level and only about half of the nearshore sediment wedge is exposed The shape of the shoreline is similar to that of present day. Only that part of the reef adjacent to Bruinpunt and the subdued rocks in the far northeast are exposed at this level.

-36m Level:
Approximately half of the concession is now exposed as well as large portions of the central reef. In the north and in the extreme south a beach break would have been visible with the central portion consisting of a rocky headland with two significant rocky islands further out.

-41m Level:
At this level not much has changed from that described above except that slightly more of the central reef is now above water. The shoreline in and around the central reef is now extremely rugged with significant embayments and gullies. More than half of the concession is now above the water line.

-50m Level:
Only between 10 and 20 percent of the concession is submerged. The shoreline at this level would probably be dominated by a large headland in the centre. No significant embayments or gullies can be identified.

4.2 Detail of person who compiled the resource statement

ITEM	DETAILS
Name	Sean Damons
Qualification/s	BSc Geology
Profession	Geologist
Experience	25 years
Professional Body (If registered)	SACNASP
Registration number (if applicable):	200032/16

4.3 Locality specific geological map (in colour)

Figure 4. Seafloor geological map of Concession 13(b) as defined by the 1994 survey showing historical mining locations and potential resource areas (Annexure 2).

4.4 Exploration results (supporting geological reports to be listed and appended)

This is a mining right application for an existing Prospecting Right WC136PR for conversion to a mining right. A brief description of past exploration and production work is nonetheless provided below.

1. Work to date

Underwater Surveys (Pty) Ltd were contracted to undertake a regional geophysical survey of Concession 13(b) which was completed in September 1994.

Approximately 980 line-kilometres of good quality geophysical data, comprising side-scan sonar, seismics and echosounder records were collected. Data was digitally captured on exabyte tape as well as hard copies being generated on paper. Coast parallel and coast perpendicular lines were surveyed at line intervals of 150 m. The survey covered the entire concession area with some overlap into Concession 13(a). Both high resolution (chirp) seismics and boomer seismic data were collected.

Only 11 Boomer lines were run (approximately 53 line-kilometres over the Olifants River palaeo-channel), covering only 5.4 % of the concession area. Side-scan sonar data were collected using a 100 kHz EG&G side-scan sonar. The scan range was set to 100m, giving a swath-width of 200m.

Echosounder data were collected using an Atlas Deso 15 hydrographic survey sounder. A Trimble DGPS/ Sercel NR 103 DGPS system was used for navigation. WGS 84, UTM central meridian 21 co-ordinate system was used during this survey making direct correlation with the present survey difficult (WGS 84, UTM central meridian 15). Data interpretation was done at 1:5000 scale by A.J.Rau and R.H.De Decker of Marine and Coastal Geo-Consultants.

Trans Hex Operations (Pty) Ltd (THO) has drilled/trenched a total of 115 samples and completed 4 bulk samples during 2001 to 2004. A total of 1173 diamonds were recovered weighing 787.5 carats at 0.67 carats per stone (Annexure 3).

2. **Physical description and potential**

Based on the evaluation of the physiography of the concession from the interpretation of the seismic and bathymetric data and sampling data, 8 mining spreads, covering 5% of the concession area, have been identified (Annexure 4). These spreads encompass a number of features, such as palaeo-channels, terraces, embayments, etc., which form the more probable depositional environments for the diamondiferous deposits.

Exploration Plans

To ensure responsible management of the 13(b) diamond resources, THO is committed to further exploration activities in the 13(b) concession to increase the life of mine (LOM). This will consist of:

- Geophysical surveys
- Exploration Drill Sampling

Geophysical surveys

Geophysical surveys will be done to identify geological features where further exploration sampling will be undertaken. The equipment for the survey will be deployed from a vessel appropriate for the depth and survey method to be used.

The exploration/prospecting activities will follow a standard phased approach which will be undertaken on a scheduled timeline, with some activities being run concurrently, while others will follow sequentially. A description of the project phases and requirements is provided in the following sections.

- Planning and layout of geophysical survey lines in areas of moderate to high mineralisation potential by an experienced marine geologist / geophysicist. The layout of the survey lines will focus on survey line orientation i.t.o. the prevailing swell and ocean current as well as the orientation of the prospective geological features. The ideal survey line orientation will provide the best possible quality geophysical data. Survey line spacing will be determined by the selection of the appropriate geophysical survey equipment to provide adequate coverage as well as by the water depth of each potential area. Selection of the geophysical survey equipment will include a decimetre accurate GPS, tide gauge, high resolution swath bathymetric system and high resolution seismic sub-bottom profiler.

- Survey data collection at sea will be done during good to fair weather conditions to ensure the best possible quality geophysical data. Data collection will be stopped once sea conditions deteriorate from fair to poor, as data quality and accuracy will deteriorate and be of little use to map the identified areas. Therefore, the duration of the total sea time until completion is an estimate. Data quality assurance and quality control (QA and QC) will be applied during surveying operations to ensure rectifying problems as soon as detected. The QA/QC process entails the regular on-board post-processing of data to allow evaluation of adjacent survey lines i.t.o. accurate positioning, data correlation with the different geophysical systems, resolution, and image quality. Once all planned survey lines have been surveyed and collected on board, the survey vessel will transit back to Cape Town and all geophysical equipment

demobilised.

- In-office geophysical data post-processing and interpretation after the geophysical survey datasets have been backed-up.
    a) Post-processing of swath bathymetric data entails merging of the collected tide gauge data with the swath bathymetric data to achieve a mean sea floor level, as well as applying cleaning and signal enhancing filters to remove noise spikes and improve the 3D image. The final deliverable is a high resolution geographically accurate digital terrain model of the sea floor surface that will form part of the GIS database. This data will allow interpretation of the sediment-rock contact, identifying different surface sediment coarseness areas and bedrock signature structures like fractures, joints, and faults.

    b) Post-processing of the seismic sub-bottom profiler data involves applying filters to smooth out the sea swell oscillation of the sea floor surface reflector and enhance the signal and deeper reflectors. Interpretation will seek to digitise the deepest seismic bedrock reflector from the sea floor outcrop down to the deepest sediment cover as well as digitising internal reflectors within the sediment package that might indicate a consolidated layer that could have acted as a diamond trap site above bedrock or that may course problems with penetration during drill sampling and mining.

Exploration drill sampling

Where geological features of interest (showing potential for diamond prospecting) have been identified, follow-up surveys and sampling will be undertaken. Sampling will consist of two methods of which, the first will be extraction of unconsolidated sediment from the seabed using drill technology from a dedicated exploration vessel and, if required, the second method will be extraction of unconsolidated sediment using a dedicated bulk sampling vessel to dredge exploration trenches using crawler technology. The sampled material will be treated on board the vessels through a diamond processing plant inclusive of final diamond recovery.

The choice of exploration drill equipment will be proven technology for marine diamond exploration providing reliable results which will place confidence in ultimately defining and estimating a resource to be mined with proven mine technology suitable for water depths of the Concession Areas.

The exploration drilling tool is capable of vertical drilling 10 to 12 m into the sea floor that can operate in water depths up to 160 m. The footprint of this drill is typically 3 to 5 m^2 providing a large enough area for confidence in the results.

A vessel equipped with this drill technology typically has a central moonpool for deployment and recovery of the drill platform. Furthermore, the vessel will have deck capacity for an in-line dense medium separation (DMS) plant that will receive the drilled material and process it via an in-line X-Ray concentrator up to final recovery. This processing method will provide on board grade results to enable the on-board exploration geologist to evaluate and augment the exploration drill programme to achieve the best possible outcome per drill position.

Furthermore, the vessel will be equipped with a dynamic positioning (DP) system to provide < 1 m accuracy and able to move swiftly from one drill position to the next.

Grade results from exploration drilling will be correlated with grades achieved during trench sampling to calculate the expected grade from drilling versus the real grade from mining. Results will be used to recalculate and improve confidence in the earlier resource estimation.

Mining Potential

Annexure 4 shows the position of the mining spread features. The features are ranked in order of priority on the basis of bathymetry and bedrock morphology.

Spread 1

Sandlaagte South:- this feature forms part of the Sandlaagte channel and lies to the southeast of Kaapenaarskop. The pinger recorded acoustic basement at 5-6m but the airgun penetrated to more than 20m. However, the airgun is likely to have penetrated the indurated horizons within the channel. The feature has an area of 694372m^2 and lies in water depths of -43 to -50m. The Sandlaagte palaeo-channel widens from about 200m to 600m within this target feature. This would have resulted in a reduction in fluvial flow velocity and deposition during periods of marine regressions. During marine transgressions the sediments deposited would have been reworked by wave and tidal action concentrating diamonds deposited in the feature.

Spread 2

Sandlaagte Mouth: this feature is positioned at the point where the Sandlaagte palaeo-channel exits from the Strandwolfkop Reef. Sediments deposited at the mouth at the -52m sea level would have been washed northeastward by southwesterly swells during subsequent marine transgressions. Pinger penetration is more than 6 m for a large proportion of this feature (central channel). The airgun recorded depths of 20 m below the sea-floor. This feature has an area of 333197m^2 and is in the -50 to -58m water depth range.

Spread 3

Central Sandlaagte palaeo-channel:- this feature has an area of 759847m^2 and is in water depths of -41 to -50m. The pinger penetrated to depths of 9 m below the sea-floor in the central portion of this channel. The airgun reached a maximum of 30m in one area but on average the basal reflector is in the 12-16m below the sea-floor range along its axis. This feature would have been subjected to high bedload velocity tidal and fluvial action but is likely to have been well protected from wave action. Placer preservation potential in this feature should be good. The undulating central axis of this palaeo-channel would have resulted in a series of low energy pools separated by rapids. This type of alluvial environment is conducive to diamond deposition during normal flow conditions. However, it is possible that during flood periods diamonds would be flushed out in a restricted segment of a drainage like the one present in this feature.

Spread 4

Southern end of Strandwolfkop:- a southwest facing embayment with NS trending mega gullies between Bruinpunt Spruit and the Sandlaagte palaeo-channel. During

subsequent periods of marine transgression diamonds deposited by the Sandlaagte palaeo-channel (-50 to -55m sea level) would be washed along the southwest edge of Strandwolfkop by the westerly swell into this embayment. The feature does not have thick sediment cover -3 m pinger, (<6m airgun) and is in -23 to -40m water depth. This is a fairly small feature with an area of 405518 m^2.

Spread 5

Southern and eastern edge of Sardinops Summit:- this feature lies immediately to the north of the Olifants palaeo-channel. The Klein Olifants palaeo-channel passes through the eastern edge of the feature. A south facing embayment is the most interesting feature within this target area. Pinger penetration was very limited in this area probably due to the presence of a coarse sediment horizon.
The pinger shows the acoustic basement to be sloping gently southward to a maximum of 6m on the feature boundary. An east facing embayment along the northern boundary of the concession is also a high potential area. The pinger recorded a maximum of 3m sediment thickness within this embayment. This feature has an area of 1039237m^2 and is in the -15 to -34m water depth range.

Spread 6

Immediately south of the Sandlaagte palaeo-channel:- this feature is protected from a westerly swell by some prominent reefs to the west while being well situated for diamonds being transported toward the east by swell action. However, this feature would be exposed to the south west swell reducing preservation potential in the central and southern end of the feature. The pinger reached acoustic basement at 5 m. However, there was a steep drop off to 4 m and then it appears as if an internal horizon is intersected and contoured as acoustic basement. The airgun reaches a depth of 22m below the sea-floor on the southern edge of the feature. The feature has an area of 806804 m^2 and is in the -34 to -53m water depth range.

Spread 7

North of Sandlaagte palaeo-channel mouth: well situated immediately north of where the Sandlaagte palaeo-channel exists from the Strandwolfkop Reef. However, this area will be exposed to severe southwesterly and westerly wave action. Only diamonds in good trapsites, resistant to the high bedload velocities will not be transported to the east, reducing the preservation potential of the feature significantly. The pinger penetrated a maximum of 7 m and the airgun 10 m. On the pinger there is a sharp drop-off to 4 m and then a gentle gradient to 7 m suggesting the likely presence of an internal reflector. This target is 977745m^2 and is in the -51 to -60m water depth range.

Spread 8

Vlermuisvlakte: a large (2,000m long, 300m wide) NNW facing embayment south of Sandlaagte along the eastern edge of Strandwolfkop. The feature is well-situated south of a confluence where a channel from the south (parallel to Ritteltitrand) meets the Sandlaagte palaeo-channel. This feature is very well protected from wave action but tidal processes are likely to have reduced the diamond preservation potential. The pinger penetrated to a maximum of 5 m and the airgun to 10m. This feature has an

area of 863241m^2 and is located in water depths of -35m to -45m.

4.5 Information required in terms of regulation 8 (in cases where the application was preceded by a prospecting right.

This is a mining right application for a preceding prospecting right WC30/5/1/1/2/10335PR

4.6 Mineral resource map

The resource area in a marine concession agrees with seafloor areas delineated by means of geophysics and production sampling that are underlain by sediment and not rock outcrop. These potential resources and reserves areas are outlined in (Annexure 4).

4.7 Resource statement

The Diamond Resources estimates presented in this application were prepared in accordance with the Trans Hex Group Diamond Resource Reporting Policy NB-DR-01 Standards. This standard requires that the South African Code for Reporting of Exploration results, Mineral Resources and Mineral Reserves (the SAMREC 2016 Code) be used as a minimum standard.

The group's Diamond Resources for the Marine concessions have been prepared by the company's Competent Person, Mr SBE Damons (BSc. Geology, Cert Sci. Nat. 200032/16, GSSA 969098 Address: 19 Chain Avenue, Montague Gardens, 7441, South Africa, who is duly registered with the South African Council for Natural Scientific Professions ("SACNASP", www.sacnasp.org.za, Physical Address: Suite L4, Enterprise Building The Innovation Hub Pretoria 0087, Gauteng Province, South Africa) and the Geological Society of South Africa (GSSA, www.gssa.org.za, Postal Address: P.O. Box 91230 Auckland Park 2006 Johannesburg, South Africa) as required by South African law.

Mr Damons has 18 years relevant experience in the estimation of Diamond Resources and Reserves. This ensures that the Mineral Resource statements are compliant with the South African Mineral Resource Code ("SAMREC"). The company's Competent Person has taken into account the definitions included in the SAMREC Code and the Diamond Resource and Diamond Reserve quantities reported here are considered to be fully compliant in all material respects with the requirements of the Code and the Competent Person has given written confirmation of such.

Diamond Resources reflected in the marine division are held by THO, a 100% subsidiary of Trans Hex Group.

The Company's environmental obligations are managed in terms of approved environmental management plans. Compliance with the plans is audited by independent external parties on a regular basis.
The statement has an effective date of 31 July 2024.

INDICATED					
Concession	**Area (m^2)**	**Grade (carats/ m^2)**	**Carats**	**Cts/Stn**	**US$/Carat**
13(b)	533 558	0.23	123 107	0.66	723
Total	533 558	0.23	123 107	0.66	723

Table 1. Concession Indicated Resources,

5. REGULATION 11(1)(e): THE DETAILS OF THE MARKET FOR, THE MARKETS REQUIREMENTS AND PRICING IN RESPECT OF THE MINERAL CONCERNED

5.3 A list of products and their proportionate quantities

Marine diamonds will be mined at an average mining rate of 15,200 carats (80 758m^2) per year at US$723 per carat (Gross revenue: US$ 10 988 651).

5.4 Market for each specific product in terms of Local, Regional or International

Following peak levels in 2017 and 2018, rough diamond production declined by 5% in 2019, hitting 139 million carats (+10% over 2016). Rough diamond sales decreased 18%, reflecting both volume and price changes, and leading to a 10% increase in mining company inventories. Toward the end of 2019, the market was improving significantly. Strong holiday demand positioned the industry for a better 2020.

Then the Covid-19 pandemic severely disrupted mining operations and logistics, causing mine closures and restricting cross-border movements. Major mining companies adopted a price-over-volume strategy and took actions to keep the value chain in balance. They canceled major sales events between March and July, allowed customers to defer purchases, introduced a zero buyout obligation on goods allocation, and discounted rough diamond prices by 10% in the third quarter. Smaller players continued selling their diamonds from March through May to generate cash flow, even though prices were 25% to 30% lower than pre-pandemic levels. Several mining companies suspended operations for more than six months. Overall, rough diamond sales decreased by ~30 million carats ($4.1 billion) and rough inventory increased by 7 million carats.

Production dropped by 28 million carats (20%) in 2020. The biggest decreases came from Russia, Canada, Botswana and Australia. In Russia, production levels were lowered at Botuobinskaya, Almazy Anabara, Jubilee and other smaller mines. Production in Canada declined due to suspended mining operations at Ekati* and Renard* in March. In Botswana, Jwaneng and Orapa decreased production by 26%. As planned, Rio Tinto shut the Argyle mine in Australia in November 2020. The only mines to increase production were Venetia in South Africa and the Udachny underground mine and Nyurba Alluvial deposits in Russia. The distribution of diamond assortment by size remained relatively constant, with medium and large diamonds accounting for 70% to 80% or more of production values.

Except for ALROSA, all mining companies reported negative earnings before interest and taxes (EBIT) margins during the first half of 2020. Mining activities and sales started to normalize over the summer, so we expect better profitability in the second half of the year

once the results are reported.

In the rough diamond market, new sales platforms were deployed to overcome travel constraints and streamline the journey from miner to jeweler. Online auctions gained a higher share of rough diamond sales and offset deficits in traditional sales channels. Miners also created profit-sharing partnerships with midstream players to diversify rough-to-polished outcome risk and polished price volatility for mid-stream players and to gain additional margins on polished diamond sales. Such partnerships were formed between miner Lucapa Diamond Company and manufacturer Safdico International, and between miner Lucara Diamond Corp. and manufacturer HB Antwerp.

Production is expected to remain stable from 2021, driven by the reopening of profitable mines that were suspended in 2020, however the increase will be offset by closure of Argyle. During the next 3–5 years, production will likely grow by 0% to 2% p.a. to allow the value chain to fully rebalance.

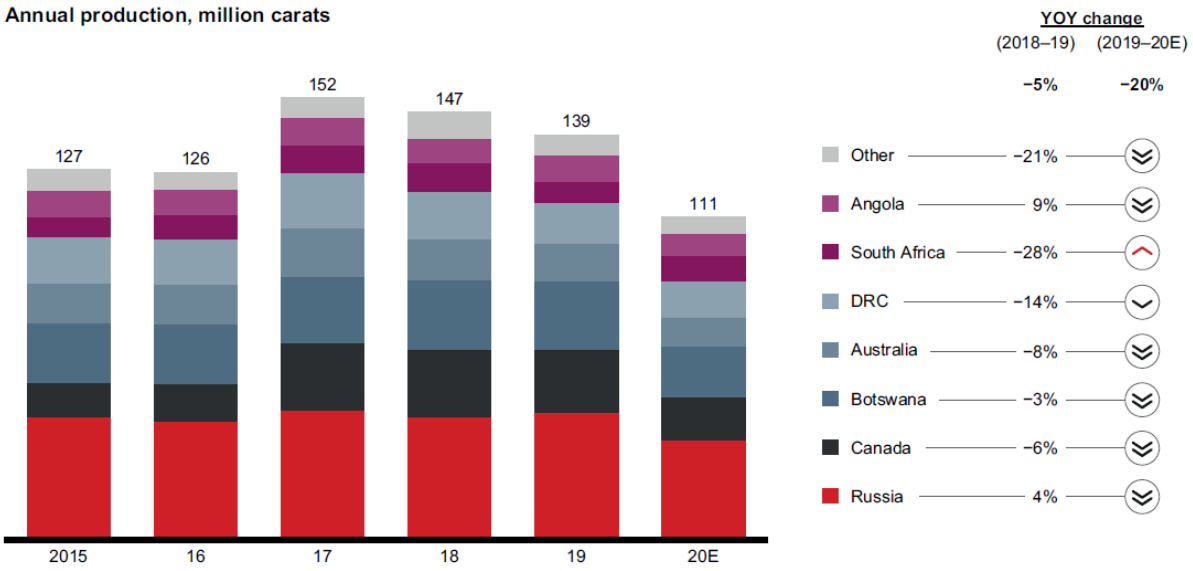


Figure 6 Global diamond production graph 2005 to 2020, Statista 2023 – (in million carats). - *South Africa was the only country with increased diamond production in 2020*

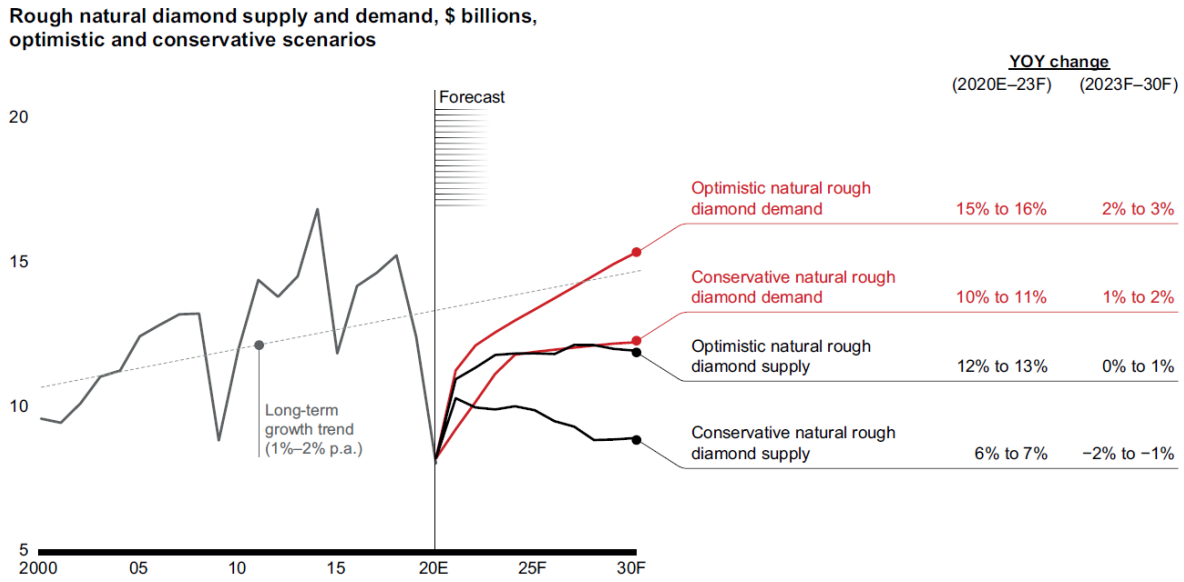


Figure 7. Global diamond supply and demand graph (Annexure 1, Bain & Company).

The diamond industry is an international trade and one that involves a number of processes between the mining and extraction of the rough product through to the polished diamond jewelry of the retail sector. Commonly referred to as the 'pipeline', put simply, this consists of the mining, wholesale dealing, manufacturing, polished wholesale, jewelry manufacturing and the retail sector. Increasingly such segmentation according to process for this pipeline is becoming more blurred as downstream and upstream movements take place.

Being a producer, THO sells its production to the dealing and rough manufacturing sectors of the pipeline. As rough diamonds are traded and manufactured worldwide, it is fair to say that the market for THO diamonds is international. However, in order to promote the South African diamond industry, the entire rough diamond production is put up for tender in South Africa. South African diamond cutting factories and dealers thus have the opportunity to buy some of the best rough diamonds produced in the world at source. This is done through a sealed tender process that is overseen by the South African Diamond Regulator.

5.5 Summary of product consumers

The global economy is projected to grow at an annual rate of 3%. The US, China and India will continue to lead the growth in diamond jewelry purchasing. We expect the US economy and personal disposable income to grow around 2% annually. In China, diamond jewelry demand will be driven by 4% growth in affluent and high-net-worth individuals and from expanded retail footprints in lower-tier cities. In India, diamond jewelry demand will follow middle-class growth (10% annually) and be reinforced by the country's affinity for jewelry and the expansion of internationally branded retailers. These factors provide a strong foundation for growth beyond 2023.

5.6 Summary of customer specifications and details of any proposed beneficiation of the products

THO has no formal rough supply contracts or arrangements with any downstream partners. Rather, the production is made available to all members of the local and international industry on open tender.

Prior to the sales process, primary beneficiation of the product is performed in South Africa through the sorting and valuation of the mine production in terms of grading for size, colour, quality and form. The goods are then put into sales parcels ranging from one stone of several carats to parcels of many stones possibly weighing several thousand carats. These parcels are prepared according to recognized industry sizing and classification criteria and participants are able to view the production in its entirety over a period of two and a half weeks.

5.7 Summary of infrastructure requirements such as roads, rail, electricity and water

No additional infrastructure is required.

5.8 Summary of other information applied that may influence price, e.g. exchange rate, duties, tariff barriers etc.

Rough diamonds are valued and sold in US Dollars and converted at the spot Rand / US Dollar exchange rate at the time of the sale. The Rand/US Dollar exchange rate therefore has an impact on the Rand price that THO will receive. Foreign rough diamond traders pay a 5% duty while local traders and beneficiators do not pay any duties if the rough diamonds are traded or beneficiated in South Africa.

The Mineral and Petroleum Resources Royalty calculation is dependent on the taxable profitability of the company.

The minimum rate is 0.5% and the maximum is 7% of diamond sale. The average over the life of mine is 0.96%.

5.9 The price to be used in the cash flow forecast.

Diamond revenue has been estimated by inhouse diamond market experts and includes the identification of areas that exhibit a homogeneous diamond population. In each of these areas the diamond size distribution (% of carats per sieve class) and diamond value (US$/ct per sieve class) have been determined separately. The two models have been combined to calculate an average US$/ct value for each area.

The diamond industry in all segments showed a moderate growth of 2-4% since 2013. Adding further stress to the supply-demand balance for polished diamonds is the growing demand for diamond jewelry, which is expected to outstrip supply by a consideration margin in the long term. Although difficult to predict, diamonds to remain less volatile than other commodities.

Current market conditions are depressed due to the general economic climate due to high interest and inflation rates.

Although historical diamond prices increased in real terms, it is difficult to predict a medium to long term diamond price in the current uncertain markets. Therefore to be conservative

one can expect real diamond prices to increase annually by 1% over the medium term to long term.

The diamond price used for the 13(b) rights is US$ 723 per carat with an annual price increase of 1%.

The US$ price per carat is converted to Rand at forecast Rand/US$ exchange rates (Annexure 5).

5.10 Confirmation that a specialist market analysis is attached as an appendix which explains the assumptions made and how the price was determined.

A specialist market analysis by I Hennig (a global diamond marketing and tender company) is attached as Annexure 5.

6. REGULATION 11(1)(f): THE DETAILS WITH REGARD TO THE APPLICABLE TIMEFRAMES AND SCHEDULING OF THE VARIOUS IMPLEMENTATION PHASES AND A TECHNICALLY JUSTIFIED ESTIMATE OF THE PERIOD REQUIRED

6.1 Timeframes and scheduling of implementation Phases

6.1.1 Explanation of time taken to develop the mine and commence production.

Upon the mining right being awarded production will commence immediately as the mining vessel will be ready to commence mining during 2024. Please note that, as opposed to land-based mines, no infrastructure/construction works will be undertaken being the mining system self-contained and built on the vessel.

6.1.2 Explanation of the production build up period once production commences.

There will be no production buildup - production is dependent on sea-floor morphology and weather conditions but the average production rate will be maintained for at least the next 10 years.

6.1.3 Explanation of production decline period (as grades deteriorate).

Typically, of marine mining operations, production is dependent on sea-floor morphology and weather conditions and will therefore fluctuate from year to year. There is no expectation that average production rates will decline within the next 8 years.

As opposed to land-based operations, a vessel-based mining system is not materially affected by a decline in grade as its mining capacity enables it to process additional volumes of material, thereby compensating for the reduced grade, and thus ensuring a consistent production output.

6.1.4 Production forecast for each year over the full period applied for based on the above explanations. (Not Life of Mine calculation).

Production at the referred rate of 15 388 carats per year is expected to last for more than 10 years (based on current assessed resources). Additional resources will be added with further exploration activities (part of which are already inferred from historical sampling operations).

Table 2. Concession 13(b) combined production forecast (Annexure 6).

6.2 Technically justified estimate of the period required

(Description of the rate of production, estimated payable reserve ratio, efficiency factors and extraction rates, relative to available resources to justify the period applied for).

As indicated in the resource estimate and mine plan (Annexure 5) and pointed out in the earlier sections above, the production will have a consistent output of approximately 15 388 carats per year (over 10 years) and, in areas with additional resources, of 30 800 carats per year over a further 26 years period (thus totaling 34 years of mining operations).

7 REGULATION 11(1)(g)(i) THE DETAILS WITH REGARD TO THE COSTING OF THE MINING TECHNIQUE, MINING TECHNOLOGY AND PRODUCTION RATES (excluding labour and capital)

7.1 Mine design map

(Include a high level map indicating the basic mine design and schematic mining schedule).

There can be no mine design map for marine diamond mining. Potential resource areas are outlined in (Annexure 4) according to bedrock morphology data (as described above) and will be targeted as and where sea and weather conditions allow.

7.2 Description of the mining method's impact on operating cost.

7.2.1 Basic overview of the mining method

A variety of methods are used to mine marine diamond resources in water depths >30m, which may be split into mid-water operations (to a depth of 30 metres, the inner limit of B concessions) and deep- water operations (presently to depth of 70 metres, the outer limit of B concessions).

The geophysical survey and prospecting methods in used are similar for both regions, and include remote sensing and direct seabed sampling. Remote sensing techniques employed include echo-sounding for bathymetry, high resolution side-scan sonar to determine primarily sediment texture and emergent reef areas, low energy (<12khz) shallow penetration seismic profiling to determine sediment thickness and bedrock morphology. Seabed sampling is by means of vibrocoring, large diameter core sample drilling, rock drilling and grabs. The data resulting from these prospecting tools are used to produce

high-resolution maps of the seabed geomorphology, sediment and bedrock distribution, bathymetry and sediment type and thickness profiles.

From these maps, areas of unconsolidated sediment suitable for sampling are identified and a sampling grid is positioned over the area. Surveying activities are usually ongoing in order to develop geological models encompassing all the concession areas that may be held by a company. Once a mineable ore reserve has been identified, bulk sampling is conducted in the sampling grid.

Underwater mining will be conducted by means of a remotely controlled seabed tractor (Crawler) launched/recovered from a vessel via a large, fixed A-frame over the stern of the vessel and a hoist winch and heave compensator. The mined material is slurry pumped from the seabed through a special riser system into the fully integrated 150 ton/hour diamond DMS processing plant.

THO has access, through an interrelated company within the Trans Hex group of companies, to a fleet of suitably equipped vessels which it intends utilizing to conduct the survey, sampling and mining operations. In addition, the Trans Hex group of companies is in the process of developing a more suitable vessel to conduct the mining operations in shallower areas of sea concession 13(b) – this vessel will be able to operate in the shallower portions of this concession as the current mining vessel, the Ya Toivo, due to its size and draught may only operate in water depths exceeding 40metres. This vessel, and its equipment, will also be more suited to mining between the rocky outcrops that are prevalent within sea concession 13(b).

The mining vessel will be equipped with a 4 point-mooring-system, integrated anchor-assist and a DP 2 dynamic positioning system which combine to safeguard the vessel in remaining on station in all weather conditions.

The vessel, and the shallow water crawler, it is expected (subject to technical modifications) will have the following technical capabilities: Suction pipe diameter: 350mm; discharge pipe diameter: 300mm; maximum size fraction: 150mm; in situ production: 141m3/h average depending on material to be mined; at face height of 1.5m this will equate to 95m2/h, and will be capable to operate between 15 meter and 80 meters water depth.

The vessel will be fitted with large swell-compensation systems that allow operation in up to 8m swells. The ship will be a fully self-contained mining unit and can operate on a 24-hour, 7 days/week basis through 11 months of the year. Practical limitations imposed by sea conditions and equipment maintenance, however, generally limit operations to approximately 70% of the available time per annum (i.e. 242 days per year, being the base calculation adopted in our mine planning model). Typically, 1 month per year is used for major servicing of the ship and mining equipment in the home port with preventative maintenance being undertaken throughout the year.

The seabed crawler is designed to mine in more than 5m overburden in water depths from 15m up to 80m. DMSfeed is generally 10% to 25% of total sediment mined. Assuming an average mined sediment depth of 3m for the crawler, the plantfeed rate equates to respective kilometres mined per year.

Mining using the above techniques involves the removal of only the unconsolidated superficial sediments. The dredged sediment-slurry is pumped to the surface and typically

discharged onto a series of screens that separate the oversize (>22mm) and undersize (<1.4mm) fractions. These fractions are immediately discarded back to the sea via a special talings moonpool system, the fine material usually forms turbid plumes that are carried away from the mining vessel by ambient currents, while the coarse material (>63m) sinks directly to the sea floor back into the mined area. Of the material pumped to the surface, 99.9% is returned directly to the sea in approximately the same area where the material was taken from (+/- 50 meters).

The fraction of interest (plantfeed) is typically fed through a ball mill or gravitas system to break the shell and clay components, before being mixed with ferrosilicon and pumped under pressure into a dense medium separation plant. Low-density materials (floats) are separated from the heavier plantfeed and cleaned of the ferrosilicon and discarded overboard. The recovered ferrosilicon is reused in a continious process. The remaining high-density fraction is also cleaned of the ferrosilicon, washed, dried and passed through multiple numbers of X-ray sorting machines to separate the diamonds. Non-fluorescent material is discarded back into the DMS circuit, and the fluorescent fraction is hand-sorted for diamonds in the fully protected glove boxes on board the mining vessel.

In view of her intended dimension, the vessel will only be able to enter the larger ports of Cape Town and/or Saldanha Bay on the South African west coast. The vessel has the capability to be fully autonomous and operational for very long periods of time before bunkering. Draught and size limitations preclude entrance to Port Nolloth and the other smaller harbours on the West Coast (also because of the lack of berthing facilities, infrastructure and shipping services available).

Spares, consumables and bunkers can be supplied via special support vessels while the vessel is operational at station. Crew changes and food supplies are made by helicopter (similarly for emergency equipment supplies, medical evacuations of injured personnel).

Please also refer to Annexure 7 (technical specification of the mining vessel Ya Toivo and mining system and the remaining survey and sampling vessels).

7.2.2 Description of equipment and activities impacting electricity cost (excluding the processing plant)

This paragraph is not applicable to this application, as the mining equipment forms part of a self-contained mining vessel which does not depend on electricity supply from mainland. The vessel will generate all of its own electricity.

7.2.3 Description of equipment and activities impacting on fuel cost

Fuel and consumables cost vary depending on the level of consumption which, in turn, are predominantly variable in relation to:

1. sea & weather conditions (impacting on vessel's propellers, thrusters etc.);
2. overburden thickness; and
3. sediment composition (causing additional power-consumption of the crawler and plant).

The aforementioned variables will determine the final cost of fuel, which is a considerable portion of the monthly cost of deploying the mining vessel. Other than for global market fluctuation of crude-prices, final fuel cost is also depending the exchange rate ZAR/USD.

Please note that the cost category "Other" refers to the cost of chartering the mining vessel; the said chartering cost is inclusive of operating costs of the ship and the mining system. This cost will, however, differ depending on the vessel that is utilized to mine the sea concession 13(b) – this will only be determined once the (new) mining vessel has been developed.

7.2.4 Description of equipment and activities impacting on cost of stores and materials

Please refer to the technical specifications of the mining vessel and system (Annexure 7) for a detailed indication of the main/critical components of the mining system. Underwater mining operations will cause a normal deterioration/consumption of the tools, valves, pumps, screens etc. throughout the system which will require additional spare parts to be kept in stock and replaced during regular maintenance cycles. Most of these special items and pieces of equipment are not available on the local market and need to be purchased from overseas suppliers/manufacturers. Therefore, their cost will also be impacted by the fluctuation of the ZAR/USD/EUR exchange rate.

Please note that the cost category "Other" refers to the cost of chartering the mining vessel; the said chartering cost is inclusive of operating costs of the ship and the mining system.

7.2.5 Description of equipment and activities impacting on the cost of water

N/A. Fresh water on board the mining vessel is available via on-board water-purification system and has no specific impact on the overall mining cost.

7.2.6 Description of activities impacting on other cost not included above

Cost of crew-change (helicopter/launch boat), agent and immigration costs, port costs, general maintenance etc. Changes in local legislation (including taxation) and/or regulatory framework may impact on costs.

Please note that the cost category "Other" refers to the cost of chartering the mining vessel; the said chartering cost is inclusive of operating costs of the ship and the mining system.

7.2.7 Operating Cost Forecast (Excluding the processing plant and Labour) For first 10 years

COST CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
Fuel										
Electricity										
Water										
Stores and materials										
Other (specify)	171 386	166 131	167 510	175 062	174 515	174 907	183 589	191 146	193 057	194 988
TOTAL COST (To be reflected in the cash flow forecast)	171 386	166 131	167 510	175 062	174 515	174 907	183 589	191 146	193 057	194 988

NB! The costs determined here must explain the costs used in line item 4 of the cash flow forecast required herein under Regulation 11 (1) (g) (vi)

Please note that the cost category "Other" refers to the cost of chartering the mining vessel; the said chartering cost is inclusive of operating costs of the ship and the mining system. Costs are shown in millions of Rand.

8 REGULATION 11(1) (g) (ii): DETAILS AND COSTS OF THE TECHNOLOGICAL PROCESS APPLICABLE TO THE EXTRACTION AND PREPARATION OF THE MINERAL OR MINERALS TO COMPLY WITH MARKET REQUIREMENTS

8.1 High level description of the processing plant

8.1.1 Basic plant design. (supported by a process flow diagram, of the plant).

1. Extraction of the Minerals

Attached are the technical specification of the mining vessel and processing-plant flow diagram (Annexure 7)

8.1.2 Efficiency of the process. (together with an estimate of the mineral recovery rate, and the expected mass or volume of mine waste or residues together with the manner in which it would be disposed of.)

The system has a proven track record of tracer recovery of 95%, thus offering a high-level of efficiency. Please also refer to the attached mining plan (ANNEXURE 6). Section 7.2.1. above gives a description of the process. The system has a processing capacity of 1 500 TONNES per hour. After the diamonds have been recovered (amounting at approx. 1 litre of the mass/volume processed per hour), the tailings are disposed overboard onto the seabed, expediting rehabilitation; the sediments are re-deposited in the same area as previous mining extraction (within a +/- 50m radius). Previous monitoring has demonstrated that the depressions left by the mining were filled by the tailings and then with natural sediments over a short period of time (the process being also facilitated by currents).

8.2 Description of equipment and activities impacting electricity cost
(excluding the processing plant)

No Applicable.

8.3 Description of equipment and activities impacting on fuel cost

Please refer to section 7.2.3 above

8.4 Description of equipment and activities impacting on cost of stores and materials

Please refer to section 7.2.4 above

8.5 Description of equipment and activities impacting on the cost of water

N/A. See point 7.2.5 above

8.6 Description of activities impacting on other cost not included above

Please refer to section 7.2.6 above

8.6.1 Processing plant operating cost forecast (Excluding Labour) For first 10 years

COST CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	TEAR 9
Fuel	-	-	-	-	-	-	-	-	-
Electricity	-	-	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-	-	-
Stores and materials	-	-	-	-	-	-	-	-	-
Other (specify)	-	-	-	-	-	-	-	-	-
TOTAL COST (To be reflected in the cash flow forecast)	-	-	-	-	-	-	-	-	-

NB! The costs determined here must explain the costs used in line item 5 of the cash flow forecast required herein under Regulation 11 (1) (g) (vi)

The processing plant part of the mining vessel is energised by the ship herself and no separate cost allocation for fuel/electricity is possible (it being included in the general fuel/electricity cost for powering the entire system).
Please note that the cost category "OTHER" refers to offshore logistics and specialised technology (but excluding those of services providers in the schedule infra).

Please note that this costs are included in the charter fee under "Other" in the table 7.2.7 supra.

9 REGULATION 11 (1) (g) (iii): DETAILS AND COSTING OF THE TECHNICAL SKILLS AND EXPERTISE AND EXPERTISE AND ASSOCIATED LABOUR IMPLICATIONS REQUIRED TO CONDUCT THE PROPOSED MINING OPERATION

9.1 Organizational Structure of the mine

9.1.1 Description of positions requiring certificates of competency and under which skills category they have been budgeted for.

N/A.

Mining operations will be conducted by the appointed contractor Trans Hex Supply Services (Pty) Ltd ("THSS") being the exploration & mining company of the Trans Hex Marine group. Our budget therefore refers to the cost that THSS will charge THO to operate the mining vessel and undertake the mining operations within Sea Concession 13(b).

9.1.2 Description of which part or parts of the mining operation will be outsourced (if any)

9.1.2.1 Description of positions requiring certificates of competency and under which skills category they have been budgeted for.

N/A

9.2 Costing of the skills categories in the mining operation to determine if technical competence has been budgeted for: Complete the following tables:

As per point 9.1.1 above, relevant skilled and competent personnel will be provided by the contractor THGM (and/or any affiliated entity) operating the mining vessel and mining system. Please refer to the attached mining vessel organizational schedule (Annexure 8).

MINE EMPLOYEES

PERSONNEL ON THE MINE'S PAYROLL: (Years 1 to 5)

CATEGORY	YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
	NO. OF POSITIONS	BUDGET	NO. OF POSITIONS	BUDGET	NO. OF POSITIONS	BUDGET	NO. OF POSITIONS	BUDGET	NO. OF POSITIONS	BUDGET
Top management	0	0	0	0	0	0	0	0	0	0
Senior Management	0	0	0	0	0	0	0	0	0	0
Professionally qualified and experienced specialists and mid-management	0	0	0	0	0	0	0	0	0	0
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents	0	0	0	0	0	0	0	0	0	0
Semi-skilled and discretionary	0	0	0	0	0	0	0	0	0	0

decision making	0	0	0	0	0	0	0	0	0	0
Non permanent Employees	0	0	0	0	0	0	0	0	0	0
TOTAL PERSONNEL EXPENDITURE	0	0	0	0	0	0	0	0	0	0

PERSONNEL ON THE MINE'S PAYROLL: (Years 6 to10)

CATEGORY	YEAR 6		YEAR 7		YEAR 8		YEAR 9		YEAR 10	
	NO. OF POSITIONS	BUDGET	NO. OF POSITIONS	BUDGET	NO. OF POSITIONS	BUDGET	NO. OF POSITIONS	BUDGET	NO. OF POSITIONS	BUDGET
Top management	0	0	0	0	0	0	0	0	0	0
Senior Management	0	0	0	0	0	0	0	0	0	0
Professionally qualified and experienced specialists and mid-management	0	0	0	0	0	0	0	0	0	0
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents	0	0	0	0	0	0	0	0	0	0
Semi-skilled and discretionary	0	0	0	0	0	0	0	0	0	0

decision making										
Non permanent Employees	0	0	0	0	0	0	0	0	0	0
TOTAL PERSONNEL EXPENDITURE	0	0	0	0	0	0	0	0	0	0

SUBCONTRACTORS EMPLOYEES (if applicable)
(Duplicate this form for each Subcontractor)

CATEGORY	NUMBER YEAR 1	NUMBER YEAR 2	NUMBER YEAR 3	NUMBER YEAR 4	NUMBER YEAR 5	NUMBER YEAR 6	NUMBER YEAR 7	NUMBER YEAR 8	NUMBER YEAR 9	NUMBER YEAR 10
Top management	0	0	0	0	0	0	0	0	0	0
Senior Management	0	0	0	0	0	0	0	0	0	0
Professionally qualified and experienced specialists and mid-management	0	0	0	0	0	0	0	0	0	0
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents	0	0	0	0	0	0	0	0	0	0
Semi-skilled and discretionary decision making	0	0	0	0	0	0	0	0	0	0
TOTAL CONTRACT	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET
BUDGET (Not only salaries &wages)	0	0	0	0	0	0	0	0	0	0

SERVICE PROVIDERS

LIST OF SPECIALISTS, CONSULTANTS AND SERVICE PROVIDERS	BUDGET YEAR 1	BUDGET YEAR 2	BUDGET YEAR 3	BUDGET YEAR 4	BUDGET YEAR 5	BUDGET YEAR 6	BUDGET YEAR 7	BUDGET YEAR 8	BUDGET YEAR 9	BUDGET YEAR 10
SLR Consulting (Environmental)	1 600	104	110	115	120	126	131	137	143	149
Kruger Diamond Traders (Diamond marketing and sales)	2 363	2 291	2 310	2 414	2 407	2 412	2 532	2 636	2 662	2 689
TOTAL BUDGET (SERVICES)	3 963	2 396	2 420	2 529	2 527	2 538	2 663	2 773	2 805	2 838

TOTAL COST OF ALL TECHNICAL SKILLS AND SERVICES REQUIRED TO OPERATE THE MINE

CATEGORY	BUDGET YEAR 1	BUDGET YEAR 2	BUDGET YEAR 3	BUDGET YEAR 4	BUDGET YEAR 5	BUDGET YEAR 6	BUDGET YEAR 7	BUDGET YEAR 8	BUDGET YEAR 9	BUDGET YEAR 10
IN HOUSE SKILLS AND SERCICES										
SKILLS AND SERVICES PROVIDED BY SUBCONTRACTORS										
SKILLS AND SERVICES PROVIDED BY SERVICE PROVIDERS	3 963	2 396	2 420	2 529	2 527	2 538	2 663	2 773	2 805	2 838
TOTAL BUDGET FOR TECHNICAL SKILLS AND COMPETENCE	3 963	2 396	2 420	2 529	2 527	2 538	2 663	2 773	2 805	2 838

NB! THE TOTAL BUDGET FOR TECHNICAL SKILLS AND SERVICES AND COMPETENCE MUST BE TRANSFERRED TO LINE ITEM 6 IN THE CASH FLOW FORECAST

10 REGULATION 11(1) (g) (iv): DETAILS AND COSTING OF REGULATORY REQUIREMENTS IN TERMS OF THE ACT AND OTHER APPLICABLE LAW, RELEVANT TO THE PROPOSED MINING OPERATION

10.1 Environmental cost forecast.

10.1.1 Rehabilitation cost estimate

(Refer to the guideline for Financial provision (described in Regulation 54 (1) (2) published on the Departments website. Complete 10 forecasts and paste them into this section, i.e. one for the progressive impact in each of the first 10 years of operation. The progressive total (10th year must be stated under this heading and also included into the first year of the cash flow under Regulation 11 (1) (g) (vi) below in the environmental cost category.)

As already pointed out in section 8.1.2 above, rehabilitation of the mined area is coeval with mining, since all the mined tailings are re-deposited in the same mined locations via a specially-designed moonpool (i.e. tailing discharge pipes). Cost of re-depositing the tailings are included in the operating costs of the vessel and mining system and no separate estimate is possible.

Measures will be in place to monitor the aforementioned process and the effectiveness of the re-habilitation. Specifically, multi-beam bathymetry and topas (to monitor seafloor topography) were already conducted during the exploration activities undertaken (please refer to Annexure 3). Detailed benthic survey will be undertaken before mining operation for assessing macrofauna and sediment sampling analysis). The aforementioned survey will be then undertaken at intervalls during and after mining operations in order to monitor and assess rehabilitation-levels.

The proposed mine site being located at sea in deep waters, strict adherence to Regulation 11(1)(g)(vi) and 54(1) is not possible, as the regulatory provisions are not applicable considering the location of the mine and the specific technical operational methods.

As no meaningful impact assessment can be done, a provisional sum of R70 400 is provided for as a demand guarantee for the compliance with the statutory obligation relating to determining and making financial provision for prospecting, exploration and mining operations. This provision is in line with the provision made for the prospecting right.

10.1.2 Socio Economic impact cost estimate.

(Refer to the guidelines on community consultation, and the scoping report template. Estimate the risk of compensation to persons whose socio-economic conditions may be directly affected by the mining operation. Provide the estimated total under this heading and also include it into the first year of the cash flow under regulation 11 (1) (g) (vi) below in the environmental cost category).

None. Sea Concession 13(b) is located off the Western Cape coastal area and, consequently, no community lives on the mining area or in the surrounding areas, i.e. no adverse socio-economic impact is possible.

10.1.3 Summary of estimated environmental cost: complete the table below.

Estimated Environmental and Rehabilitation cost

CATEGORY	COST ESTIMATE
a) Progressive total for rehabilitation	While rehabilitation will have no additional cost, environmental monitoring and management will have a cost of approx. ZAR 100,000 per year (environmental specialists) Provision for a demand guarantee of R70 400 is made.
b) Cost to mitigate socio-economic conditions of directly affected persons	N/A
TOTAL COSTS (Transfer amount to cash flow forecast – Line 7 Year 1 only)	ZAR 70 400

10.2 Other Regulatory Costs (complete the table below)

Cost	Amount per annum	Explanation on how amount was calculated
Royalties	908 995	Mineral and Petroleum Resources Royalty between 0.5% and 7% of sales depending on profitability
Mine Health and Safety Regulations		Please note that the figure does not include all the PPE, equipment etc. and remedial actions required under the MH&S regulations which are for the account of the contractor THSS and included in the charter fee of the mining vessel.
Occupational Health		Included in the THSS charter fee
Rates and Taxes		No local rate/municipal tax is applicable to offshore mines.
National Skills fund		Included in the THSS charter fee
Other: Specify		Recovery of items/re-habilitation contingency reserve
Other: Specify		Costs relating to projects undertaken in conjunction with the identified local community and in accordance with the approved integrated development plan (please refer to the relevant section of the Social and Labour Plan). please note that this amount is not intended to be "fixed" and may vary in relation to the

		overall revenues generated as well as the project to be undertaken as agreed on with the selected communities
Other: Specify		
TOTAL COSTS (Include amount into the cash flow forecast – Line 7)	908 995	

The costs thus derived must be clearly explained and used to justify the numbers that are reflected in line item 7 of the cash flow forecast required in terms of regulation 11 (1) (g) (vi).

Royalties are based on 4% of the pre-tax profits of the mining activities.

As already pointed out in 10.1.1 being the proposed mine site located at sea in deep waters, strict adherence to Regulation 11(1)(g)(vi) and 54(1) is not possible, being the regulatory provisions not applicable in view of the location of the mine and specific technical methodology of conducting operations.

Environmental management and rehabilitation monitoring will be conducted by the geologists on board (which costs will be also included in the fee that the contractor THSS will charge). Furthermore, monitoring of the aforementioned re-habilitation process and its effectiveness will be instrumentally checked by means of dedicated benthic survey to be undertaken before, during and after mining operations. Cost of this benthic survey for a dedicated survey vessel with dedicated geologist is included in the charter fee payable to THSS. The cost of an environmental specialist undertaking the analysis and monitoring) is for the cost of THO and included at R100 000 per year (see point 10.1.3 supra).

11 REGULATION 11 (1) (g) (viii): PROVISIONS FOR THE EXECUTION OF THE SOCIAL AND LABOUR PLAN

11.1 The following table must be duplicated here from the table in SECTION 5: FINANCIAL PROVISION of the Social and Labour Plan

ESTIMATED EXPENDITURE ON THE SOCIAL AND LABOUR PLAN IN A 10 YEAR PERIOD										
ITEM	**YEAR1**	**YEAR2**	**YEAR 3**	**YEAR 4**	**YEAR 5**	**YEAR 6**	**YEAR 7**	**YEAR 8**	**YEAR 9**	**YEAR10**
HUMAN RESOURCE DEVELOPMENT	100 000	104 800	109 830	115 102	120 627	126 417	132 485	138 845	145 509	152 494
LOCAL ECONOMIC DEVELOPMENT	100 000	104 800	109 830	115 102	120 627	126 417	132 485	138 845	145 509	152 494
MANAGEMENT OF DOWNSCALING	10 000	10 480	10 983	11 510	12 063	12 642	13 249	13 884	14 551	15 249
ESTMATED TOTALS PER YEAR	210 000	220 080	230 644	241 484	252 351	263707	275 573	287 699	300 357	313 573

The costs quantified in the aforesaid categories must justify the numbers that are reflected in line item 8 of the cash flow forecast required in terms of Regulation 11(1)(g)(vi).

Please note that the SLP has a five-years windows, being thereafter subject to revision and re-approval in view of the changing interest identified in the IDP. The figures will be subject to revision in consultation with the RVM before implementation of the local projects.

12 REGULATION 11 (1) (g) (iv): DETAILS REGARDING OTHER RELEVANT COSTING, CAPITAL EXPENDITURE REQUIREMENTS AND EXPECTED REVENUE APPLICABLE TO THE PROPOSED MINING OPERATION.

12.1 Expected Revenue.

12.1.1 Explanation of revenue determination. (given the prices of the various relevant products and byproducts produced) how the price referred to in item 5.9 above, and the production referred to in item 6.1.4 above was arrived at and applied to each year's production estimate in order to estimate revenue.

The revenues calculation is based on a realistic production model (i.e. a model based on previous production-level achieved by a mining vessel, the Ya Toivo, in similar working conditions). The model also takes into consideration the average sale price of the diamonds by reference to valuations and sales levels of productions coming from surrounding mining areas.

The average diamond price per year as determined above is multiplied by the production estimate per year in order to estimate the US Dollar revenue per year. The US Dollar revenue is then multiplied by the Rand / US Dollar exchange rate to determine the Rand revenue

12.1.2 Revenue forecast (for each year over the full period applied for based on the above explanations. Note that this revenue estimate must be stated both here and in line item 3 of the cash flow forecast required below in terms of Regulation 11 (1) (g) (vi).)

Please refer to the calculation in Annexure 3. At consistent production output over the life of the mine, we expect USDollar revenues to increase at 1.0% per annum.. The Rand/US Dollar exchange rate forecast of RECM is used and is set at R16.00 in year one with an average of 16.50 over the ten year period.

12.2 Estimated Capital Expenditure

12.2.1 Initial capital expenditure.
(List of expenditure on the initial capital expenditure items).

N/A - the mining vessel and system will be fully equipped and operational from commencement of operations. No-initial-capital expenditure will be incurred as the owner of the mining vessel having already incurred such costs. Mining operations will be conducted by the appointed contractor THSS.

12.2.2 Ongoing capital expenditure (A discussion on ongoing capital expenditure items and estimated amount thereof in each of the years in which it will be incurred).

Point 12.2.1 above refers..

12.2.3 Summary, in a 10 year tabular format. (stating the initial, ongoing, and total amount

of capital expenditure in each of the first ten years in which it will be incurred.)

N/A

12.3 Explanation and summary of other costs (not addressed elsewhere in the mining work programme, in each year in which they are to be incurred.)

N/A

12.4 Summary of capital and other costs. Complete the table below

Please refer to the table below.

SUMMARY OF CAPITAL AND OTHER EXPENDITURE

CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	TEAR 9	YEAR 10
Initial capital expenditure	-	-	-	-	-	-	-	-	-	-
Ongoing capital expenditure	-	-	-	-	-	-	-	-	-	-
Other costs specified in 12.3 above	-	-	-	-	-	-	-	-	-	-
TOTAL CAPITAL AND OTHER (To be reflected in the cash flow forecast)	-	-	-	-	-	-	-	-	-	-

(Note ! These total amounts must be transferred to line item 9 of the cash flow forecast required in terms of Regulation 11 (1) (g) (vi) below.

13 REGULATION 11 (1) (g) (vi): A DETAILED CASH FLOW FORECAST AND VALUATION, EXCLUDING FINANCING OF THE PROPOSED MINING OPERATION, WHICH FORECAST MUST ALSO CLEARLY INDICATE HOW THE APPLICABLE REGULATORY COSTS WILL BE ACCOMMODATED THEREIN.

(The following cash flow forecast must be submitted in accordance with the line items provided. The applicant may not change the line items or their sequence. The applicant may, however provide for escalation within accepted practice, and provide other indicators such as IRR in addition)

CASH FLOW FORECAST AND VALUATION (REGULATION 11(g)(vi)												
		Y1 R'000	Y2 R'000	Y3 R'000	Y4 R'000	Y5 R'000	Y6 R'000	Y7 R'000	Y8 R'000	Y9 R'000	Y10 R'000	TOTAL R'000
1	REGULATIONS 11(1) (d) and (f) PRODUCTION	15 200	15 200	15 200	15 200	15 200	15 200	15 200	15 200	15 200	15 200	152 000
2	REGULATION 11(1) (e) PRICE	723	730	737	745	752	760	767	775	783	791	
3	**REVENUE**	175 818	183 126	184 957	186 807	188 675	190 562	192 467	194 392	196 336	198 299	1 891 438
4	REGULATION 11(1) (g) (i) MINING COST	171 386	166 131	167 511	175 062	174 515	174 907	183 589	191 146	193 057	194 988	1 792 291
5	REGULATION 11(1) (g) (ii) TECHNOLOGY COST											
6	REGULATION 11(1) (g) (iii) TECHNICAL SKILLS COST	3 963	2 396	2 420	2 529	2 527	2 538	2 663	2 773	2 805	2 838	27 451
7	REGULATION 11(1) (g) (iv) **REGULATORY REQUIREMENTS**	909	881	888	928	926	928	974	1 014	1 024	1 034	9 506
	ENVIRONMENTAL COST	70										70
8	REGULATION 11 (1)(G) (viii) SOCIAL AND LABOUR PLAN COST	210	220	231	241	252	264	276	288	300	314	2 595
9	REGULATION 11(1) (g) (v) CAPITAL AND OTHER											

10	WORKING PROFIT/LOSS	5 261	6 597	6 639	6 938	6 899	6 899	7 243	7 540	7 601	7 662	69 277
11	TAX	1 473	1 847	1 859	1 943	1 932	1 932	2 028	2 111	2 128	2 145	19 398
12	NET CASH FLOW	3 788	4 750	4 780	4 995	4 967	4 967	5 215	5 429	5 472	5 516	49 879
13	DISCOUNTED CASH FLOW	24 155										

The Applicant may provide for escalation, based on accepted practice, and may provide other indicators such as IRR.

14 REGULATION 11 (1) (g) (vii): DETAILS REGARDING THE APPLICANTS RESOURCES OR PROPOSED MECHANISMS TO FINANCE THE PROPOSED MINING OPERATION, AND DETAILS REGARDING THE IMPACT OF SUCH FINANCING ARRANGEMENTS ON THE CASH FLOW FORECAST.

14.1 Financing the cash flow

(Provide in tabular format an explanation of how the cash flow will be financed, showing the amounts, the type of financing, eg. Loans, equity, retained earnings, etc, as well as the impact of financing on the cash flow in terms of financial arrangements and repayments)

No-initial-capital expenditure will be incurred as the owner of the mining vessel has already incurred such costs.

The Company does not require third party funding as it has sufficient cash resources available to fund the working capital expenditure required.

As per the audited annual financial statement as at 31 December 2022, the company had R84 728 369 cash and cash equivalents available and is available to fund the working capital required.

14.2 Detail regarding the financing arrangements

(Elaborate on the financing arrangements that are described in item 14.1 above, in terms of where the finance will be sourced, extent to which the financing has been finalized and on the level of certainty that such financing can be secured.)

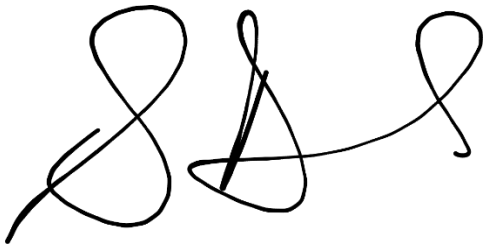
N/A - The company has sufficient cash resources available to fund all investment and working capital expenditure required.

14.3 Confirmation of supporting evidence appended

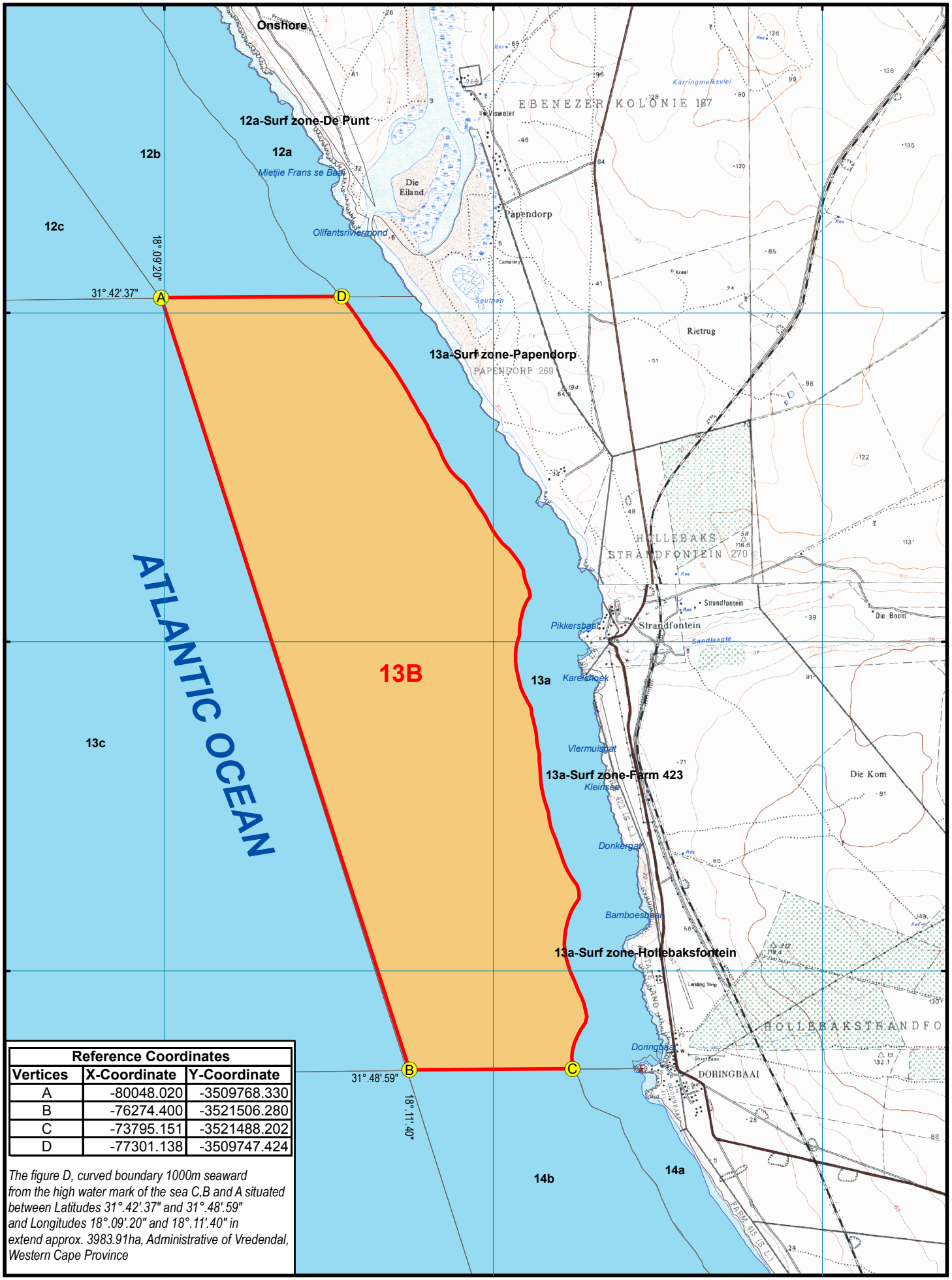
(Attach evidence of available funding and or financing arrangements such as balance sheets, agreements with financial institutions, underwriting agreements, etc. and **specifically confirm** in this regard what documentation has been attached as appendices).

Attached is the Statement of Financial Position extracted from the audited financial statements for the year ended 31 December 2022 (Annexure 9)

15 REGULATION 11 (1) (h): UNDERTAKING, SIGNED BY THE APPLICANT, TO ADHERE TO THE PROPOSALS AS SET OUT IN THE MINING WORK PROGRAMME

Herewith I, the person whose name and identity number is stated below, confirm that I am the Applicant or the person authorised to act as representative of the Applicant in terms of the resolution submitted with the application, and undertake to implement this mining work programme and adhere to the proposals set out herein.	
Full Names and Surname	Sean Damons 
Identity Number	7409215125085

Annexure 1



Reference Coordinates		
Vertices	X-Coordinate	Y-Coordinate
A	-80048.020	-3509768.330
B	-76274.400	-3521506.280
C	-73795.151	-3521488.202
D	-77301.138	-3509747.424

The figure D, curved boundary 1000m seaward from the high water mark of the sea C,B and A situated between Latitudes 31°.42'.37" and 31°.48'.59" and Longitudes 18°.09'.20" and 18°.11'.40" in extend approx. 3983.91ha, Administrative of Vredendal, Western Cape Province

RENEWAL APPLICATION FOR SEA CONCESSION AREA 13B

TITLE: PLAN OF 13B SHOWING THE LAND TO WHICH THE APPLICATION RELATES

DMR REF : WC 136 PR

COMPANY: Moonstone Diamond Marketing (Pty) Ltd

Legend

- Farm Boundary
- Access Road
- Intermittent Streams
- Track or Trail
- Other Road
- Contour
- Prospecting Right Application Area
- Vertices of Prospecting Right Application Area
- River

SCALE AND ORIENTATION

N

1:75,000

0 0.5 1 2 Kilometers

PROJECT INFORMATION

COORDINATES : CAPE Lo 19° (CLARKE 1880)
CONSTANTS
Y = 0.00 X = 0.00
PAGESIZE = A4

AUTHOR : S. DAMONS

DATE : 06/2020

LAND SURVEYOR DETAILS

NAME : PLS NUMBER:

SIGNATURE:

REGIONAL MANAGER : 2003/12/16

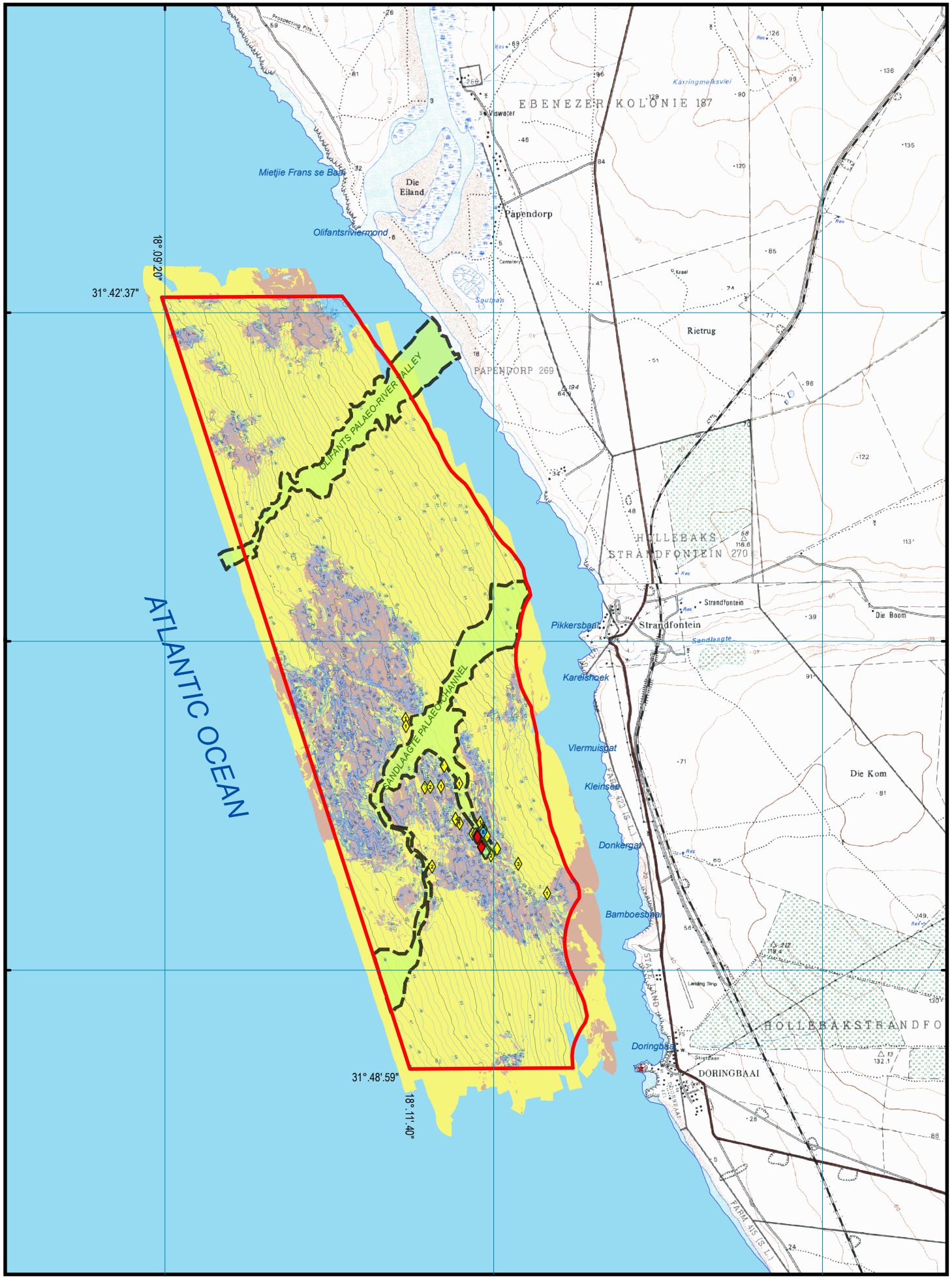
HOLDER :

ANNEXURE

FIGURE : 1

03/09/2024

Annexure 2



RENEWAL APPLICATION FOR SEA CONCESSION AREA 13B

TITLE: PLAN OF 13B SHOWING THE GEOLOGY OF THE SEA CONCESSION

DMR REF : WC 136 PR

COMPANY: Moonstone Diamond Marketing (Pty) Ltd

Legend

- Farm Boundary
- Access Road
- Intermittent Streams
- Track or Trail
- Other Road
- Contour
- River
- Prospecting Right Application Area
- Vertices of Prospecting Right Application Area
- Palaeo-Channel

GEOLOGY

- No Data
- Rock
- Sediment
- Bathymetry (m)

EXPLORATION RESULTS DIAMONDS

- 1.0 - 5.0
- 5.0 - 10.0
- 10.0 - 15.0
- 15.0 - 20.0
- 20.0 - 25.0

PROJECT INFORMATION

COORDINATES : CAPE Lo 19° (CLARKE 1880)
CONSTANTS
Y = 0.00 X = 0.00
PAGESIZE = A4

AUTHOR : S. DAMONS | DATE : 06/2020

SCALE AND ORIENTATION

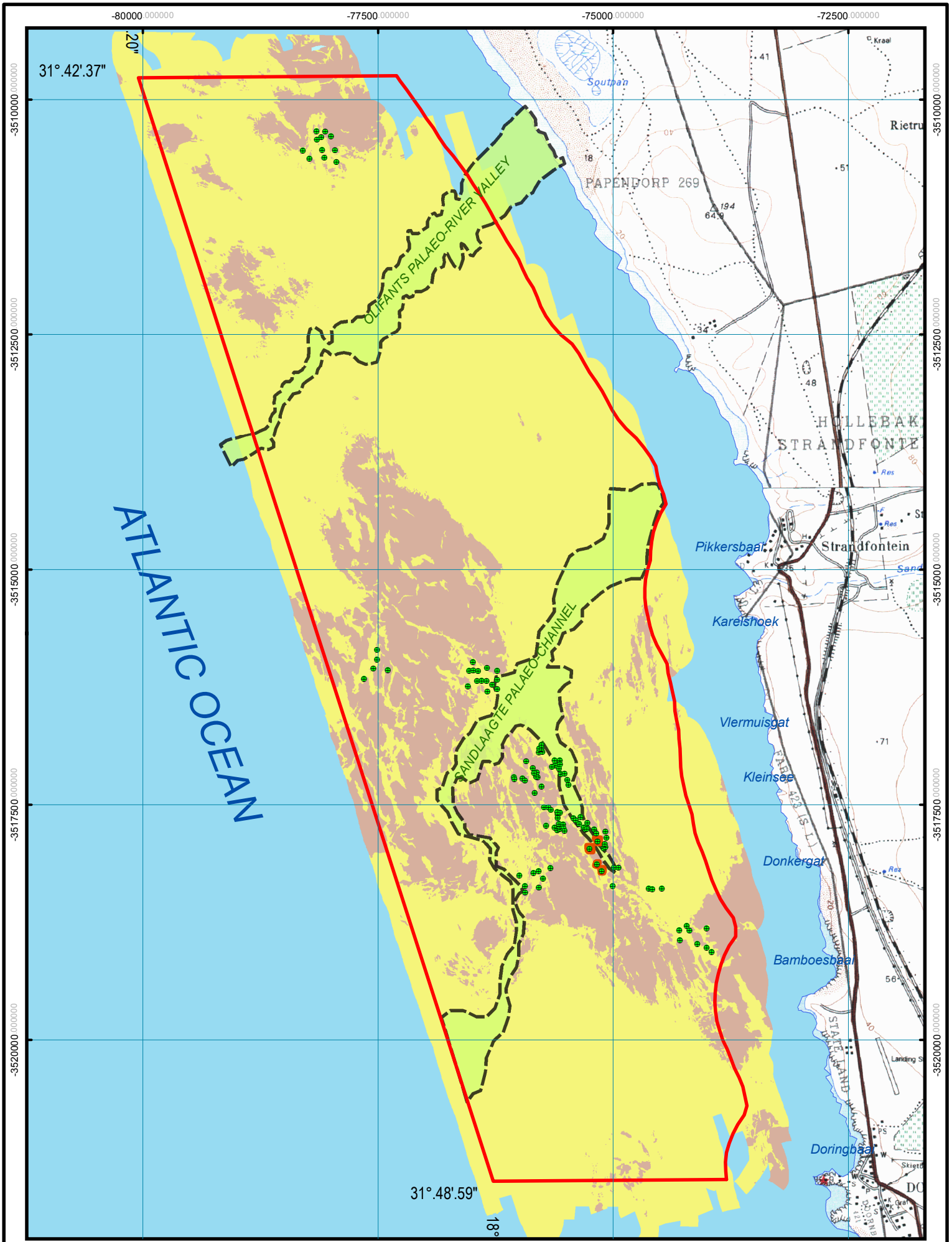
N

1:75,000

0 0.5 1 2 Kilometers

ANNEXURE | FIGURE : 2

Annexure 3



RENEWAL APPLICATION FOR SEA CONCESSION AREA 13B

PLAN OF 13B SHOWING THE EXPLORATION ACTIVITY IN THE CONCESSION

DMR REF :	WC 136 PR
COMPANY:	Moonstone Diamond Marketing (Pty) Ltd

Legend

- Farm Boundary
- Access Road
- Intermittent Streams
- Track or Trail
- Other Road
- Contour
- River
- Prospecting Right Application Area
- Palaeo-Channel

GEOLOGY

- No Data
- Rock
- Sediment

EXPLORATION ACTIVITY

- Trench Samples
- Bulk samples

PROJECT INFORMATION

COORDINATES : CAPE Lo 19° (CLARKE 1880)
CONSTANTS
Y = 0.00 X = 0.00
PAGESIZE = A4

SCALE AND ORIENTATION

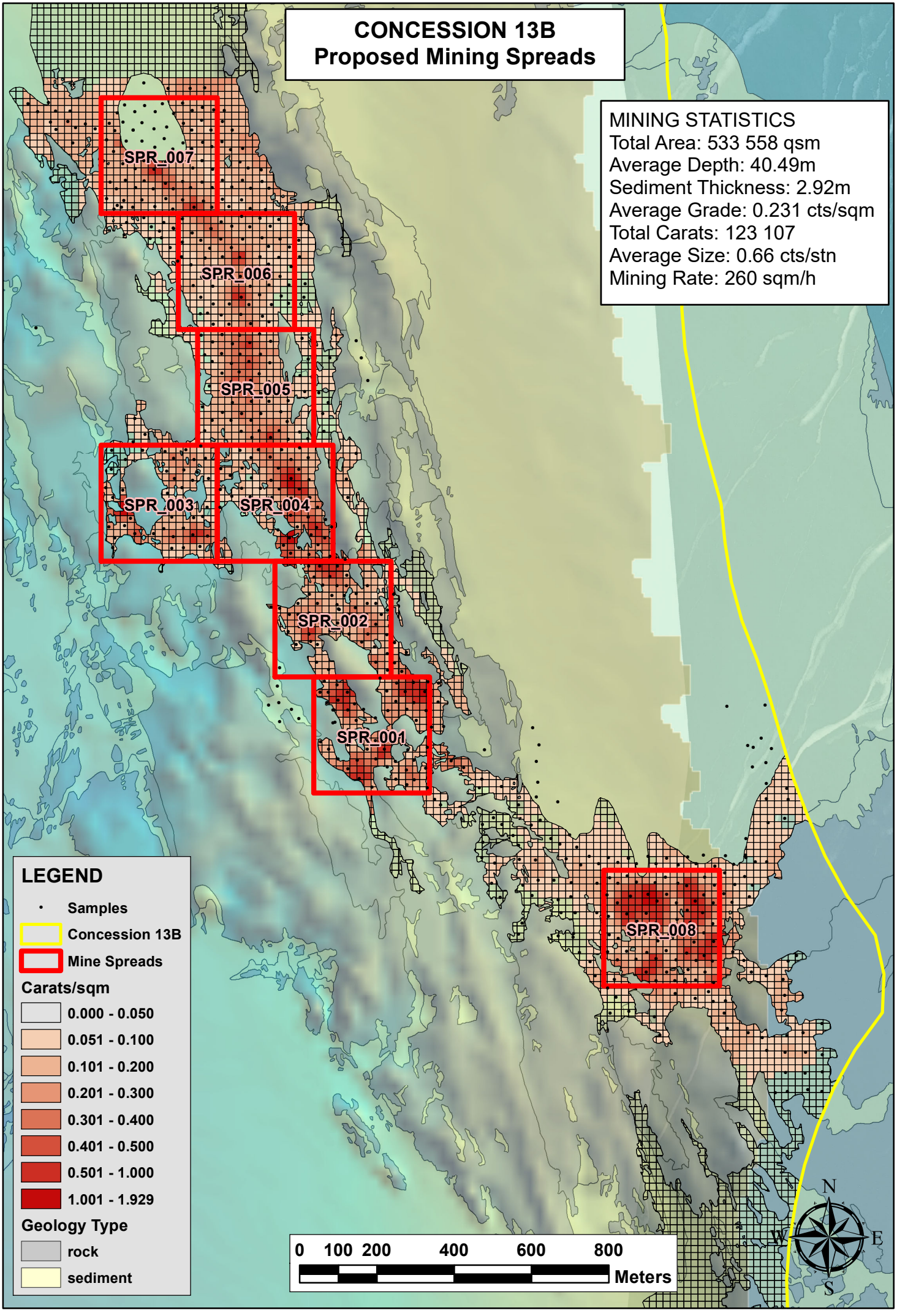
N

1:50,000

0 0.5 1 2 Kilometers

AUTHOR : S. DAMONS	DATE : 06/2020	ANNEXURE	FIGURE : 3

Annexure 4


CONCESSION 13B
Proposed Mining Spreads
MINING STATISTICS
Total Area: 533 558 qsm
Average Depth: 40.49m
Sediment Thickness: 2.92m
Average Grade: 0.231 cts/sqm
Total Carats: 123 107
Average Size: 0.66 cts/stn
Mining Rate: 260 sqm/h
SPR_007
SPR_006
SPR_005
SPR_003
SPR_004
SPR_002
SPR_001
SPR_008
LEGEND
Samples
Concession 13B
Mine Spreads
Carats/sqm
0.000 - 0.050
0.051 - 0.100
0.101 - 0.200
0.201 - 0.300
0.301 - 0.400
0.401 - 0.500
0.501 - 1.000
1.001 - 1.929
Geology Type
rock
sediment
0 100 200 400 600 800
Meters
N
W
E
S

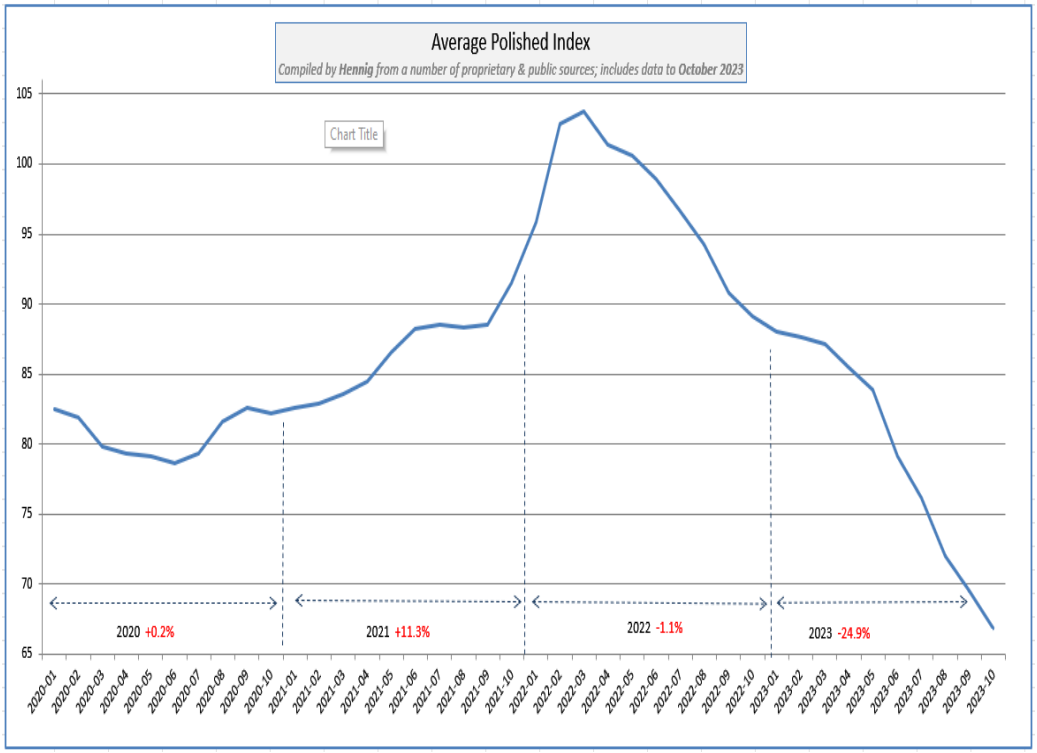
Annexure 5

Hennig Market Report - November 2023

Linking People and Diamonds for more than 130 years

HEADLINES

- The current market has a fragile stability with limited Rough activity and improving wholesale Polished sales.
- The panic of the last two weeks has eased, and dealers are now willing to pay slightly higher prices for Rough.
- As we head into 2024, the Rough market is significantly smaller and will not be able to fully absorb current Rough production levels.
- The flexibility to defer all De Beers purchases until year-end has halted the decline in Rough prices.
- The informal ban on importing Rough into India is holding, but Rough stocks are accumulating in both Dubai and with the miners.
- Diwali is providing a welcome break for manufacturers who have struggled to find commercially viable Rough in recent months.
- Polished prices have stabilised, and sales are starting to improve, but the volume is significantly lower than the same period last year.
- There are a few positive indicators for consumer sales of natural diamonds in western markets.
- LGD production hit a peak in October with little competing natural Rough; however sales and prices continue to decline.
- Liquidity is healthy, but the banks are extremely concerned at capital erosion.
- Instability in the Middle East and the risk of further escalation in the region continues to cause huge concern.



ROUGH & MANUFACTURING

- There is stability in Rough prices after a prolonged period of decline.
- This is unsurprising as Rough volumes being sold are at approximately 30% of normal levels.
- Demand is focused on cheap goods and smaller sizes and is mostly factory-driven demand.
- Secondary market trading in De Beers' small goods reveals price differences of 20+%, when compared to other sources. For Grainers and Caraters, it is even higher at 25-30%.
- Small volumes of Outside Rough continue to sell discreetly to dealers, often with pre-financing in place.

ROUGH & MANUFACTURING (CONT.)

- Despite the US ban on Russian goods, Alrosa has reported sales of $1.9bn in H1 2023.
- In the last 10 days, over $100m of Catoca Rough sold at $102-105/ct and was traded at around 3% profit, with dealers mostly making money from financing those sales.
- Catoca and other Angolan miners will continue to push out volumes in the coming weeks.
- Junior miners are slashing costs and delaying any non-urgent investments as they prepare for a long period of depressed sales.
- Stornoway Diamonds, which operates Renard site, the first and only diamond mine in Quebec, has announced an immediate suspension of Rough production.
- Rio Tinto plans to hold Diavik tender viewings in Mumbai a week after Diwali.
- Mountain Province reports a 45% drop in revenue, due to the slump in Rough diamond sales.
- ODC's November auction has been cancelled.
- Even with a positive Christmas season, the Rough markets cannot absorb current production levels into 2024.
- In India, the import ban and holiday demand are offering some relief to the industry.
- India's gross import of Rough diamonds from April to Sept 2023 is $7.46bn, a decline of 20% over the same period in 2022. According to the GJEPC, imports declined by 62% from the first to second half of October.
- Local Rough dealers have focussed on collecting pending receivables from customers before Diwali.
- All the manufacturing units in Surat, who were working at 40% of capacity over recent weeks, will close for Diwali from November 8th until the 1st week of December.
- Many of the units in smaller cutting centres have already shut down, with the last batch of Polished already dispatched to Surat or Mumbai.
- In Southern Africa, factories will remain essentially closed until the January Sight at the earliest.

POLISHED – WHOLESALE

- The Indian domestic market has been active in purchasing Polished. albeit at significantly lower prices.
- Sales are slowly gathering momentum in better qualities below 20 points at new, lower prices.
- In Stars and Melee, prices for top-end qualities have further reduced by 5-6% since last month, despite increased demand from the Indian domestic market.
- Prices in +11 have also moved downwards.
- Stock levels remain still high in dossiers of 0.30-3ct.
- Retailers continue to delay purchases in expectation of even lower prices, however with recent data suggesting Polished prices have bottomed out, there is expectation that retailers will start buying at current prices.
- The SI -I1 category has seemingly disappeared with zero demand coming from the US.
- There is decent demand for Polished above $500,000; the buyers of many of these stones are unknown.

POLISHED – WHOLESALE (CONT.)

- Gem Geneve reportedly disappointed in terms of actual sales, but there was good footfall from the luxury brands. Many of the Brands indicated that they had over-bought earlier in the year and would wait until they have reduced their stocks; this has impacted the prices of Stars and Melee as mentioned above.
- Despite a sharp decline in Polished diamond prices, Fancy Colour diamonds have demonstrated a consistent upward trend over the past six months with growth in demand for Fancy, Vivid and Intense Yellows.
- The US jewellery sector shrank in Q3, with an estimated loss of 485 retailers and 140 wholesalers and manufacturers.

RETAIL

- Despite weaker consumer confidence in the US, there is optimism that there remains pent-up demand for diamond jewellery. Additionally, 2024 is an election year (historically good years for DJ sales).
- According to the US Department of Commerce, watch and jewellery sales declined again for an eighth consecutive month during September. However, for the third month in a row, the rates of decline have reduced from -4.0% and now sit at -2.0%.
- Jewellers Board of Trade (JBT) reported a 12% increase in the number of North American jewellery businesses closing in Q3, compared to the same period in 2022.
- On November 1st Neiman Marcus hosted a Bejeweled Ball featuring $140m worth of gems at the Hotel Swexan in Dallas. The luxury retailer entertained 100 clients plus top salespeople from across the country. Neiman Marcus plans to host more Bejeweled events in select US markets this month.
- Costco's October sales rose 4.5% y-o-y. Their monthly sales brochure, offers a 1ct I VS GIA cert for $4,999, allowing only two purchases per member. (Rap list is $5200, the lowest price at Rap Net is $2,250). It is unusual for Costco to advertise a 1 carat diamond.
- LVMH's sales of jewellery and watches fell in Q3 amid a challenging economic environment. Revenue decreased 5% y-on-y in the three months ending September 30th. However, for the first nine months of the year, sales of jewellery and watches grew 5% compared to 2022.
- This week's Bonhams auction featuring the late journalist Barbra Walters' jewellery sold a 13.84-carat, D-colour VVS2-clarity Harry Winston engagement ring for $699,000, at the low end of its estimated range of $600,000-$900,000.
- The Bleu Royal, 17.61 ct. internally flawless fancy vivid blue diamond, the largest internally flawless fancy vivid blue gem ever to appear for sale in auction history sold for $44m, about $2.5m per carat at Christie's Magnificent Jewels sale in Geneva on November 7th. The estimated range was $35-50m.
- The recent Sotheby's Fine Jewels auction in Milan achieved outstanding results for an emerald-shaped, 9.38-carat, F SI1 diamond, which sold for $201,753; the ring's high estimate was $84,726.

Hennig Market Report - November 2023

Linking People and Diamonds for more than 130 years

LAB GROWN

- Smaller Indian growers, unable to compete with the scale players, are looking to exit the industry.
- WD Lab Grown Diamonds has declared bankruptcy.
- Surat based Greenlab Diamonds has signed a $120m deal with Saudi Arabia's Dana Al Alami to produce LGD. Greenlab has four factories in Surat that produce 200,000 carats of LGD monthly.
- 2023 LGD jewellery sales in the US are gaining further market share, and sales are expected to keep growing further in 2024.
- Pandora's sales of LGD continue to increase with Q3 sales reaching $12.3m; YTD sales are $21.7m. Pandora LGD diamonds are now available in 10% of their doors globally.
- Chaumet and Fred who unveiled their first Blue LGD Diamond collection have shown strong growth.
- Kay Jewellers has launched their LGD Engagement Ring collection.
- India-based Limelight Diamonds has set up 8 stores for LGD jewellery across India.

FINANCE

- Secondary market payments are, for the most part, on time and there is no talk of bankruptcies or internal settlements.
- The global natural diamond business has shrunk in value terms by 25-30%, however business expenses and infrastructures have not yet reduced commensurately.
- Financial accounts (Diwali 2022 -Diwali 2023) have exposed the reality of the last 12 months' performance where almost all the previous year's profits have been absorbed by the revaluation of Polished stocks.

GENERAL

- Itraceit, an independent third-party company specialising in traceability solutions, has partnered with Cutwise Group to generate scan reports for Polished diamonds and enhance traceability.
- Sarine is introducing a traceability solution for melee diamonds widely used in jewellery. Sarine has partnered with French jeweller, Rubel & Menasche, to develop and test its new data-packed traceability system designed to handle large quantities of small stones.
- Businesses in Surat are planning their switch to the Surat Diamond Bourse and investing in state-of-the-art systems despite the challenging market conditions. The competition between the Surat and Mumbai Bourses is expected to have a weakening impact on both bourses.
- Discussions around the implementation of the G7 ban on Russian Diamonds have highlighted the challenges of establishing such a system, while remaining equitable to all stakeholders and not further damaging the perception of natural diamonds.

Hennig Market Report - November 2023

Linking People and Diamonds for more than 130 years

I. Hennig & Co Group

info@ihennig.com
www.ihennig.com

I. Hennig Tenders

info@ihennig-tenders.com
www.ihennig-tenders.com

Annexure 6

Concession 13B - Revenue Assumptions Cash Flow Forecast

	Year										
	1	2	3	4	5	6	7	8	9	10	Total
	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Carat Production and Sales	15200	15200	15200	15200	15200	15200	15200	15200	15200	15200	152000
US Dollar price per carat	723	723	723	723	723	723	723	723	723	723	
Increase in Diamond price	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
US Dollar price per carat after increase	723	730	737	745	752	760	767	775	783	791	
Rand / US Dollar exchange rate	16	16,5	16,5	16,5	16,5	16,5	16,5	16,5	16,5	16,5	
Sales value of Production USD	10 988 651	11 098 537	11 209 523	11 321 618	11 434 834	11 549 183	11 664 674	11 781 321	11 899 134	12 018 126	114 965 602
Sales value of Production Rand	175 818 416	183 125 868	184 957 127	186 806 698	188 674 765	190 561 513	192 467 128	194 391 799	196 335 717	198 299 075	1 891 438 108
	175 818	183 126	184 957	186 807	188 675	190 562	192 467	194 392	196 336	198 299	1 891 438
	171 386	166 131	167 511	175 062	174 515	174 907	183 589	191 146	193 057	194 988	1 792 292

Annexure 7

m/v YA TOIVO

Vessel Specifications and Mining System Operational Criteria

TRANS HEX GROUP

TRANS HEX GROUP

VESSEL SPECIFICATIONS

Vessel Name:	YA TOIVO
Flag:	Bahamas
Port of Registration:	Nassau
Call Sign:	C6QB6
MMSI:	308791000
Official Number:	731052
IMO number:	7907697
Year of Build:	1984
Year Converted:	1999/2000 Poland
Builder:	Scott Lithgow Ltd Shipbuilders on the Clyde-Glasgow-UK
Owner:	TI Ya Toivo Limited, Malta
Classification:	Rina 100-A-1.1-NAV. IL;ST-Ap (pl) Special notations ELI-IWS, RINA No. 76876
Gross Tonnage:	9111
Net Tonnage:	2733
Displacement:	13900t
L.O.A.:	149.5m
Breadth (Moulded):	24.0m
Depth:	10.85m
Summer Draft:	7.055m
Lightship Weight –Draft:	9604t
Main Engines:	Diesel electric (total 12 945Kw)
Propulsion:	2 Voigth Schneider 2 500 Kw Each
Bow Thrusters:	3 x 1 500 Kw
Steering:	Voith Scheider system x 2
Accommodation:	Cabins: Single x 10, Double x 48, Offices x 8
Capacity:	B/W 4000 m/t, F/O 1838m/t, lub oil 18m/t potable W 968 t
Helicopter deck:	designed for SIKORSKY S-76 16m Ø
Mooring System:	4-point-anchoring, equipped with 4 x 14.5 ton Bruce type Anchors

SUBSEA MINING SYSTEM

The subsea mining system layout is currently set-up for operations at -120 meter water depth

Launch A-frame: 290 ton SWL

Launch Platform Cover: Hydraulically operated sliding door arrangement.

Main Hoist Winch: Single wire, 8 drive hydraulic operated winch, 115 mm single hoist wire breaking strength 1080 Ton, length 250 meter,

MV YA TOIVO - Stern view

Power Umbilical Winch: Effective pull 12 ton SWL, maximum 300 meter umbilical, consisting of 6 x 3.3KV power transfer, signal control, fibre optic control and fluid compensation lines.

Slurry Discharge Facility: Continued riser train installation, capacity 140 meter auto-float E&S or Emstec dredge hose ID 600 mm.

Slack Wire Heave Compensator: Effective cylinder stroke is 6.5 meter, with an effective compensation capability of 11 meter.

Top view Subsea Crawler and Heave Compensator

Subsea Crawler:

Subsea Crawler Front & top views

Track mounted subsea crawler, max working (within Pump specifications layout) 160 meter below sea level. Central hydraulic subsea power pack, electrically driven by 500Kw subsea 3.3KV electric motor, powers: tracks hydraulically driven. Boom and knuckle with a maximum reach of 42 degrees sb/ps (Max cleaning width of 20 meters). Slurry transported by IHC type 162-5-35-70/wa300 electrical VSD driven dredge pump of 2500kW/ 3.3 KV. And assisted when needed by a 500 KW/ 3.3 KV VSD electrically driven subsea jet water pump delivering between 4 and 8 bars on jet nozzles. The crawler has 3 suction nozzles on board.

Crawler operated and controlled via fibre optics, sensors and plc system, and fluid drain down and top up system, POD build for -500 m. Total weight of crawler 283 ton.

Subsea Crawler Top view

The crawler is equipped with a Kongsberg positioning & visualization system (sonars, motion units, gyro-compass, TriTech sonar, transponders and nozzle X,Y,Z coordinates recording) controlled by a “Quincy” software with add-in dredging module.

Mineral Processing Plant:

Maximum incoming slurry capacity up to 7500 to 8900 m³/ hour depending line velocity and applied density. The rough feed is routed to a central splitter box on top of the mineral processing plant, from where the slurry is divided into 4 streams.

The plant is equipped with double deck scalping screens, make vibramec screens, equipped with a top impact deck of >50mm and a bottom deck of 19 mm. Any oversize material goes directly overboard via a moon-pool.

The fraction between 0.00 mm and 19mm is directed to 4 equal elutriators setting off fraction <1.2mm, which material is then directed back to seabed via a moon-pool.

From the elutriators the material is pumped up via transfer pumps to the secondary screening separating >1.4mm and <19 mm which goes to the post-comminution storage bin section (having a capacity of 2 x 175 m³ each).

From this comminution storage bin, we can select a variation of processes and the material is dosed to either to the mill systems (two units Bateman 2400x6000LG roller supported mills) or DMS storage bin from this comminution bin via 2 separate independently controlled jet transfer pump systems as follows::

- Direct to DMS without any comminution;
- To crushing mill 1, and then to Pre DMS storage bin;
- To crushing mill 2 and then to Pre DMS storage bin.
- To crushing mill 1 and 2 simultaneous and then to pre DMS storage bin.

From the pre-DMS storage bin the material is distributed via a belt-feeder equipped with weight control meter system to the DMS mixing box and 150 T/H DMS.

- DMS floats goes to wash screen, and from their overboard via Moon Pool.
- DMS sinks goes via wash screen to the Pre-final recovery storage bin.

The material is transferred from the final recovery bin via a tube feeder system to the final recovery sizing screen in recovery area, where we split the concentrate in 4 fractions, fines (4mm panel), middle (6mm panel) course (8m panel) and 12mm panel for 4th section. And each fraction is stored Pre X-ray treatment in a separate storage bin.

The **final recovery** consists of a first pass separation consisting out 4 double pass flow sort X-ray machines (A+B) handing the fines, middle machine (C) and the course fractions (machine D).

The fines and middle fractions are from here guided to a secondary process executed by 2 double pass flow-sort X-Ray machines no E & F, and from there the concentrate goes to the wash screen, dryer unit and then to the glove box.

The course material has the option of (1) passing through the same secondary X-Ray or (2) to go directly to wash screen, dryer and glove box.

X-ray tailings are re-routed back to the DMS circuit, for a second process.

The glove box is equipped with a small concentrate storage bin, so final sorting can be executed independently.

Sorted product is weighed and counted inside the glove box and is then packed in a special sealed container, which is deposited (via a bespoke enclosed opening) into a built-in drop safe located under to glove box (the entire system is hands-off and monitored).
Glove box tailing are extracted via a vacuum system, and routed back to the special holding bin; form there it can be either re-processed via the X-Ray system, re-routed to the DMS circuit or discharge at sea via the moon pool.

Final recovery area Glove box & drop safe

Service Cranes: 2 x SWL 4.3 ton cranes situated on aft deck.
2 x SWL 2.2 ton crane in process plant area.

Central Control Room: The entire subsea and processing plant system is controlled from a central control room located on the rear deck of the vessel.

Central Control Room Subsea System.

Offices: All individual offices are net-worked to a central communication to shore system.

Security:

All mineral and subsea working and sensitive areas are continually under security camera surveillance and accessible via card and biometric barriers. Recording is executed in a dedicated server room only accessible by authorized people.

Security Control Room.

OPERATIONAL AVAILABILITY CRITERIA Sub Sea Mining SYSTEM			
1	Gross time available (days/per month)		729.6 hours 30.4 days
2	Planned Checks, Maintenance & Repairs (**CMR**) (days/per month) Planned **CMR**: 48 hours every week (48/7 x 30.4 = 208.50) Charterers shall grant the Owners a maximum of 208.5 hours (i.e. 8.69 days per month) on hire, which shall be cumulative, per month or pro rata for part of a month from the commencement of the Charter Period for **CMR** (referred to as "maintenance allowance")		208.5 hours 8.69 days
3	The Vessel will be considered "off hire" should any maintenance be required in excess of the "maintenance allowance" as per point 2 supra		
4	Net operational time (days/per month)		˜22.00
5	Working day is referred to as a day of 24 hours minus 10% (being the time forecasted for unexpected **CMR**). This further period of grace (max 2.4 hours per day weekly cumulative) will be only used in case of necessity and in accordance with Charterers operations		2.4 hours

6	General CMR guidelines **Scenario 1a** (CMR in relation to Subsea Mining Tool & LARS System): CMR provision to start running from the time the mining has been interrupted due to breakdown in the Subsea Tractor Mining System and when the Subsea Mining tool is lifted from the sea bed. The CMR provisions to stop counting when Mining operations restart or when Sub Sea Mining tool is launched in the same position (prior to CMR running) to 10 meters above sea bed and is ready to start mining. **Scenario 1b** (CMR in relation to Subsea Mining Tool & LARS System): CMR to commence when mining has been interrupted due to a periodical check and maintenance of the Subsea Mining System and on the moment the Subsea Mining tool is lifted and safely recovered on deck. CMR time to stop counting when Sub Sea Mining tool is launched to 10 meters above sea bed and is ready for start mining (same position prior start CMR). **Scenario 2** (CMR related to the Diamond Processing Plant): CMR provision to start counting as from the time the mining with the Sub Sea Mining tool has been interrupted and crawler lifted from sea bed due to full storage capacity of the Diamond Processing Plant (which delay is related to maintenance or breakdown in the Diamond Processing Plant System). The CMR provisions to stop when mining operations restart. If Charterers instruct to move vessel during CMR period to a new location, than the following will prevail: (A) If sailing to such new location prevent Owners to execute CMR works, than such time delay is not recorded as CMR but as normal operational time. (B) If CMR provision is completed earlier than vessel relocation/repositioning, then such time period is not counted as CMR but as operational activity. Any time-delay related to Charterers' Security clearances to access a breakdown location in the Diamond Processing plant area shall not count as part of the CMR provisions; time for CMR only to start running when Owners have free and unhindered access to the particular process plant area to action the repairs. **Scenario 3** (Operational capacity related delays): Should the mining be interrupted due to operational capacity or adjustment of equipment related to changed operation procedures of the Diamond Processing plant and/or required changes to the Charterers' Section Head(s), any such time-delays are not to form part of CMR and the Vessel continues to be on hire. **Scenario 4a** (Simulant (Tracer) recovery) in accordance clause 10.3.7: Simulant recovery is set at a standard 85% achievement; CMR provision to start counting as from the time simulant recovery is below 85% due to a break down in the DMS and/or recovery system. The CMR provisions to stop counting when simulant recovery standard is achieved on subsequent test. **Scenario 4b** (Simulant (Tracer) recovery) in accordance clause 10.3.7:		

	If no breakdown in DMS and recovery system is recorded and the simulant recovery criteria of 85% is not achieved, then any delay incurred to rectify such recovery below standard is considered to be normal operational down-time (and not CMR). The operational down-time to stop when simulant 85% recovery standard is achieved on subsequent test.		
7	Weather downtime not included. Please note that system has been built with the objective to take at a sea state 5 (significant wave height 4.0 meters)		

The Mining production rate per day is the result of several factors predominantly based on soil geotechnical parameters, compactness, cohesive-ty conditions (which do not have to contain consolidated conglomerate structures) etc. Furthermore, it is also determined according to the natural operational capacity of the vessel's mining system, the relevant mining work program, distances between mining block locations, sailing times, time to launch and recover the subsea tool, the applicable processing and sterilization procedures between mining block areas etc. Any supplement or change in the basic activities (e.g. pre and post multibeam scanning, sampling results, mine plan preparation, ROV post-hole reviews, change in soil geotechnical conditions, change in the processing procedure and any other aspects not previously set out in the basic specification document) will lead to changes in the performance parameters of the system.

Vessel operational special features:

DGPS differential positioning system available on board (included in our package) is as follows: Double system, C-Nav3050 GNSS PP receiver system including a C-NavC2 Signal Service (NET1) with a NET2 as possible back up. Tolerances as per supplier's specifications <10 cm horizontal and <20 cm vertical, with 95% confidence. A complete spare DGPS hardware system and signal will be present on board.

Fuel and Fesi consumption is related to the weather and soil geotechnical conditions, but the following consumption table can be considered as fairly indicative:

	Description of activity	Consumption of FUEL in m/ton per day (subject to weather and soil geotechnical conditions) and FESI in Kg
1	Normal sailing (3 main engines only)	between 18 and 25
2	Mining activity on anchor spread with full-running sampling plant	Between 25 and 29
3	Standby off shore	approx. 12
4	Stand by in harbor	between 2.2 and 3.2
5	Process plant FESI 270D (minimum estimated consumption and subject to soil & shell conditions)	Between 850 and 1250 KG per 24 hours

DP STAR

Annexure A

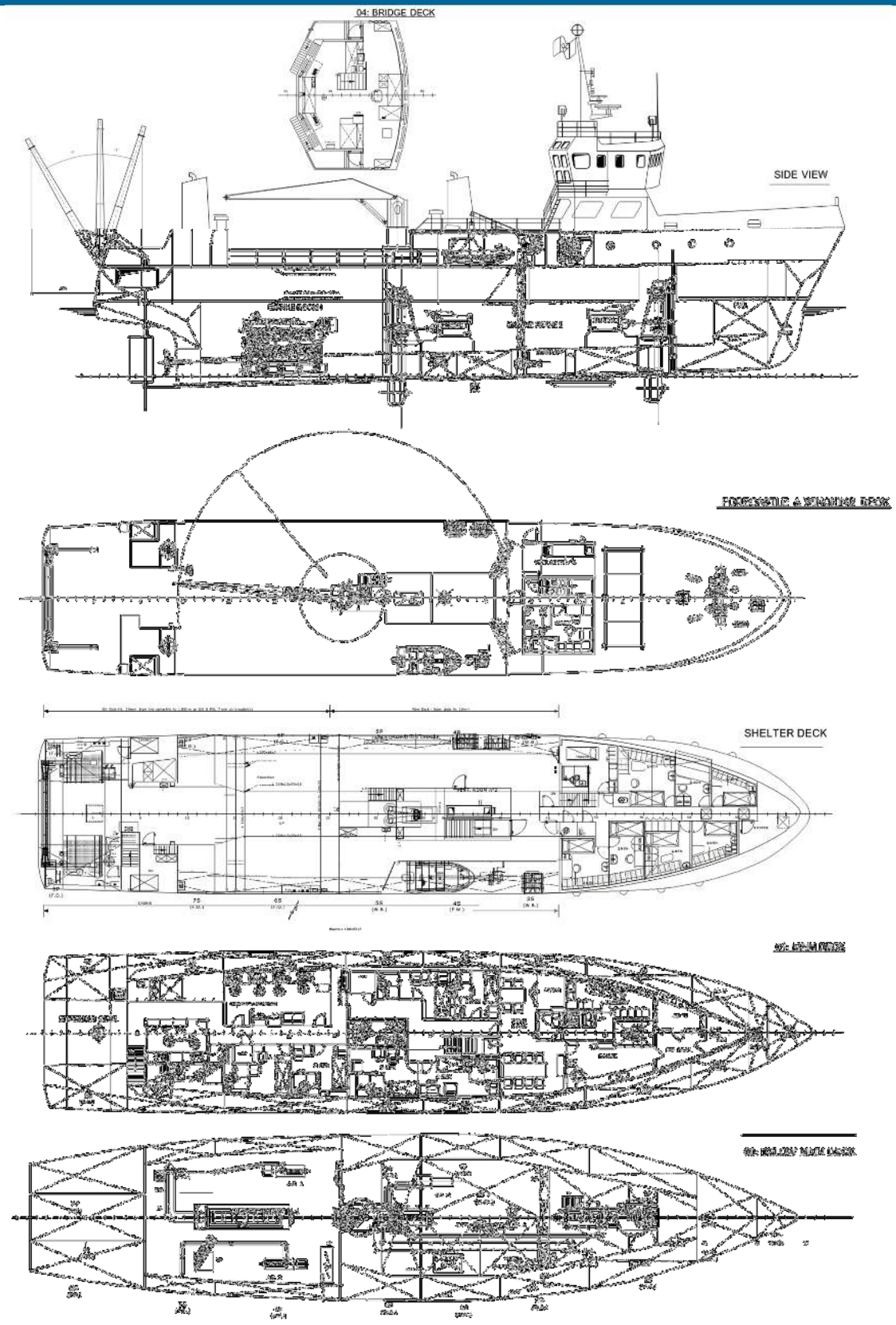
DP I FOR:

SUPPLY, SURVEY, ROV, AIR DIVING AND MAINTENANCE SERVICES. THE DP STAR WAS CONVERTED AND UPGRADED IN MARCH 2010 WITH THE FOLLOWING:

- DP I System Kongsberg C.POS compact
- DP Control System
- Multibeam Kongsberg EM 710
- Single Beam Kongsberg EA 400
- Topas Kongsberg PS 40
- Hi-PAP Kongsberg Hi-PAP 500
- Seapath 200 Kongsberg
- Side mounted Survey pole.
- Vibro corer 3m/6m
- Magneto meter

TRANS HEX

DP STAR



TRANS HEX

DP STAR

Flag/Classification:

Flag	St. Vincent & The Grenadines
Port of Registry	Kingstown
IMO Number	7112187
Call Sign	J8B3823
Classification	Rina, ⁇, Research Ship, Unrestricted navigation, Ice Class IC (max draught 4.3 m), Dynapos AM/AT

Main particulars:

Builder	Kaarbos Mekaniske Verksted A/S 70
Built	1971
Vessel Conversion	**1984, 2010**
LOA	45.15 m
LBP	39.65 m
Breadth	9.20 m
Depth	6.00 m
Summer Draft	5.127 m

Capacities:

Displacement	1138 t
Deadweight	507 t
Lightship	631 t
Gross Tonnage	**498 t**
Net tonnage	149 t
Diesel Oil	212 m^3
Fresh water	75.4 m^3
Water ballast	184 m^3

Machinery and Propulsion:

Main engine(s)	1 X Deutz 8M545 @ 1500 BHP
Propulsion	1 x CPP
Thrusters	**1 x Bow Retractable Azimuth Unit @ 625 BHP** **1 x Stern Retractable Azimuth Unit @ 625 BHP**
Main Generators	2 x 135 kVA
Port Generator	1 X 75 kVA

Deck machinery:

Cranes	MCV 504-3.2-10 MOB 3200 (3.2 t @ 10 m)
A-Frame	**installed on February 2011** **6 tons SWL** **(see att. drawing on page 6)**

Deck spaces: abt 175 + 41 m^2 total 216 m^2

Fuel Consumption:

Normal sailing	abt 2.91/3.5 Mt of LSMGO per day
Surveying	**abt 1.8/2.5 Mt of LSMGO per day**
Stand-by in harbour	**abt 1.2 Mt of LSMGO per day**

Accommodation:

Total berths including crew: 26

Single cabins	2
Double cabins	12

All cabins are air conditioning provided

Other facilities:

DP I System	Kongsberg C.POS compact DP Control System
Multibeam	Kongsberg EM 710
Single beam	Kongsberg EA 400
Seapath	Kongsberg Seapath 200
Topas	Kongsberg PS 40
Hi-PAP	Kongsberg Hi-PAP 500
Vibro corer	Geo resources.
Sparker system	Geo resources.

Mess/Day room 1

DETAILS BELIEVED TO BE CORRECT BUT WITHOUT GUARANTEE

TRANS HEX

DP STAR

Deck view

Deck view

A-Frame view

Overhead view

Aft bridge DP Console

Fwd bridge Console

TRANS HEX

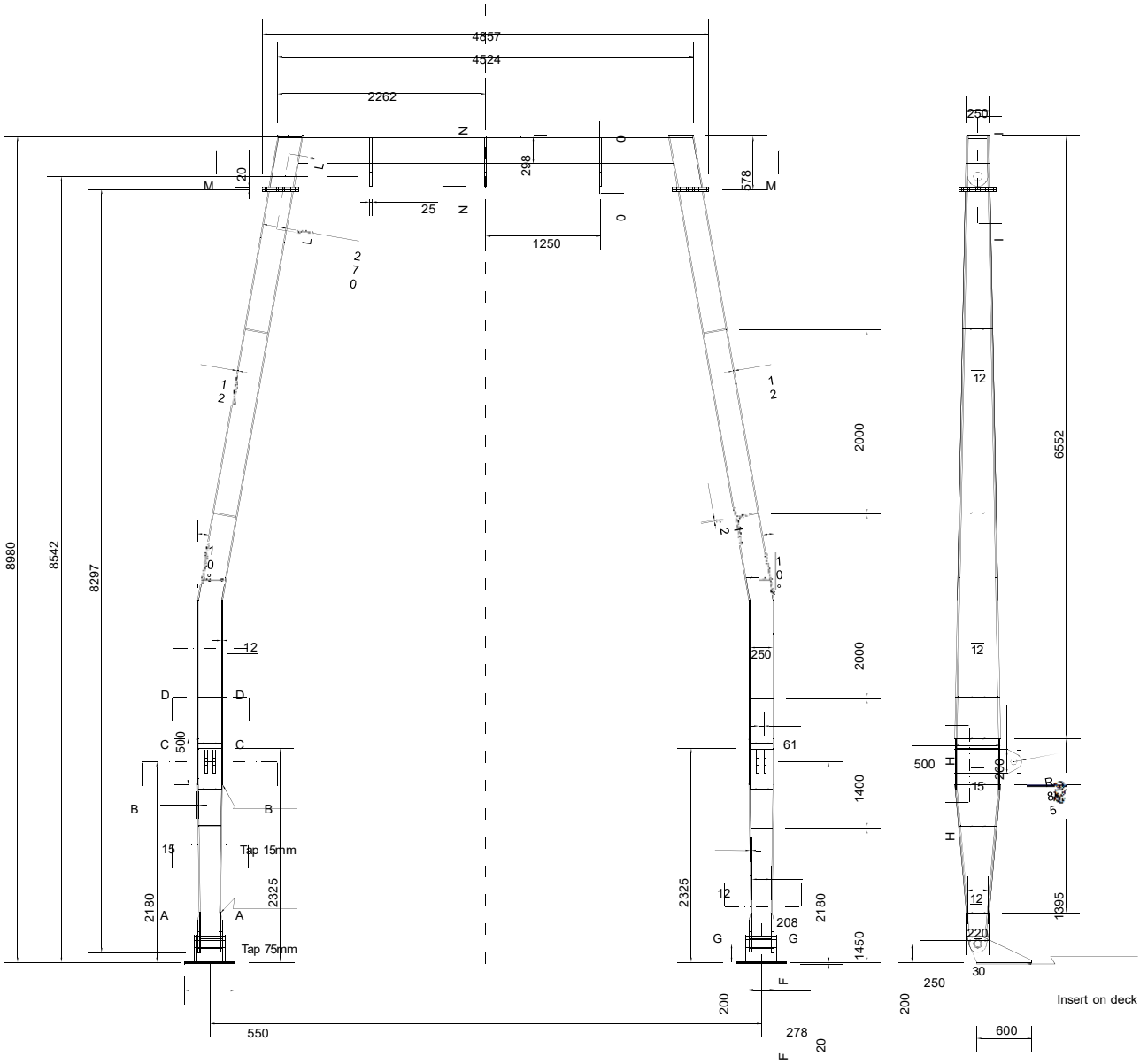
Online-offline survey room

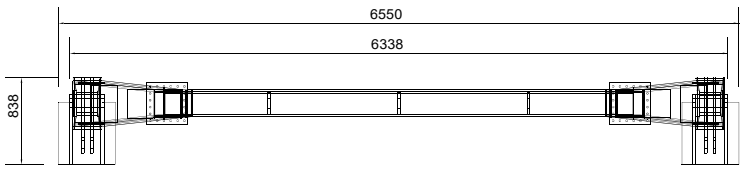
Cabin

Mess room

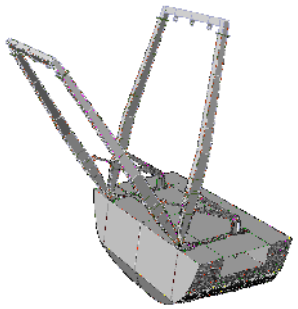
TRANS HEX

DP STAR
A-Frame SWL 6





Material: steel grade A
Pin material: R>770 N/mm^2
Estimated mass: 3500kg



19 CHAIN AVENUE,
MONTAGUE GARDENS
7441, CAPE TOWN
REPUBLIC OF SOUTH
AFRICA
TEL +27 21 510 1881
www.transhex.co.za

TRANS HEX

MV THE EXPLORER

Specifications and operational criteria

TRANS HEX GROUP

TABLE OF CONTENTS PAGE

Front page 1

Overhead view of MV THE EXPLORER 2

Index 3

Outline Specifications of the Sampling System Support Vessel 4

Operational Criteria Sampling System 5 to 7

Sampling System Preliminary Details
Moon-pool size 8

Moon-pool Launch / Recovery Cursor. 8

Moon-pool Closing Door 9

A-frame Structure for Launch and Recovery 9 &10

Slack Hoist Wire Compensation 10

Slack Umbilical Wire Compensation 10

Tool Main Hoist Winches 10 & 11

Guide Wire Constant Tension Winches 11

Umbilical Winch and Umbilical Sheave 11to 12

Sample Drill Tool 12 to 14

Top-up System for Depth Pressure Compensation 14

Slurry Delivery System 14 / 15

Seawater Supply 15

Electrical Power Supply for Vessel and Mining Equipment 15

Control Room 16

The Mineral Recovery Plant 17

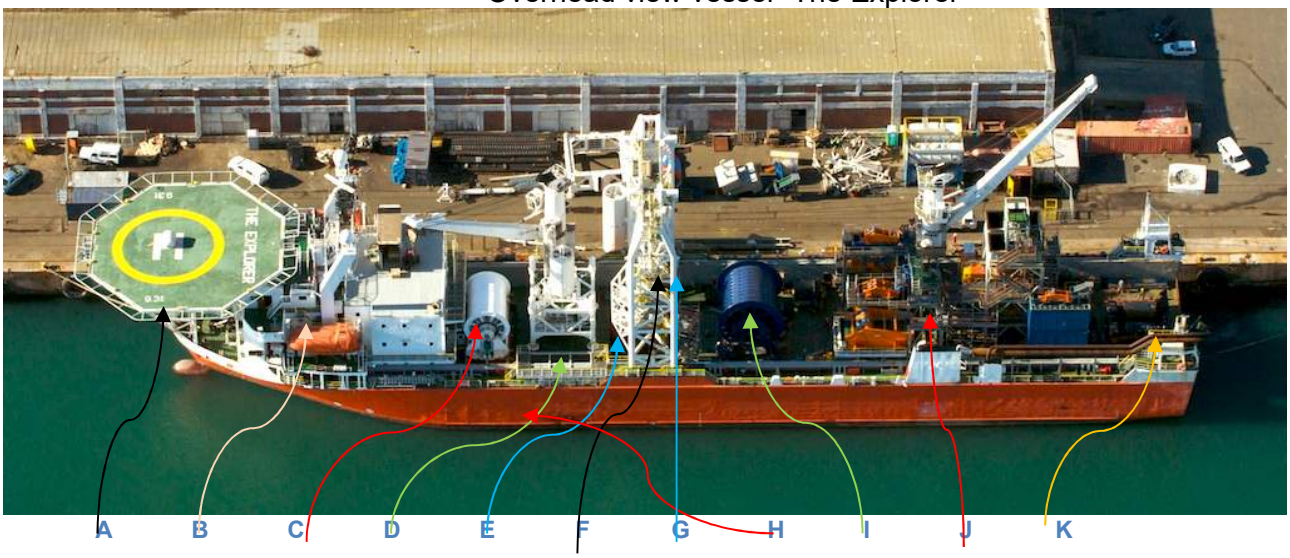
Section 100 The Receiving and Feed Prep 17

Section 200 The DMS section 17 to 18

Section 300 final recovery 18

Tailing Overboard System 18
Security Surveillance 18

Overhead view vessel “The Explorer”



A. Helicopter deck

B. Accommodation

C. Umbilical winch

D. Sliding door parking area

E. Moon Pool, A-frame and Tool area

F. Heave Compensators

G. Guide Constant Tension Winches

H. Main Hoist Winches

I. Slurry Hose Winch

J. Mineral Recovery Plant Area

K. Sampling Tool Power Generation Area

OUTLINE SPECIFICATIONS OF THE SAMPLING SYSTEM

SUPPORT VESSEL "THE EXPLORER"

Length	104.85 meters
Length Overall	114.40 meters (Incl overhang helideck and exhaust)
Width	19.6 meters
Depth	4.9 meters
Draft	7.6 meters
GT	4677 tons
NT	1403 tons
Dead Weight	3935 tons
Max speed vessel	7 to 8 knots
Port of Registration	Saint Vincent and the Grenadines
Call Sign	3EVD7
Classification	Rina Supply Vessel, 100A1, Dynapos AM/AT R
IMO No.	7904932
Class Association	Rina
Fuel Bunker capacity	MGO 800 MT
Lub oil capacity	22.7 M^3
Sludge tank	2.2 M^3
Dirty oil tank	4.3 M^3
Water tank capacity	350 M^3
Water making capacity	22 M^3/day
Accommodation	Total 54 persons. Single x 4, Double x 25 + Hospital x 1.
Life saving equipment	2 x 68 persons
Helicopter platform	SWL 9.3 ton
Launch and recovery system A-frame	SWL 200 ton
Main winches 2 times	100 ton SWL each
Guide Winches	2 times 15 ton SWL each
Moon-pool size	8 x 10 meters
Moon Pool closing system	Top sliding door.

Machinery

Main prop 1 power		1085 KW
Main prop 1 power		1085 KW
Thruster 1	Azimuth Diesel driven Bow	980 KW
Thruster 2	Azimuth Diesel driven Bow	980 KW
Thruster 3	Azimuth Diesel driven Stern	980 KW
Thruster fix	Electrical driven Stern	350 KW
Aux gen set 1	Vessel	230 KW
Aux gen set 2	Vessel	230 KW
Aux gen set shaft generator	Vessel	260 KW
Vessel gen set	4 Caterpillar 3516	1800 KW
Mining gen set1	1 Caterpillar	1800 KW
Mining gen set	2 Caterpillar	1800 KW
Mining gen set	3 Caterpillar	1700 KW
Crane 1		30 ton swl
Crane 2		30 ton swl
Crane 3 knuckle boom		5.0 ton swl

OPERATIONAL AVAILABILITY CRITERIA SAMPLING SYSTEM			
1	Gross available days / month 30.4 days / per month.		729.6 hours/M (30.4 days/M)
2	Planned **CMR** (**C**hecks, **M**aintenance, **R**epairs) days per Month = Planned **CMR** hours per Month (24 hrs every Week) Charterers shall grant the Owners a maximum of 106.0 hours (= 4.40 days/M) on hire, which shall be cumulative, per month or pro rata for part of a month from the commencement of the Charter Period for **CMR** (hereinafter referred to as " maintenance allowance)	- Approx.103.2 hours/M Approx (-4.4 days/M)	
3	Over the "maintenance allowance". of point 2 here above the vessel will be considered "off hire".		
4	Net operational hours available per month 26.0 days per month.		**26.00 days / Month**
5	For working day is intended a day of 24 hrs less up to 10% of the time which will be used only for unexpected **CMR**. This further period of grace (max 2.4 hrs a day Monthly cumulative) will be spent only in case of need and in accordance with Charterers operations. The accumulative maximum monthly CMR (planned CMR box 2 and unexpected CMR box 5) is capped to a maximum of 7 days CMR per month.	Period of grace/ Max 2.4 hrs/D	
6	**General generic CMR Guide user line.** **Scenario 1a:** CMR in relation to Subsea Drill Tool & LARS System. CMR provision to start counting as from the time the drilling has been interrupted due to a break down in the Subsea Sampling System and when the Subsea Drill tool is lifted from the sea bed . The CMR provisions to stop counting when operations restart drilling or when Sub Sea Drill tool is launched in the same position prior start CMR to 10 meters above sea bed and is ready to start drilling. **Scenario 1b:** CMR in relation to Subsea Drill Tool & LARS System. CMR provision to start counting as from the time the drilling has been interrupted due to a periodical check and maintenance of the Subsea Sampling System, and when the Subsea Drill tool is lifted and safely recovered on deck. The CMR provisions to stop counting when Sub Sea Drill tool is launched in the same position prior start CMR to 10 meters above sea bed and is ready for start drilling.		

	Scenario 2: CMR related to the Diamond Processing Plant. CMR provision to start counting as from the time the drilling with the Sub Sea Drill tool has been interrupted and lifted from sea bed due to full storage capacity of the Diamond Processing Plant and which delay is related to maintenance or break down in the Diamond Processing Plant System. The CMR provisions in the same position prior start CMR to stop counting when operations restart drilling. If Charterers instruct to move vessel during CMR period to a new location, than the following will prevail: A If sailing to such new location prevent Owners to execute CMR works, than such time delay is not recorded as CMR but as normal operational time. B If CMR provision is earlier completed than vessel relocation / position works, than such time period is not counted as CMR but as operational activity. Any time delay related to Charterers' Security clearances to access a break down location in the Diamond Processing plant area shall not be not part of the CMR provisions, and CMR provisions only start counting when Owners have free and unhindered access to the particular process plant area to action the repairs. **Scenario 3:** Operational capacity related delays. Should the drilling be interrupted due to operational capacity or adjustment of equipment related to changed operation procedures of the Diamond Processing plant, and / or required changes to the Charterers' Cutter Head(s), and such time delays incurred are not to form part of CMR provisions and vessel continue to be on hire. . **Scenario 4a:** Simulant (Tracer) recovery results, the CMR provision to start counting as from the time that the Simulant recovery criteria of 90% is not achieved due to a break down in the Diamond sampling DMS and Recovery plant system. The CMR provisions to stop counting when Simulant recovery criteria is achieved in accordance with the said clause.		
7	Weather downtime not included.		
The system has been built with the objective to take at a sea state 5 (significant wave height 4.0 meters)			

The sampling availability and rate per day is based on the above conditions is based on the basic natural operational procedure of the vessel and sampling system, and it is related to the sampling plan, distances between sample locations, sailing times, launch and recovery times of the subsea tool, the applied processing and sterilization procedures. Any supplementary or changes in the basic activities (such as pre and post multibeam scanning, ROV post hole reviews, change processing and sterilization procedure and other aspects not set out in our basic specification document) will lead to changes in these parameters and estimated achieved production rates.

Vessel operational special features:

- DGPS differential positioning system, available on board included in our package is: C-Nav3050 GNSS PP receiver system including a C-NavC2 Signal Service (NET1) with a NET2 as possible back up. Tolerances as per supplier's specifications, <10 cm horizontal and <20 cm vertical, with 95% confidence. a complete spare DGPS hardware system and signal will be present on board.

- Vessel communication systems: Vessel is equipped with the KU band Satellite system of Seatel 4006

  Type of service: Premium W3-A
  Speed Down load : 1024 Kbps
  Speed up Load: 256 Kbps
  Contention rate: 1: 10

- Vessel Dinamic positioning system is Kongs Berg Dynapos AM/AT R Specifications as per manufacturer documentation "Kongsberg" ,

- Vessel Accommodation.
  Maximum 6 double rooms (12 beds available for client usage).

- The fuel and Fesi consumption is related to the weather and soil geotechnical conditions, but the following consumption table can be considered as fairly indicative :

	Activity description.	Consumption of fuel in mton. / per day depending weather and soil geotechnical conditions.
1	Normal sailing (2 main engines only)	7/8 mton / day
2	Sampling activity on DP and full running sampling plant	13/15 mton / day
3	Standby off shore on DP	5/6 mton / day
4	Stand by in harbor	1.8/2.2 mton / day
5	Process plant Fesi 270D minimum estimated consumption	250 KG / per 24 hours

SAMPLE SYSTEM PRELIMINARY DETAILS

Moon-pool Size

Moon Pool 10 x 8 meter top view: The moon-pool has a dimension opening of 8 by 10 meters within the port and SB side inserted guide slide (cursor slide) equipped with a bottom stopper. This cursor guide system is running from the top of the A-Frame till the bottom of the vessel and allow the cursor to travel with the recovery of the tool with a unhindered and interrupted process till such time that Drill tool can be landed and secured on moon-pool top sliding door.

Moon-pool Launch/Recovery Cursor

Moon-pool cursor (recovery guide). The prime function of this unit is to restrain the sampling tool from swinging inside the moon-pool while the tool is in transfer position during launch and recovery. The cursor catches the tool on the top side on special stab points.

The two guide wires, kept under tension by two constant tension winches with a SWL of 15 tons each, are used to centre the tool in to the stabbing points of the cursor female catching cones.

Cursor frame. Cursor guide wires cursor cone catchers

The cursor itself is restrained on the side (in the moon-pool side walls) this guide travels vertical from bottom vessel to top A-frame. (So not in the longitudinal direction).

A stopper at the bottom end of the moon-pool blocks the curser frame, little horizontal movements are made while the cursor stays at this position during the sampling drill works on the seabed.

The Moon-pool Closing Door

Sliding door over moon pool.

The moon-pool top door is a sliding platform which can travel horizontal from close position to open position on a special sliding rail. As soon as the A-frame winch system lifts up the tool from the doors parking bay, the door is moved away and the moon-pool becomes directly accessible for the subsea tool. This sliding door is driven by an Hydraulic driven system-frame Structure - Launch and Recovery

A-Frame Structure.

A-frame view from bottom
Cursor guide frame Main Hoist sheaves

Nitrogen bank heave comp

The A-frame is a fixed structure fully integrated in the vessel and moon-pool structure, and is positioned over center of the moon-pool. The frame is build out of a tubular lattice structure and has a free lifting height of 21.1m above top moon pool sliding door level and has a SWL of 200 ton, the structures are build to RINA class specifications.

In the Starboard side of this A-frame structure two constant tension guide wire winches are installed, these are reefed via sheave blocks to the top of the A-frame, through the cursor frame connected to the subsea sampling tool.

The Main hoist wire is one continuous length running from the port side winch via the A-frame sheaves to the subsea tool sheave, back via the A-frame sheaves to the Starboard winch.

In the Port side leg of the A-frame structure the main hoist wire & umbilical heave compensation are installed, system is buffered by a bank of nitrogen cylinders.

Slack Hoist Wire Compensation

Slack wire heave compensation is made of an active compensated hydraulic cylinder of which pressure can be set, this cylinder has an active stroke of 6.50m, and the hoist wire is double reefed supported by this cylinder by means of a sheave wheel on top of the cylinder. The cylinder is linked to a nitrogen accumulator. The tension settings of this system is set at 10 ton plus weight wire related to water depth.

Heave Comp cylinder: Main Hoi

Slack Umbilical Wire Compensation

Slack wire heave compensation is made of an active compensated hydraulic cylinder with pre set pressure, This cylinder is connected via a tension wire to a pivoting sheave system which is then kept to a tension and has a stroke of 4.5 meter The cylinder is linked to a nitrogen accumulator. The tension settings of this system are variable and programmable till maximum 2 ton plus weight umbilical related to water depth. Surplus movement demand is performed by the Umbilical winch Constant tension function.

Tool Main Hoist Winches

Main Hoist Winch

Central Power pack main winches

SB Hoist winch

Two main hoist winches have been installed. Each winch is hydraulically driven with a capacity of 100 ton SWL in low speed (12.5 meter / min) mode and 50 ton SWL in high speed (30 meter/min) mode. The winches having a capacity of 650m wire of 60mm diameter each. Furthermore the winches are equipped with a constant tension mode function as backup on the heave compensation system should the subsea drill tool be on the bottom of the sea, as well a soft landing and quick lift mode function.
The winches are able to be used synchronized, and the winch control system is PLC based and capable to deliver the following functions:-

Normal hoist/lowering.

Constant tension mode.

Soft land functions and automatically changing over to compensation mode (this function is used to overcome landing re-bouncing of the tool on the seabed. As soon as the main tension is released

from the hoist wire; instantaneously the winch changes over to high speed and adjusts the system to constant tension and compensation mode).

Quick lift function for fast bottom release of the subsea tool (here the system will be lifted in the high load function of 100 tons till the tool reach to a level of 10m above the seabed. Here after normal hoist mode will be applied for further recovery or re-launching of the tool on the seabed for the next sample.

The main hoist winches are fed by a common power pack system with an installed power of 960KW (created by 6 pump units 160KW each) with all the various back up and filtration systems as required to safely handle the hydraulic drive motors.

Guide Wire Constant Tension Winches

Guide winch SB & PS

On the star board A-frame leg two 15 ton SWL are hydraulically driven constant tension winches are installed, these winches are permanently connected by a 36mm diameter 350m long wire via sheaves and the cursor legs to the subsea drill tool. Their main function is to guide the tool during the recovery action into the cursor frame stabbing points.
The power pack of these winches is a common used power pack of 360KW.

Umbilical Winch and Umbilical Sheave.

Umbilical winch

Umbilical guide sheave

The umbilical winch is positioned forward of the lifting frame, directly behind the accommodation. The winch has a drum diameter of 4,25m and has a storage capacity of 350m umbilical diameter 250mm. (or 2500m umbilical with a OD 85 mm) of The winch is driven by a Leroy summer electrical variable constant tension speed drive, capable to function and handle the umbilical even without the slack cable compensation.

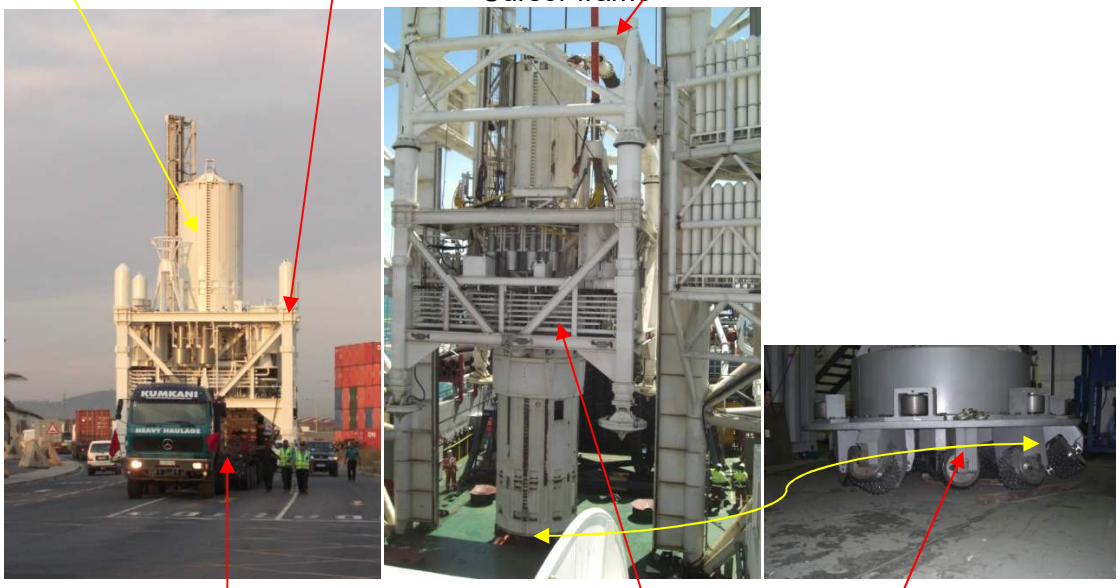
In the port side centre bearing on the winch a electrical slipring assembly (Make Focal) has been installed. It is capable of transferring all the medium voltage (3.3KV), low voltage and the fiber optic control signals in rotating mode. A special breaker and ear thing switch is installed to isolate the umbilical section for the vessel system in the repair and maintenance mode.

In the star board centre bearing of the winch a fluid and air rotary swivel has been installed, which is capable to transfer the required compressed air and various fluids for the subsea drill tool.
The umbilical itself, consists of a power section which is rated to transfer the required power for the 2 times 500KW 3.3 KV electric motors, the control signals for the tool and the fluid and air transfer hoses.

Sample Drill Tool

Tower section / Main frame.

Cursor frame



Sub Sea drill tool on Transport

Drill tool lifted on board

Drill bit Subsea tool

The sampling drill tool is a free standing drill system. The system is build out of a main frame with a dimension of 6.5 by 6.5m and 5.8m high with a total weight of 147 ton in air. In the centre of the frame is the drill tower (casing) installed with a diameter of 2.53 (5m²) surface. Around the tower is a skirt installed which can penetrate 0.8m in the soil around the drill tower.

The tower length is variable and it can drill in various soil depths till a depth of 8.00m in to the sea bed.

The drill tower is lowered and lifted on 4 points via hydraulic drive motors and gear boxes (named the rack and pinion drives). These drives are racking over a dented path way along the tower casing section.
In the bottom of the drill tower the drill bit drive and drill bit is installed, the drill is hydraulically driven and the bit is equipped with 14 rock cutting units, a row of soft cutting points, jet water and suction mouth. The integrated control system of the tool will regulate the drill speed in relation to the required torque and drill forces.

	Specifications drill Bit drive.	**Operating range**
1	Drill Bit RPM output:	Adjustable between 2 and 8 RPM.

2	Drill Bit Torque output:	Maximum torque 240KN (with peak limit of 270KN).
3	Drilling depth Achievable, depending soil conditions, with Owners Cutter Head:	0 to 8 meters standard, extendable to 12 meters is optional.
4	Drill tower downward speed:	Adjustable speed controlled between 0 and 350 mm/min.
5	Drill bit downward force	Adjustable between 5 and max 45 ton.
6	Slurry discharge diameter	Ø 350 mm
7	Available 5 units Air compressors Atlas Copco type CR200W290 feeding central ring main system.	Working pressure: min 10 bar, max 20 bar. Free air delivery: 384L/S per unit.

For the landing and recovery of the tool mechanical end stoppers are installed at the end of the rack path, these safety stoppers taking up the forces during the recovery of the tool from the sea bed.

The overall hydraulic system of the tool is powered by a power pack driven by a 500KW subsea pressure compensated INDAR electric motor.

In the tower sections above the drill bit drive a frequency controlled 500KW 3.3 KV electric motor is installed which drives a pressure jet water pump. , this water is injected under the drill bit and used to agitate the soil and clean up underneath the drill bit, as well to agitate soil underneath the legs prior to take off.

The jet water capacity variable between: Minimum 32 HZ 3,000Ltr/min @ 6 Bar
Maximum 50 Hz 15,000Ltr/min @ 10 Bar

The tool is powered with 3.3 KV & 240 V, control signals effected via fiber optic, compensation fluids and air are supplied from the main vessel via the umbilical to the termination canister on subsea tool, as from where the control signals goes to the underwater POD and various junction valve boxes, the individual components and mechanical items are linked to various pressure compensators in order to keep it free from sea water.

The control system of the tool is installed in a vacuumed POD, with a pressure rating of 50 bar (-500m) all electronic and electrical components are of the highest subsea standards and quality.

The power, controls, signals and hydraulic are transfer between the tool main frame and drill tower via a so called energy chain, this bundle of cables and hoses are fitted in a special guide structure mounted on the base frame of the tool, to guide and guard this bundle during the up/down movements of the tower.

The tool will be equipped with 1 USBL pinger beacons as position back up while deployed on the seabed.

Top-up System for Depth Pressure Compensation

The pressure compensation systems on the subsea drill tool is connected to a surface installed replenishment system, so if due to temperature changes, air entrapments too much expansion or reduction incurred in the compensated fluid systems, the fluids can be supplied from the support vessel.

Slurry Delivery System

Slurry Hose Spooler

The slurry hose is spooled on a winch system with a drum diameter of 6.5m diameter; this winch can achieve the same speed as the main hoist winch, and the drum capacity that can store 200m of slurry hose with an ID of 350mm and an OD of 550mm. the winch is operated manually, and in principle when tool is on sea bed the Slurry hose is in a floating position, and winch in stand by follow mode.

The slurry hose is terminated on the rotating slurry delivery line build in the winch and this rotating delivery line is transferred via rotary slurry joint to the fixed slurry delivery pipe line heading to the diamond processing plant.

Process Seawater Supply

For the overall required cooling and process waters on board an extra sea chest, equipped with two separate filter and pump systems have been installed. The pumps have a capacity of 1000m³/hour with a head of 6 bars.

Electrical Power Supply for Vessel and Mining Equipment.

In total four caterpillar 3516 generator sets have been installed, 3 each producing 1800KW 440V / 60Hz output power and one producing 1700 KW 440V /60HZ. All these generators are linked to 2 common main switchboards equipped with automatic synchronization and load sharing systems controlling the power demand for the total sampling system. From this main MSB the various sub boards and end users are fed.
The subsea tool is also fed from this main board, and the power is converted via step up transformers from 440V to 660V, where after a frequency converter is used to start/stop the motors, from here to a sinus filter module, then to a step up transformer 660V in 3,300V out, via screened HV cable to the umbilical winch breaker.

Control Room

The total subsea controls and operation is affected from a central control room where all plc control systems are united and operated. Furthermore several sections from the onboard CCTV system, installed zones show the required information to the operators.

The Mineral Recovery Plant

The mineral recovery plant exists in principle out of 3 dedicated zones:
The feed preparation and receiving section. (Section 100)
The DMS section. (Section 200)
The Recovery section. (Section 300)

Section 100 the Receiving and Feed Prep

The incoming slurry from the subsea tool via the slurry hose spooler will end up in the receiving box of the plant, here the velocity and the pressures are reduced, it also starts reducing the water content out of the slurry mass. The slurry mass will then proceed on a primary selection vibrating screen in accordance with the standard designed screen panels sizes of :
Under size (Bottom screen deck): 1.25 mm x 8.8 mm panels.
Upper size (top screen deck): 19.00 mm x19.00 panels.

Changing of panel throughput sizes is possible subject to; (a) the provision that it stays within the mass procession capabilities of the process plant design parameters, and (b) overall cost implications for such change are to be negotiated. , The under size tailings is transferred directly to the tailings moon-pool, the oversize tailings is transferred via a belt feeder which can establish the mass of the oversize if there is no water present in the oversize flow. The plant feed material is pumped to one of the four storage bins, as from where it can be selectively handled via a belt feeder system to the following treatment options, but depending the soil conditions:

Option 1 Transfer direct to the DMS unit.
Option 2 Transfer to the Barmac crushing system and from there to the DMS unit.

Section 200

The DMS unit.
Al material from the feed prep is transferred in the DMS feed hopper, as from where it is introduced in the mixing box with the ferrosilicon (type 270,D), passing through the hydro cyclone VC 1220 spigot size 64 mm , and the split between the floats and sinks equipped with screen sizes 1.25 mm by 8.8 mm slots (both over a common wash screen which is treated as restricted area and fully covered by screen fencing), the

floats are routed via a belt feeder to the tailings moon-pool, the sinks are routed to the final recovery section unit.

Section 300

This final recovery section is a restricted access controlled area, and only special authorized personnel who are required have access to this area under supervision of security.
The material introduced to the recovery module in one batch (however we can split if decided in 2 sizes in accordance with the X-ray specifications and settings as from where it will be stored in separate bins) but in general we pass single batches through to the Flow sort double pass x-ray machine section, after the x-ray machine treatment the final high concentrate is guided over a dryer system to the storage container in the glove box container, as from where every individual sample is hand sorted, weighed, counted, first appraisal and packed in the drop save, and all in accordance with the company's final recovery procedures. In accordance with our QA procedure which we execute once weekly a X-ray tracer test.

Our company has the QA procedure that for each sample drilled, a volume between 4 to 8 tracers larger than 4 mm are introduced in the crusher sump (after the Barmec crusher unit) and the samples are not classed as clean and acceptable until 90% tracers been recovered in the glove box. This process is only feasible to execute if we sterilize the plant system between each individual sample, The sterilization process varies but is time -consuming and will take minimum 15 minutes, and depending upon the materials processed this sterilization process can be as long as 40 minutes.

Tailing Overboard System

All tailings from the total mineral separation processes are re-introduced to the sea via the tailings moon-pool located between frame 52 and 58 on the port side of the vessel.

Security Surveillance

In the mineral recovery plant and certain critical points in the subsea launch equipment is observed by 36 cameras. All is recorded onto a special hard drive system for review and analyses. Security Rules are in accordance with the Contract Security Procedures, copy can be made available to client.

TRANS HEX SUPPLY SERVICES (PTY) LTD
Registration No. 2013/123151/07

19 Chain Avenue, Montague Gardens
7441 Cape Town, South Africa
t.: +27 (0)21 510 1881 **f.:** +27 (0)21 510 5035

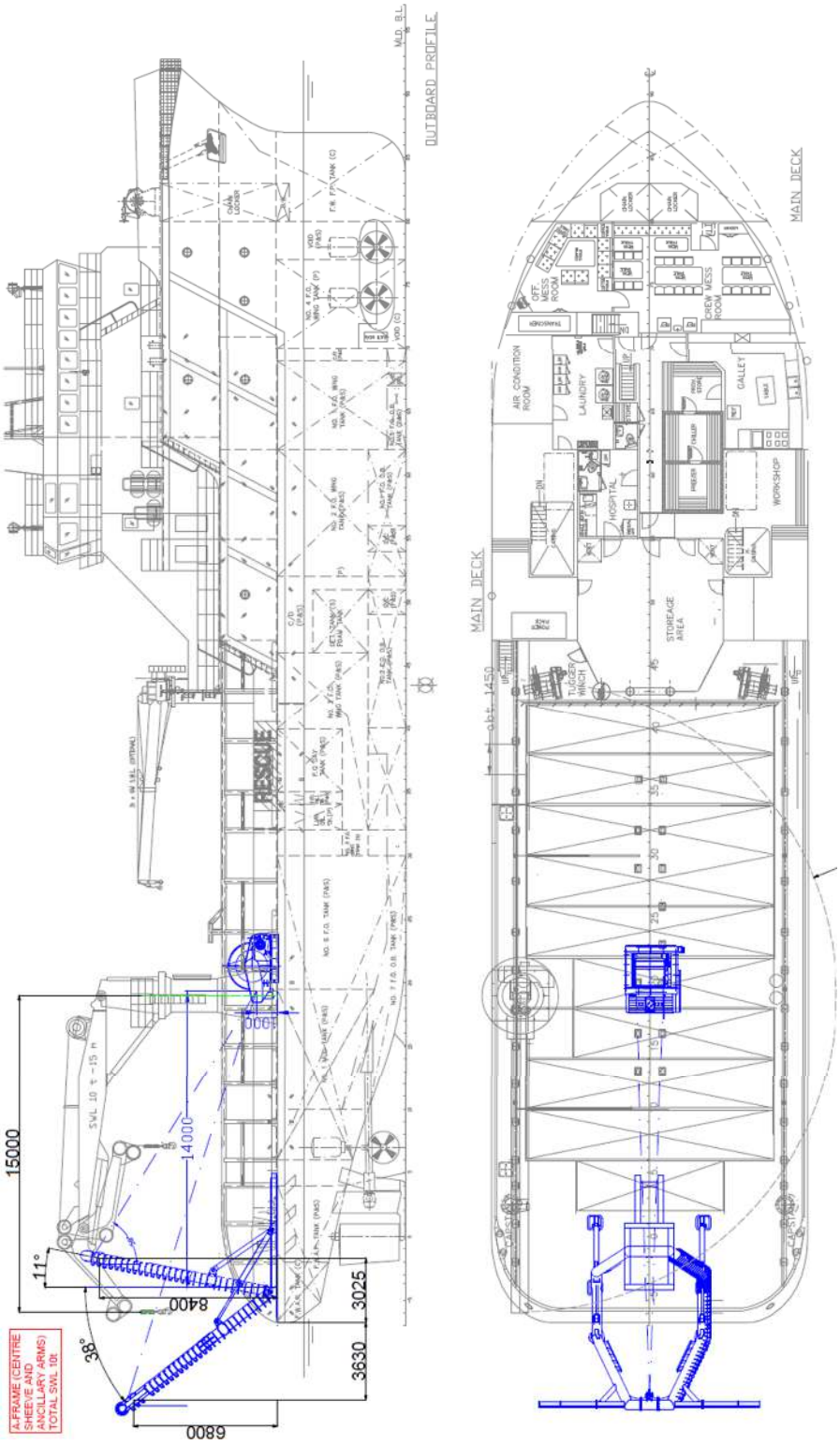
MV Good Wind

Technical Data

OSV Good Wind, offshore supply vessel, oil recovery vessel, survey vessel, DP-1 vessel

TRANS HEX SUPPLY SERVICES (PTY) LTD
Registration No. 2013/123151/07

19 Chain Avenue, Montague Gardens
7441 Cape Town, South Africa
t.: +27 (0)21 510 1881 **f.:** +27 (0)21 510 5035



TRANS HEX SUPPLY SERVICES (PTY) LTD
Registration No. 2013/123151/07

19 Chain Avenue, Montague Gardens
7441 Cape Town, South Africa
t.: +27 (0)21 510 1881 **f.:** +27 (0)21 510 5035

Flag / classification:

Flag:	St. Vincent & The Grenadines
Port of Registry:	Kingstown
IMO Number:	9651345
Call Sign:	J8B6168
Classification:	RINA , Offshore Supply, Vessel, Oil Recovery Ship–flash point>60°, AM/AT (DP 1)

Main particulars:

Builder:	Fujian Southeast Shipyard Funing Shipbuilding Heavy Industry, Fujan, China
Built:	24 August 2012

Principal dimensions:

LOA:	59.25 m
Freeboard Length:	54.00 m
LBP:	52.20 m
Breadth Mld:	14.95 m
Depth Mld:	6.10 m
Draft Mld:	4.95 m

Capacities:

Deadweight:	1471 MT
Gross Tonnage:	1680 MT
Net tonnage:	504 MT
Deck Loading:	7.5 tonnes/sqm
Speed:	13.0 kts @ 100% MCR

Fuel consumption:

Fuel Type:	Marine Diesel Oil
Normal sailing (10kn) abt.	7.5 m^3/day
Economic speed (8kn) abt.	5.0 m^3/day
Surveying abt.	3.5m^3/day
Stand-By in Harbor abt.	0.6 m^3/day

Tank capacity:

Fresh Water:	180 m^3
Fuel Oil:	1150 m^3
Foam:	13 m^3
Detergent:	13 m^3

Main propulsion:

Main Engine:	2 x CAT 3516B, 2575 BHP @ 1600 RPM
Propeller:	2 x CPP c/w Forged steel shafting
Thruster:	2 x Bow CPP Tunnel, 8 mt thrust, electric driven
Steering Gear:	2 x Electro hydraulic driven
Stern Thruster:	1 x CPP Tunnel, 6 mt thrust, electric driven

Power Plant:

Main Generator:	2 x 350kW 415/3/50, diesel engine driven (CAT C18)
Shaft Generator:	2 x 800kW, main engine driven via gearbox (CAT 3516B)
EM Generator:	1 x 65kW, air cooled radiator

Deck machinery:

NOR Crane:	SWL 10 ton @ 15.0 m
Provision crane:	SWL 3 ton @ 9.0 m
Tilting A-frame:	SWL 10 ton @ 3.6 m
Deck spaces:	abt 350m2

Accommodation:

Total berth:	49 including crew, in single, double, triple and quadruple cabins all cabins are air conditioning provided
Mess/Day room:	2

Other facilities:

DP-I System:	Kongsberg K-Pos and C-Joy control
Gyro Compass:	2 x Raytheon STD 22 Compact Gyro Compass
Wind Sensor:	2 x Young 05106 Wind Monitor MA
Motion Reference:	Seatex MRU 5

Survey equipments:

Echosounder Kongsberg:	EM 2040
Sub Bottom Profiler:	Kongsberg Topas PS 40
Sound Velocity Sensor:	Valeport Trough Hull SVS
Attitude and Heading:	Kongsberg Seapath 130 + MRU5
Sound Velocity:	Profile Valeport Mini SVP
DGPS:	C-Nav or Furuno Seastar

DETAILS BELIEVED TO BE CORRECT BUT
WITHOUT GUARANTEE

TRANS HEX SUPPLY SERVICES (PTY) LTD
Registration No. 2013/123151/07

19 Chain Avenue, Montague Gardens
7441 Cape Town, South Africa
t.: +27 (0)21 510 1881 **f.:** +27 (0)21 510 5035

Optional equipment (subject to availability and separate rental agreement)

Vibracorer:

Type:	Geo-Corer 3000 + 6000
Manufacturer	GEO Marine Survey Systems
Total height:	7.4m (for 6 m core)
	4.5 m (for 3 m core)
Base footpringt:	4.7 m diameter (for 6 m core)
	3.2 m diameter (for 3 m core)
Vibromotor:	Electric double vibrating 5.5 KVA
Vibrating frequency:	28 Hz
Vibrating swing force:	30 KN
Core barrel:	ID 113 mm, OD 121 mm
Core length:	3 m or 6 m
Core diameter	106 mm
Umbilcial:	12 leads of 1 mm^2 for power and controls Kevlar reinforced, PU insulated OD of 16 mm
Electric control unit:	In rugged HMPE housing protecting a watertight suspend electric PCU.
Operational depth:	Max 250 m

Magnetometer:

Type:	G-882 Cesium Marine Magnetometer
Manufacturer:	Geometrcis Inc.
Operating principle:	Self-oscillating split-beam Cesium Vapor (non-radioactive)
Operating range:	20,000 to 100,000 nT
CM-221 counter sensitivity:	<0.004 nT/ πHz rms. Up to 20 samples per second
Absolute accuracy:	<2 nT throughout range
Output:	RS-232 at 1200 to 19200 Baud
Sensor fish:	OD: 70 mm
	Length: 1.37 m
	Weight: 18 kg
Tow cable:	Kevlar reinforced multiconductor tow cable, MBL 1.8 T, OD 12 mm
Tow cable length:	3000 m
Operating temperature:	-35 dgr C to +50 dgr C
Max operating depth:	400 m
Power:	24 to 32 VDC, 0,75 Amp start up, 0.5 Amp running

Sparker sub bottom profiler:

Type:	Geo Spark 200
Manufacturer:	GEO Marine Survey Systems
Vertical resolution:	<300 mm
Waterdepth:	Max 500 m
Penetration:	400 ms below seabed, geology and circumstances depending
Tow cable:	Kevlar reinforced coaxial tow cable, 4 x 6 mm^2 cores and 25 mm^2 braiding

DETAILS BELIEVED TO BE CORRECT BUT
WITHOUT GUARANTEE

TRANS HEX SUPPLY SERVICES (PTY) LTD
Registration No. 2013/123151/07

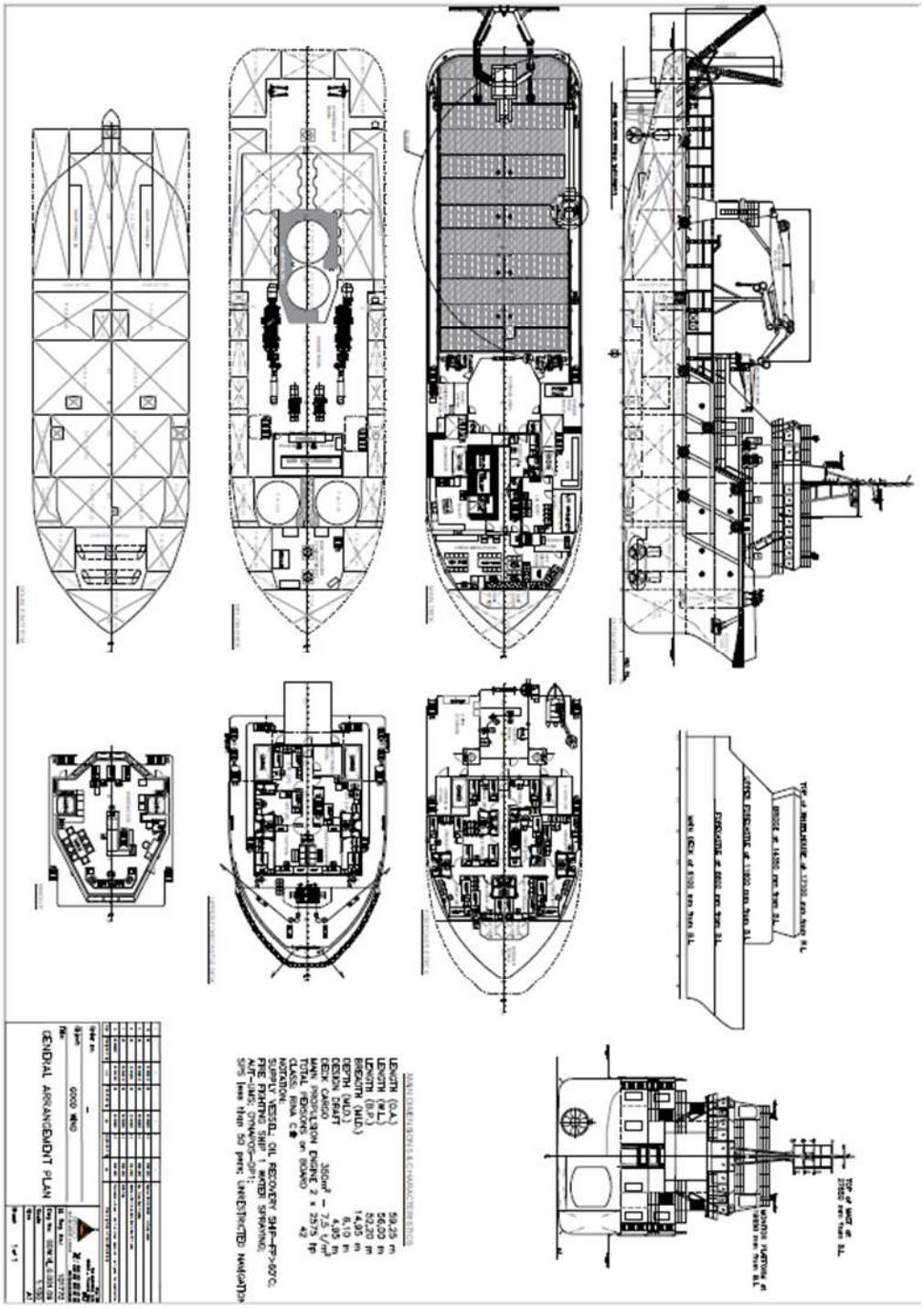
19 Chain Avenue, Montague Gardens
7441 Cape Town, South Africa
t.: +27 (0)21 510 1881 **f.:** +27 (0)21 510 5035

Ship to ship fuel transfer:

Hose length:	60 m or 120 m
Hose ID:	4”
Hose working pressure:	10 bar
Dry break coupling:	Mann Tek N563M4401
Fuel transfer pump:	2 x EBAB Gear Pumps RN150FL
Capacity:	3334 LPM
Max fuel transfer rate:	120 m^3/h
Max fuel transfer load:	1000 m^3 per voyage

TRANS HEX SUPPLY SERVICES (PTY) LTD
Registration No. 2013/123151/07

19 Chain Avenue, Montague Gardens
7441 Cape Town, South Africa
t.: +27 (0)21 510 1881 **f.:** +27 (0)21 510 5035



OSV Good Wind General Arrangement Plan

Annexure 8

m/v Ya Toivo Management Structure (22 Dec / Ver. 8)

Work Sequence
Day Shift Only
A shift
B Shift

Contracting companies
Hippo Shipping
SAVMS & Nutam Ops
Geo Services
Catering Services
Chase Waterford

CEO

IMDH On-shore Management contact line TBA

total crew 83

ShipOwner's Technical Manager (ARGO DPA)

Offshore Mine Manager (one on board at time) 2

Assistant for OMM & STPS

Senior Technical & Production Superintendent (one on board at time) 20

1 MASTER (one on board at time on Board) 22

Plant & control room manager (one at the time on Board)

Plant & control room manager (one at the time on Board)

1st Store Man

22

2nd Store Man

CW Senior Security manager (one at the time on Board) 5

2 x . Security officer

2 x . Security officer

1st Cook

Ass Cook

Ch Mate / HSE
Mr?

2nd Mate
Mr?

2 x Galley Assistance

2 x Galley Assistance

Ch Mate / CSD
Mr?

2nd Mate
Mr?

Plant Control Operator

Plant Control Operator

Technical Mining Equipment Superintendent (One at the time on Board)

Technical Mining Equipment Superintendent (One at the time on Board)

2 x Cabin Cleaning

2 x Cabin Cleaning

1 x Boson
Mr?

Senior Plant Operator Feed & DMS
Christopher Newman

Senior Plant Operator Feed & DMS

Senior Crawler Production Control Operator

Senior Crawler Production Control Operator

2 x Plant Operator

2 x Plant Operator

Crawler Technical Control Operator

Crawler Technical Control Operator

Chief Engineer (one at the time on Board) 11

2 x Able Seaman
Mr?
Mr?

2 x Able Seaman
Mr?
Mr?

Ordinary Seaman

Ordinary Seaman

Mechanical supervisor

Mechanical supervisor

Chief Geologist 3

Chief Geologist

Ships Electrician
Mr ?

Ships Electrician
Mr ?

1 x Ordinary Seaman
Mr?

1 x Ordinary Seaman
Mr?

Senior Plant Operator Recovery

Senior Plant Operator Recovery

Mechanical technician

Mechanical technician

Geologist

2nd Engineer
Mr ?

2nd Engineer
Mr ?

Plant operator revery

Plant operator revery

Hydraulic technician

Hydraulic technician

3nd Engineer
Mr ?

3nd Engineer
Mr ?

Senior sorter

Senior sorter

Electronic / IT engineer

Electronic / IT engineer

4th Engineer / Motor Man
Mr ?

4th Engineer / Motor Man
Mr ?

Sorter

Sorter

Electrician

Electrician

Wiper
Mr ?

Wiper
Mr ?

Boilermaker

Boilermaker

Boilermaker ass / Plant Fitter

Boilermaker ass / Plant Fitter

Annexure 9

Note - Annexure 9 (THO Financial Position) removed from Stakeholder version of MWP