GER

REQUEST FOR SECTION 11A APPROVAL

REMOVAL OF LOW GRADE ILMENTITE DUMP/STOCKPILE

POINT PLOMER ROAD, CRESCENT HEAD, NSW

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1.0 SUMMARY OF THE ACTIVITY

Greencoast Environmental Rehabilitation (GER) is seeking approval under section 11A of the NSW Mining Act Mining Act 1992 to remove an existing low grade ilmenite stockpile/dump located within GER's Exploration License 8085.

The stockpiles are located at the site of a former mineral separation plant or 'dry mill', located approximately one kilometer south of the township of Crescent Head, New South Wales, on the eastern side of Point Plomer Road, on Lot 2281 Deposited Plan 1153793.

GER understands the ilmenite was dumped over a period of nearly 30 years as an unwanted by-product from a mineral separation plant. The plant was operated on the site by Mineral Developments Limited between approximately 1957 and 1985. GER understands that the plant was decommissioned sometime in the 1980's following completion of mineral sand mining activities on beaches between Crescent Head and Hat Head. The ilmenite tailings remain onsite as a large stockpile/waste dump sitting 5-10 metres above natural ground level.

GER has evaluated the economic potential of removing and selling the ilmenite stockpile/dump, and subsequently rehabilitating the stockpile's foot print to as close to its natural state as reasonably possible.

Ground cover of the stockpile/dump is dominated by invasive weed species, with up to 90% weed cover. Consideration has also been given to a broader range of environmental impacts, including heritage, air, surface water, soils, chemical and hazardous substances management, contaminated land, waste minimisation and management, natural resources, local community and neighbouring properties, visual impacts, land use and cumulative environmental effects.

The stockpile/dump removal is expected to take approximately 100 working days and occur over a period of 6 months. Activity on site is planned to occur within daylight hours only. The stockpile removal will be performed using a small front-end loader to load conventional semi-trailer trucks. No permanent infrastructure will be required onsite.

GER view this project as a 100% self-funded site remediation project of previously dumped waste material.

2.0 ECONOMIC JUSTIFICATION OF THE ACTIVITY

GER's desk-top studies of former mineral sand processing areas in coastal NSW identified the possibility of former ilmenite stockpile/dumps near Crescent Head, leading to the application and granting of Exploration License 8085.

As part of GER's next phase of exploration efforts, small core hand auger samples were collected and assayed, and the volume of the stockpile/dump was calculated, based on the drilling data combined with a topographic survey.

GER's exploration work identified an existing resource of relatively large tonnage (around 100,000 tonnes) of potentially economic grades of ilmenite ($FeTiO_3$). However, the titanium content of the Crescent Head ilmenite stockpile/dump is relatively low by market standards, meaning (a) the ilmenite requires

beneficiation in an off-site treatment facility to create a saleable product, and (b) titanium market prices must be robust, to cover the additional costs of the beneficiation process.

The price of ilmenite fluctuates significantly, and being a mineral commodity the price tends to follow cycles. These cycles tend to last seven to nine years. At the time of writing the ilmenite price is in the recovery phase, after seven years of stagnant prices, and so GER expects the 'price window' for a viable project at Crescent Head will last for approximately two years. Should the ilmenite price fall again, it's likely that the removal of the stockpile/dump will again become uneconomic and stockpile/dump removal and site rehabilitation economically unviable.

GER view this project as a 100% self-funded site remediation project of previously dumped waste material, and therefore requests a Section 11A approval to allow the stockpile/dump removal to proceed in a timely fashion.

3.0 SITE LOCATION AND DESCRIPTION

The site is located within Exploration Licence (EL) 8085. EL8085 is located within New South Wales North Coast region and is covered by the Kempsey Shire local government area.

The subject site is lies entirely within Lot 2281 DP1153793 (Figures 1 and 2). The land is Crown Land, held under Crown Reserves No. 1003 268 and was previously the site of a former mineral separation plant or 'dry mill'. The total area of the subject site is less than 2 Ha.

Figure 1. Regional Location Map

Figure 2. Aerial image of Lot 2281 DP1153793. Approximate outline of ilmenite stockpile/dump in yellow showing access from Point Plomer Road (A) and site of former MDL mineral separation plant site (B). Approximate surface area of ilmenite pile 2 Ha.

Greencoast Environmental Rehabilitation (GER) have reviewed potential Environmental Factors to assess the environmental impact of removing ilmenite tailings material within GER's Exploration License 8085. The tailings consist of an abandoned stockpile/dump of ilmenite at the site of a former mineral separation plant or 'dry mill', located approximately one kilometre south of the township of Crescent Head, on the eastern side of Point Plomer Road, on Lot 2281 Deposited Plan 1153793 (Figures 2).

4.0 THE EXISTING ENVIRONMENT

4.1 CLIMATE

Rainfall records from Crescent Head are available from the Bureau of Meteorology (BOM) from 1904 to 2014. Mean annual rainfall over this period was 1,467.7mm. Minimum annual rainfall was 760.5mm and maximum 2,588.1mm, according to the BOM records. As shown Figure 3, January-April are usually the wettest months and July-September the driest, over an average calendar year.

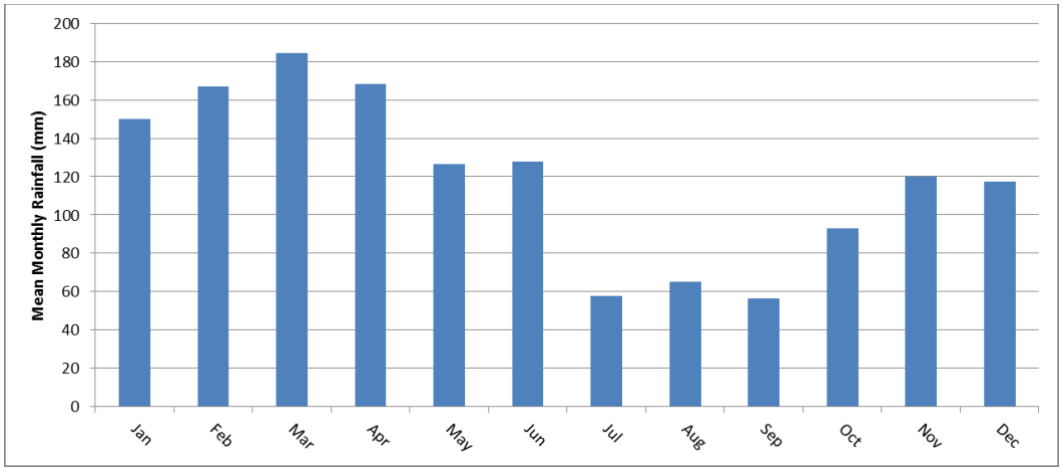

Figure 3. Mean Monthly Rainfall, Crescent Head (1904-2014).

4.2 GEOMORPHOLOGY

The ilmenite stockpile/dump and former mineral separation plant site lies within an embayment of bedrock (lithic sandstone and shale), and sits on flat lying Quaternary aged quartz sand (Figures 4 & 5). The stockpile/dump itself rises up to approximately 5-10 m above the natural ground level.

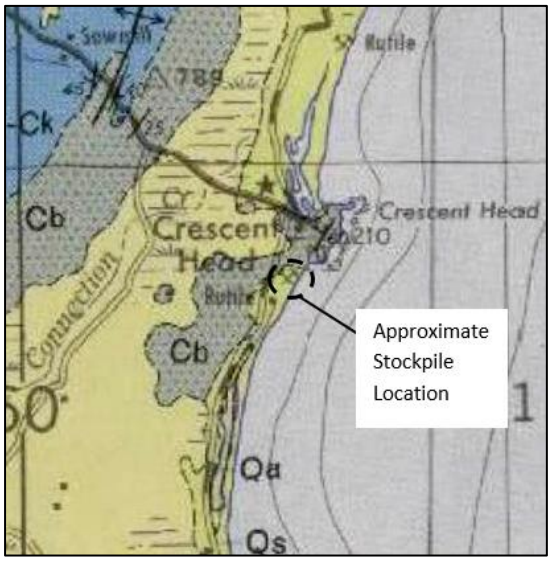

Figure 4. Regional geology and geomorphology with general location of stockpile.

Figure 5. Clean quartz sand intersected by hand auger at base of ilmenite stockpile/dump.

4.3 SURFACE AND GROUNDWATER SOURCES

The ilmenite stockpile/dump was placed 5-10m above the natural ground surface. None of the eight hand auger holes drilled across the stockpile/dump in January 2014 intersected wet material which would indicated proximity to an underlying water table in the quartz sand beneath. The proposal does not comprise drilling or excavating below the base of the stockpile/dump, therefore there are unlikely to be any impacts to groundwater as a result of the proposal.

4.4 FLORA

In January 2014 Michael Hallinan (Michael Hallinan Flora & Fauna Consulting) conducted a one-day survey of the site. Mr Hallinan confirmed the stockpile/dump is predominantly covered with invasive weed species, particularly *Lantana Camara* (Lantana) and *Pointeridium esculentum* (Bracken Fern). Lesser infestations of *Rubus fruticosus aggregate* (Blackberry) and *Chrysanthemoides monilifera* (Bitou Bush) are also present. It is estimated that weeds cover around 90% of the stockpile/dump.

Heavy infestations of Lantana dominate the southern end of the stockpile in particular. Lantana is known to be toxic to native fauna, potentially resulting in liver and kidney failure if ingested. Bracken Fern is the more prevalent invasive species in the northern and central sections of the site.

Figure 5. Overview of the stockpile/dump looking to the south. Dominant flora species include *Lantana Camara* (Lantana) and *Pointeridium esculentum* (Bracken Fern).

In addition to invasive species, a mature stand of native Eucalypts has been identified, at the northern end of the stockpile and between the stockpile and Point Plomer Road (Figure 6). These trees will be flagged off and protected to ensure no damage occurs during stockpile removal. The retention of these Eucalypts will provide continuation of landscape visual amenity during the stockpile/dump removal process, providing a screen to effectively mitigate the view of operations from Point Plomer Road.

4.5 SOLID WASTE

Aside from the ilmenite (which itself is solid waste being former mine tailings), other examples of partly buried solid waste are evident protruding from the stockpile/dump, including HDPE pipe, steel pipe and timber (Figure 7). This suggests that there is likely to be more solid waste buried within the stockpile/dump. However, the actual amount of solid waste cannot be determined until removal of the ilmenite stockpile/dump is complete.

A large concrete slab believed to be foundations of former MDL Mineral Separation Plant is present on the site, although it is well outside the area of the ilmenite stockpile/dump and will not be part of the stockpile/dump removal (Refer to location ‘B’ in Figure 2, and Figure 7).

Figure 6. Location of mature Eucalypts between stockpile/dump and Point Polmer Road. These trees will be flagged off and protected to ensure no damage during stockpile removal and site remediation. The Eucalypts will provide continuation of visual amenity during the stockpile/dump removal process, providing an excellent screen of the operations, restricting the view of the site from Point Polmer Road.

Figure 7. Examples of partly buried solid waste in the stockpile/dump

Figure 8. Concrete slab believed to be foundations of former MDL Mineral Separation Plant. Slab location shown as 'B' in Figure 2.

5.0 DESCRIPTION OF THE PROPOSED ACTIVITY

5.1 SITE OPERATIONS

GER propose to remove the entire stockpile/dump consisting of approximately 47,500 m_3 of ilmenite (Figure 9) using conventional load and haul techniques.

The initial reclamation of the stockpile/dump will be from the north western end of the site, immediately adjacent Point Plomer Road. This area has previously been cleared, most likely by Mineral Developments Ltd during their site operations, with existing access from the road (Figure 9). Ilmenite has also been recently illegally removed from this area. During the exploration phase of the project GER observed contractors removing a small part of the stockpile/dump and carting it away in a tip truck (Figure 10). GER immediately reported this activity to NSWPW.

To allow truck access and room for loading a small area of re-growth and invasive species vegetation will be cleared. All clearing will be confined to the stockpile area and be rehabilitated to as close to its pre-dump state as much as reasonably possible, once the stockpile/dump has been removed. Mature Eucalyptus trees identified during the flora survey (Figure 6) will be flagged off to allow a safe off-set for the Front End Loader to prevent damage to the trees and their roots. The Eucalypts will provide continuation of visual amenity during the stockpile/dump removal process, providing an excellent screen of the operations, restricting the view of the site from Point Polmer Road.

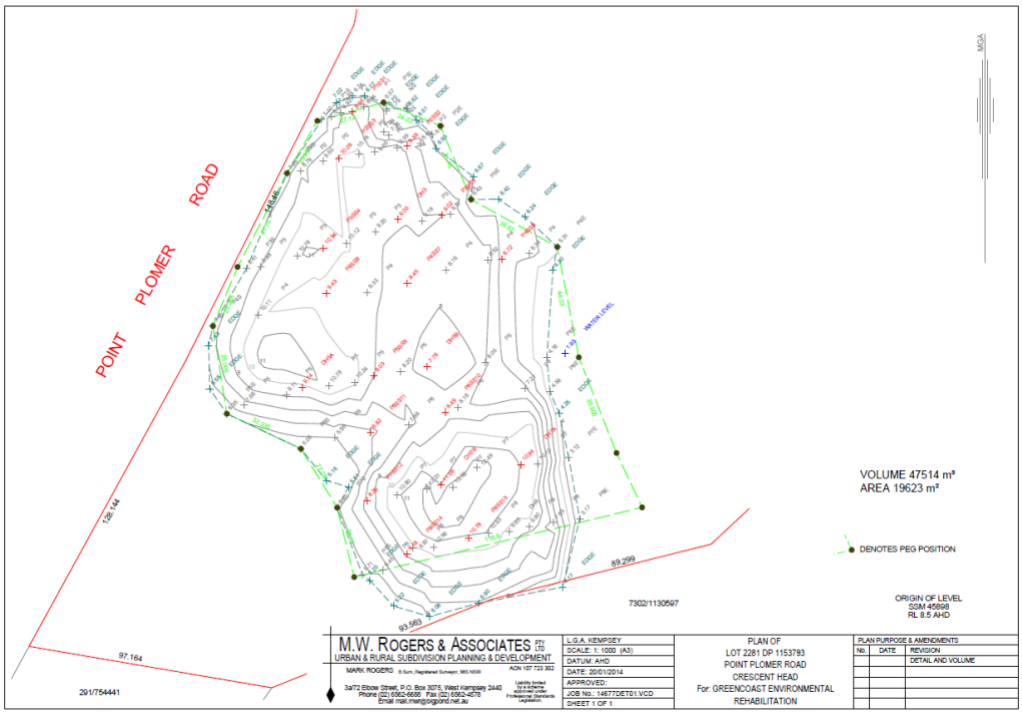

Figure 9. Stockpile/dump survey diagram. Stockpile has estimated volume of 47,514m3 and surface area of 19,623m2

Figure 9. Existing entrance to site off Point Plomer Road showing exposed ilmenite

Figure 10. North western end of stockpile showing evidence of un-authorised removal of ilmenite from the site. GER estimates several hundred tonnes have already been removed from this corner of the stockpile by local building contractors. GER has reported this activity to NPWS.

Depending on site conditions the access area will either be sheeted using flexible pavement or graded and watered as required to minimise dust and environmental impacts for the life of the activity.

Following construction of the access area the flanks of the ilmenite stockpile/dump will be cleared of vegetation to enable removal of the stockpile/dump. Vegetation and topsoil removed during clearing and access construction will be stockpiled on site for later reuse in the site remediation program (including mulching).

GER propose to remove the ilmenite using conventional load and haul techniques. It is planned to survey and divide the stockpiles into approximate squares 10m wide. Use of survey markers graduated at 0.2m intervals and installed in hand auger holes will allow the excavator or loader operator to know the depth to natural ground surface and allow the operator to control bench heights and batter the working face back to a safe angle (Figure 11 and 12). A Traffic Management Plan (TMP) will prepared once timing of the activity is known. It is proposed that the TMP include on-site traffic management strategies, signage at several points on Point Plomer warning of truck movements on the approach to the access track, regular liaison with police and KSC, and advertising to alert Crescent Head residents of increased traffic movements for the duration of the activity.

Hours of operation will be confined to day light hours only, days of operation will be Monday to Friday only and exclude Public Holidays.

GER's overall site remediation objective is to return the area covered by the ilmenite stockpile to a standard that will allow the site to be returned to its natural state. GER propose commencing contouring, top soil spreading and irrigation within one month of the end of the activity.

Materials that can potentially be recycled including steel, concrete and green waste will be segregated and taken to the appropriate local recycling facilities. In the case of green waste it may be mulched on site for use during site rehabilitation.

It is proposed to load the ilmenite into conventional road trucks for direct transport from the site to the nominated Port.

Following stockpile and fill removal and contouring, mulched vegetation and topsoil stockpiled during clearing and access construction will be evenly spread across cleared areas. This process is designed to encourage germination of the seed bank contained within the topsoil, while the mulched vegetation will reduce erosion and simultaneously provide natural compost to assist regeneration.

As the ilmenite stockpile/dump lies above the natural ground surface and is covered with invasive weeds, environmental disturbance shall be minimal. GER intends to clear only regrowth and invasive weeds such as Lantana, Bitou Bush and Bracken Fern, and only if necessary to allow access in the areas nominated. Mature native trees will not be cut, trimmed or damaged.

No buildings or shelters will be erected. Toilet facilities, meals and accommodation are all available in Crescent Head, which is a five minute drive from the site. Prior to leaving site contractors are required to inspect their footwear, clothing and equipment and remove any seeds and vegetation to prevent possible spread of noxious weeds.

The revegetation phase of the project will be managed by a specialist contractor specialising in ecological restoration and revegetation with demonstrated success with similar projects in coastal NSW, using local labour as much as possible for the pant-out.

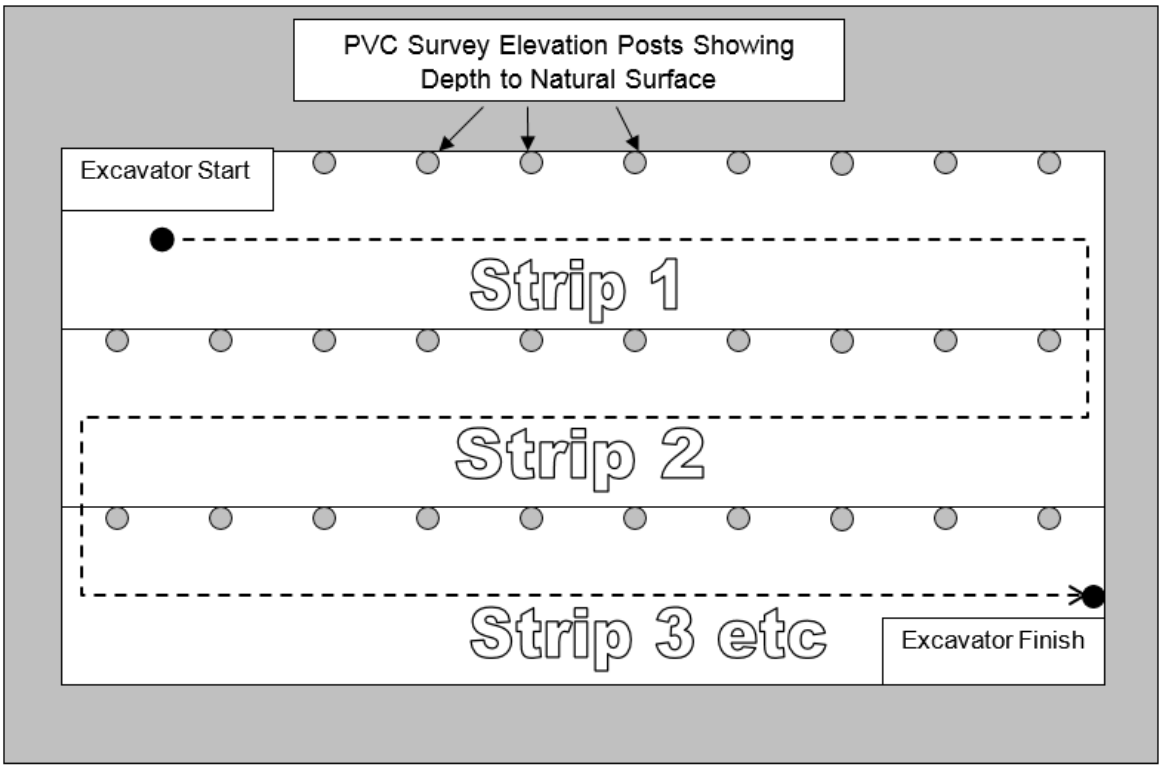

Figure 11. Schematic plan of GER proposed excavation and load sequence designed to minimise over-digging, leading to potentially unstable face angles and unnecessary environmental disturbance.

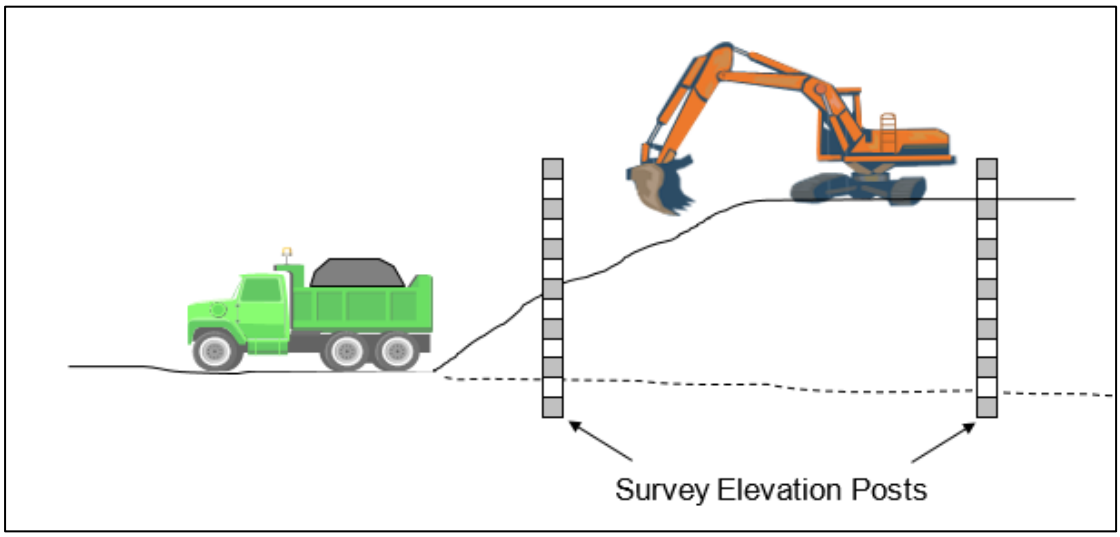

Figure 12. Schematic cross section of ilmenite stockpile/dump showing GER proposed excavation and load arrangement with survey elevation posts used to control dig depth to natural ground surface.

5.2 PROJECT COMMUNICATION STRATEGY

To ensure the Projects success a Project Communication Plan will be developed. The purpose of the project communication plan is to provide consistent and timely information to all project stakeholders. This plan will assist the project team in building an effective communication strategy to enhance communication throughout the project's delivery, both internally and externally.

The plan will be developed using the following process:

- Identify relevant stakeholders
- Identify the project team members
- Identify stakeholder information requirements
- Determine report frequency
- Establish method of information distribution
- Document the Communication Plan
- Implement and monitor the Communication Plan

The DNRW project officer will be invited to participate in the plans development.

Likely external (Public Relations) outputs from the Communication plan include:

- Site Open day. A site open day will be held to allow neighbours and relevant stakeholders to visit the site and learn more about the Project and the final planned remediation.

- Regular information notices will be published in the local media informing the public about the Project and its progress.

- Suitable signs will be erected on the perimeter of the Project site informing the public of The Project, the environmental and community benefits and project management/community liaison/emergency contact details

- GER's overall site remediation objective is to return the area covered by the ilmenite stockpile/dump to a standard that will allow the site to be returned to its natural state as much as reasonably possible. GER propose commencing contouring, top soil spreading and irrigation within one month of the end of the removal phase.

- Materials that can potentially be recycled including steel, concrete and green waste will be segregated and taken to the appropriate local recycling facilities.

- It is expected that a thin layer of mixed ilmenite-quartz sand will be left on-site following removal of the main ilmenite stockpile/dump. This material will be covered over with clean sand to a sufficient depth to consistent with accepted mine site rehabilitation practices.

- Following stockpile/dump and fill removal and contouring, mulched vegetation and topsoil stockpiled during clearing and access construction will be evenly spread across cleared areas. This process is designed to encourage germination of the seed bank contained within the topsoil, while the mulched vegetation will reduce erosion and simultaneously provide natural compost to assist regeneration.

6.0 POTENTIAL ENVIRONMENTAL IMPACTS

This proposal involves removing dumped mineral processing waste (ilmenite) from above the natural ground surface, and rehabilitating the site to its former condition as much as reasonably possible. No excavation or drilling below natural ground surface is proposed. The proposal will improve the environmental value of the site, and will not impact on natural soil quality, land stability, soil degradation, contamination, salinization or acidification.

6.1 SUMMARY OF POTENTIAL PHYSICAL AND CHEMICAL IMPACTS

Potential physical and chemical impacts of the proposal are discussed as follows:

- MDL's mineral separation plant was active between approximately 1957 and 1985. The concrete foundations of the former plant site (Figure 8) are of doubtful archaeological significance, but in any case they will not be impacted by the proposal.

- The stockpile/dump is situated on flat lying ground adjacent to Point Plomer road. There are no dunes or other unique landforms that are likely to be affected by the proposal erosion prone areas or areas with slopes greater than 18°

- The stockpile/dump is situated on flat lying ground adjacent to Point Plomer road. There are no slopes greater than 18° that are likely to be affected by the proposal subsidence or slip areas.

- The stockpile/dump is situated on flat lying ground adjacent to Point Plomer road. There is no evidence of subsidence or slip areas that are likely to be affected by the proposal.

- There are no known acid sulphate or sodic soils in the project area. The ilmenite stockpile/dump itself and underlying quartz sand are likely to have permeability values typical sand, which may be between 0.1–10 m/d.

- There are no known areas with salinity or potential salinity problems in the project area.

- The proposed activity does not adversely affect the safety of the public offsite from a change in coastal risks as a result of the development.

- The proposed activity does not increase coastal risks to properties adjoining or within the locality of the site, nearby infrastructure, services and utilities maintain their function and achieve their intended design performance

- The proposed activity accommodates natural coastal processes including those associated with projected sea level rise

- The proposed activity ensures that coastal ecosystems are protected from development impacts.

- The proposed activity ensures that existing public beach, foreshore or waterfront access and amenities are maintained.

- The proposed activity does not involve the use, storage or transport of hazardous substances or the use or generation of chemicals which may build up residues in the environment.

- Noise level measured at the nearest receptor, residence approximately 250m away, is expected to remain at background levels. A 250m heavily timbered natural buffer exists between the site and the residence. The proposed mobile equipment is either road registered (Local contractor vehicles) and already operating in the area, or will have the appropriate silencer fitted.

- The heavy nature of ilmenite will be limit any air emissions at site. If required, a water cart will be used for dust suppression.

6.2 SUMMARY OF POTENTIAL RADIOLOGICAL IMPACTS

When mineral sands are processed the residues may have elevated radioactivity due to removal of the non-radioactive portion of the sand. These residues are typically associated with the mineral monazite, which is a non-magnetic thorium and rare-earth phosphate mineral. However, during the mineral separation process ilmenite, which is weakly magnetic, (also known as 'mag-tails') is removed from the non-magnetic monazite fraction (also known 'non-mag tails') and dumped separately. GER understands that monazite was dumped outside GER's exploration lease.

Laboratory analysis of surface samples and subsurface auger samples from across the Crescent Head ilmenite stockpile/dump confirms low concentrations of both phosphate (0.017 to 0.031%) and thorium (<0.002 – 0.005%), which would be indicative of monazite. Uranium concentrations were below detection limits (0.01%) in all samples.

Transport of ilmenite from the project area will be in compliance with both the Radiation Control Act 1990 and the Transport Code, if/where relevant.

7.0 STAKEHOLDER CONSULTATION

The ilmenite stockpile/dump lies entirely within Lot 2281 DP1153793 (Figures 2 and 3). GER has been advised by Crown Lands that the land is NSW Crown Lands property held under Crown Reserves No. 1003 268 GER have identified a number of stakeholders including:

- The land holder (NSW Crown Lands)
- The land manager (NSW Parks and Wildlife Service)
- The local council (Kempsey Shire Council)
- Various local residents in the Kempsey Shire who contacted GER's through the public advertising campaign in December 2013, including North Coast Environment Council's John Jeayes
- Rob what about the local Aboriginal Land Council guy you talked to – name & date?

Community and consultation process will be refreshed before the commencement of any activity onsite, with the aim of minimising any potential impact on stake holders and the local community.

8.0 STATEMENT OF COMMITMENT

If formal approval under section 11A of the NSW Mining Act Mining Act 1992 is granted GER plans to remove the ilmenite stockpile/dump and rehabilitate the dump site to as close to its pre-mining state as reasonably possible, similar to similar site remediation projects conducted by Green Coast Resources in SE Queensland (Refer Figures 13, 14 and 15).

GER believes the Crescent Head environmental rehabilitation project has the potential to significantly increase the environmental value of Crown Land by removing potentially large tonnages of mining waste, at no cost to Local or State Government. Other potential benefits include increased local employment opportunities in an economically subdued area, and additional State and Federal Government revenue through mineral royalties and taxation.

Figure 13. Abandoned Ilmenite tailings dump Noosa North Shore (photo taken in 2007) prior to removal by Green Coast Resources.

Figure14. Former ilmenite tailings dump, Noosa North Shore approximately three months after ilmenite removal and plant-out with native vegetation (photo taken January 2013).

Figure 15. Former ilmenite tailings dump, Noosa North Shore approximately one year after ilmenite removal and plant-out with native vegetation (photo taken October 2013).

9.0 Insurance Cover

GER holds $10,000,000 in Public Liability Insurance. GER has confirmed this level of cover is adequate for the proposed program with Terry Hemmingway (Manager Crown Lands, Taree NSW). Rob I guess you know this policy has now expired.

Workers Compensation insurance will be held by all contractors and consultants undertaking work on behalf of GER on site for duration of the program.

10.0 Security Deposit

GER has lodged a $10,000 security deposit with NSW Department of Trade and Investment to ensure there is no default on the requirement to make good any environmental or other damage that may arise out of GER's exploration activities on EL 8085.

Should you wish to discuss GER's formal request for approval under section 11A of the NSW Mining Act Mining Act 1992 Land Access Agreement, please contact the undersigned.

Yours sincerely

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