RANOBE MINE PROJECT, SOUTHWEST REGION, MADAGASCAR

VOLUME 21: STAKEHOLDER ENGAGEMENT

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1. STAKEHOLDER ENGAGEMENT ACTIVITIES

The Madagascar EIA regulations (MERCIE) stipulate that public participation is organised by ONE and that the proponent will be notified 7 days prior to commencement of the public participation process. Public consultation in terms of MERCIE may take place in 3 phases:

- Document Review Process:
  - Collection of public opinion by the local authority.
  - No less than 10 days.
  - No more than 30 days.

- Public Enquiry:
  - Collection of public opinion via an environmental interviewer in collaboration with the local authority.
  - No less than 15 days.
  - No more than 45 days.

- Public Hearing:
  - Can be requested in addition to the above.
  - No less than 25 days.
  - No more than 60 days.

The public participation process (PPP) is a joint effort by stakeholders, technical specialists, the authorities and the proponent who work together to produce better decisions than if they had acted independently. Completed public participation activities to date are summarized below by each phase.

1.1 Stakeholder Engagement during the Original ESIA

This section provides a brief summary of the public participation plan for the original Exxaro EIA which formed the terms and reference for public participation according to the following phases:

- Pre-feasibility
  - Identification of I&APs.
  - Informing stakeholders about the proposed project.

- Scoping and Stakeholder Analysis
  - Informing stakeholders about progress on the proposed project and additional infrastructure.
  - Identification of additional I&APs.
  - Gathering concerns and suggestions from I&APs to be included in the ESIA.
  - Presenting the Draft Scoping Report for comment.

- Environmental Analysis: Specialist Studies
  - Gathering local knowledge and concerns from I&APs with specific reference to the various baseline studies being undertaken.

- Review of ESIA Report
  - Presentation of the specialist studies and proposed mitigatory measures.
  - Review of the ESIR report by I&APs.

Scoping and Stakeholder Analysis

Between November 2002 and January 2006, communication between the Toliara Sands Project and stakeholders at the national, regional and local levels was maintained by World Titanium

Resources. In February 2006, CES conducted a scoping study and a stakeholder analysis. This study was informed by data from the pre-feasibility study and a series of additional meetings with stakeholders. Using a snowball sampling strategy already identified I&APs assisted with identification of further possible stakeholders.

Meetings were run by representatives of CES and World Titanium Resources. At the community level, meetings were held with the 3 *communes* and 8 villages adjacent to the mining area. Meetings were also held in Andrevo with the village situated near the location for a possible new jetty, and representatives of *Fokontany* along the RN9 were strategically sampled. Public consultation at NGO and International funding organisation level was also undertaken. At a government level, contact was renewed with important government officials at national and regional level. Government departments with interest in the additional infrastructure for the mining project were also included.

Presentation of the Draft Scoping Report

The Draft Scoping Report (DSR) was presented by means of a 'road show' (9-18 May 2006), with public meetings in Antananarivo and Toliara. The draft report was also presented to relevant national and regional Forums of environmental organisations, government organisations and community representatives. The DSR was presented in French, English and Malagasy and IA&Ps were invited to comment. During the road show, a series of visual aids were available for presentation to stakeholders and I&APs. This included a power-point presentation (translated into French), and posters and illustrations (in French and English) showing the ESIA process. Maps and satellite images illustrated the mine area, and there were posters describing the proposed specialist studies and the key issues raised by I&APs. The details of these meetings were advertised in local newspapers.

The following meetings took place during the road show:

- Meeting with Dr Cyprien Mandihitsy, anthropology lecturer at Toliara University;
- Meeting with Jocelyn Rakotomalala, SAGE;
- Meeting with WWF;
- Meeting with WWF and ANGAP;
- Meeting with World Bank;
- Meeting with Hotel Owners;
- Meeting with National and Provincial Authorities;
- Meeting with Tsianisiha villagers;
- Meeting with Ankilimalinike villagers;
- Public Participation Meeting with Government and NGOs were held in Toliara;
- NGO meeting regarding employment strategy;
- Conjoint Mine et Forest meeting in Antananarivo; and
- Open Public Meeting Toliara.

Environmental analysis: execution of all specialist studies

Throughout the ESIA phase of the project, stakeholders and I&APs were able to submit grievances and concerns about the proposed mining procedure and the ESIA process and receive responses in a formalised manner. In addition, a public consultation team was set up in order to ensure successful ongoing communication with I&APs and ongoing identification and analysis of additional I&APs.

The public consultation team consisted of the following people:

- Community and Regional liaison persons.

- Haingo Namirie Hermione was the CES Regional Project Administrator and Tiana Ramala was appointed as the CES Madagascar Project Administrator on the Toliara Sands Project. They are familiar with local language and culture, and maintained the communications at community and provincial level. This ensured quick and efficient responses to stakeholder requests.
- Jules Le Clezio (representative of World Titanium Resources) based in Antananarivo.
- Carla Strydom (representative of Exxaro Resources).
- Hilde van Vlaenderen (representative of CES).
- Ted Avis (CES).
- Brian Colloty (CES).

Due to the sensitive nature of rehabilitation and conservation issues a series of forum meetings were set up during the ESIA phase of the project. The main objectives of these meetings were to create a platform for sharing of information or opinions on the possible vegetation rehabilitation and conservation potential of areas and proposed strategies for the Ranobe area.

1.2 Stakeholder Engagement during the Scoping Phase of the present ESIA

Scoping was initiated using the stakeholders listed in Table 1.2 below as a starting point. Stakeholder engagement during the Draft Scoping Report disclosure predominantly focused on providing information on the new project and gathering stakeholders' views on the proposed terms of reference for the ESIA specialist studies, identifying additional or new stakeholders, and gathering perceptions and comments on the proposed terms of reference for the specialist studies.

Consultations were held with a diversity of stakeholders at national, provincial, district and local level. All efforts were made to follow a broad and inclusive consultation process to ensure that any new stakeholders were identified and included in the ESIA process.

Meetings were held at the following locations during the disclosure period:

- Antananarivo (17 April 2012; two meetings were held. One was open to the public and the other was for professionals only)
- Toliara (20 April 2012; two meetings were held. One was open to the public and the other was for professionals only)
- Tsiafanoka (21 April 2012)
- Ranobe (22 April 2012)
- Ankilimalinke (22 April 2012)
- Belalanda (23 April 2012)
- Maromiandra (23 April 2012)
- Mangily (23 April)

Comments and response trail compiled from stakeholder engagement during disclosure of the Draft Scoping Report is included in below in Table 1.1. A grievance mechanism has been developed and presented to the local communities in late 2012. The grievance mechanism enabled local communities to submit grievances about the project and receive responses in a formalised manner.

Table 1.1: Stakeholder Analysis

Category	Organisation/group	Activities
	NGO	
International	Conservation International (CI)	Funds conservation activities in Madagascar
	Missouri Botanical Gardens (MBG)	Undertakes botanical research in Madagascar
	World Wildlife Fund (WWF)	Funding and conducting conservation initiatives in Madagascar
National	Madagascar National Parks (formerly ANGAP (Association Nationale pour la Gestion des Aires Protegees))	Manages protected areas category I, II and III in Madagascar
	SAGE (Service d'Appui a la Gestion de L'Environment)	Provides capacity building for community based natural resource management surrounding protected areas.
Provincial	Madagascar National Parks (formerly ANGAP)	See National
	SAGE	See National
	World Wildlife Fund	See National
	Committee Mines et Forets	Co-ordinates a forum to discuss the interface between mining and conservation
	Development organisation	
International	International Finance Corporation (IFC)	Funds small business ventures in Madagascar. Provide ESIA guidelines
	United Nations Development Program (UNDP)	Is involved in development and conservation programmes in Madagascar
	World Bank (WB)	Is a funding and development agency
	Government authorities	
National	Ministere des Mines Ministere de l'Energie Ministere des Hydrocarbures (formely all part of one ministry; Direction Ministere d'Energie et Mines)	Madagascar minerals and energy authority
	Office Nationale Pour l'Environment (ONE)	Madagascar Environmental authority
	Autorite Portuaire Maritime et Fluvial	Ports authority
	Autorite Routiere de Madgascar	Roads authority
Provincial	Ministere de L'Environnment et des Forest Ministere de l'Eau (formerly all part of one ministry; Ministere de l'Environment, des Eaux etForets)	Authority for provincial natural resources
	Service Regional de domains de Ministere de l'Agriculture	Authority for the adjudication of land

Category	Organisation/group	Activities
	Bureau de la Region Sud Ouest	Manages the regional development plan in Southwest Region
	Departement d'Agriculture	Agricultural management authority for Southwest Region
	Department de Tranport	Transportation management authority for Southwest Region
	Departement de Peches	Fisheries management authority for Southwest Region
	Departement d'Energie et Mines	Energy and Mining management authority for Southwest Region
	Committee Mines et Forets	Co-ordinates a forum to discuss the interface between mining and conservation
	Public private partnerships	
Provincial	Tourism PPP	Co-ordinates tourism activities and services in the Southwest Region
	Community organisations	
Regional	GELOSE Ranobe	Community based committee which manages local resources
	Reef Doctor	
	MITOHIMAFY	
	VAVEA	
	ONG HO AVY	
	Association projecteur	
	Comite Regional de Coordination	
	Sous-Comite Reginal de Coordination	
	Education Institutions	
Regional	Universite de Toliara: Faculte des Sciences (biodiversite)	
	IHSM Institut Halieutique des Sciences Marines	
	Lycee Technique de Toliara	
	Private organisations	
Hotels (Ifaty)	Chez Cecile	
	Chez Freddie	
	Chez Alexl	
	Hotel Solidaire	
	Les dunes de Ifaty	
	Hotel Belle Vue	

Category	Organisation/group	Activities
	Hotel Soleil Couchant	
	Ifaty Beach	
	Vovo telo	
	Forbon	
	Le Lagon	
	Princess du Lagon	
	Hotel Pauline	
	Moramora	
Hotels (Toliara)	Mahayana	
	Amazone	
	Hyppocampo	
	Paletuvier	
	Hotel Tropical	
Fishing	COPEFRITO	
companies	UNIMA	**Communities**
Local	Amboaboaka	
	Ampasamalinika	
	Andrevo	
	Antsohily	
	Ankilimalinika	
	Belalanda	
	Benetse	
	Ranobe	
	Tsiafanoka	
	Tsiagorotela	
	Tsianisiha	
	Maromiandra	
	Tsivonoakely	

Category	Organisation/group	Activities
	Mangily	
	Madiorano	
	Anketa	
	Tsongobory	

Table 1.2: Issues and Response Trail (Scoping Phase)

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
ISSUE: SOCIO-ECONOMIC (EMPLOYMENT, LIVELIHOODS)			
Antananarivo 17 April 2012	Can't you do joint-venture with the other companies (Jindal, Sakoa coal)?	Opportunities to joint venture with these and other companies have been and will continue to be considered on their merits. To date no commercially viable joint venture has been proposed.	Not relevant to ESIA
17 April 2012	We need to be informed about the investment and the impacts.	All impacts will be assessed in the ESIA. This document will be disclosed to the public for comment once available.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.1, 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy, Subsection 7.4.1
Antananarivo 17 April 2012	Will there be training for employees? Will any profit go to the people, what you will do as compensation for people not directly concerned?	Yes there will be training for local residents for some of the skilled work. There will be royalties from the project, which will be paid to the Government of Madagascar. TS will provide job opportunities and some social infrastructure in areas close to the mining site. The operating expenditure includes an allowance for social investment.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.13 Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.4.7 Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 8: Economic Assessment Report, Section 8: Impacts on the Local communities Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26.4
Antananarivo 17 April 2012	There is a population issue in Ranobe. Will people have to move or migrate elsewhere?	During the Scoping Phase of the project it was not anticipated that any physical displacement would be required. However subsequent to field work it is probable that some households may need to be displaced. This will be discussed and assessed in the EIR once the alternatives for infrastructure have been finalised.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.25.2 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.4.15 Volume 16: Social Assessment Report, Section 7: Mine site Impacts
Antananarivo 17 April 2012	What will people do once the mine is closed?	A closure plan for the mine is required. This plan should develop strategies to assist communities impacted and/or dependent on the mine to become self-sufficient. Social risks must be identified, and goals need to be defined and set for, *inter alia*, the following: Poverty alleviation, education, health care, employment and employability, reducing child mortality, improving social infrastructure. TS recognizes the importance of community engagement in all phases of the project. The company will therefore be guided by the approach recommended by the International Council on Mining and Metals (ICMM), as it is recognized that to achieve effective closure beneficial to the operating company and the community, the views, concerns, aspirations, efforts and knowledge of various internal and external stakeholders must be brought together. It should be noted that the resource at Ranobe can support a mine with a life of more than 40 years at the initial rate so final closure for the mine is likely to be a long way in the future. The mine will be progressively rehabilitated throughout the mine life.	Volume 2: EIE mine Site, Section 7: Study of the Closure Plan
Antananarivo	An agriculture project must be a	Noted	Volume 1: General Framework, Section

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
17 April 2012	top priority. Our plants need many years to grow again.		3: Context: Summary Presentation of the Project, 3.2.14
Antananarivo 17 April 2012	I understand that royalties will be 2% of the ilmenite price, how much dollars is that exactly?	The exact royalty value will depend on the volume produced and sold and the prevailing global market price for the products at the time. Based upon the current long term price forecast from TZMI (industry experts) and the expected production from the Ranobe mine the royalty will be around 4,500,000,000 MGA per annum.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy
Antananarivo 17 April 2012	Who are your investors?	World Titanium Resources is listed on the Australian Stock Exchange with shareholders around the world including Madagascar. Our two largest shareholders are Boulle Titanium and Mineral Deposits Limited. It is expected that the capital required to develop the Ranobe mine will come from existing and new World Titanium Resources shareholders.	Volume 1: General Framework, Section 2: Presentation of the Promoter
Antananarivo 17 April 2012	What is the recruitment procedure?	The recruitment process will be in line with Malagasy Labour Law. All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.25.1, 6.1.25.2, 6.1.26.5 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.4.15 Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 8: Haul Road Impacts, Section 9: Transfer station and jetty impacts
Antananarivo 17 April 2012	How much will you invest in social activities?	As part of our business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5
Antananarivo 17 April 2012	Will you give more than 2% royalties according to the law?	The percentage royalties will be established in terms of Malagasy Law.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Project, Subsection 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy
Antananarivo 17 April 2012	There are non-renewable resources in the region. What will you do in terms of compensation to the people?	Employment opportunities, royalties and taxes will be paid to the state. A Corporate Social Investment (CSI) programme will be developed by TS, and as the project becomes profitable the total spend on CSI will increase. CSI projects will focus on the local context.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan
Antananarivo 17 April 2012	How many people have been employed at this point in time?	No people have been employed for the construction or operation of the mine. This will only occur once all authorizations from the respective government department are in place. Temporary employment of unskilled and semi-skilled labour has already taken place as part of the exploration phase, and the management of the exploration camp. Further drilling and bulk sampling is planned, and additional temporary employment will take place, under the guidance of a recently appointed Project Director.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3
Antananarivo 17 April 2012	How many employees will be required for exploitation?	Approximately 250 direct employment opportunities. However the operation of the mine will result in further indirect employment opportunities.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy
Toliara 20 April 2012	People have already started working even though there is not a permit in place. People are therefore angry about this situation.	Some people were employed to assist with the exploration (drilling) programme and to run the exploration camp, the pilot plant and the respective offices in Toliara and Antananarivonarivo. No people have been employed for the construction or operation of the mine. This will only occur once all authorizations from the respective government department are in place.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Toliara 20 April 2012	Regarding infrastructure. Life is very expensive in the country and therefore the increase in living costs should be assessed if there is to be exploitation.	Noted	Volume 16: Social Assessment Report, Section 4: Description of the National and Regional context
Toliara 20 April 2012	What is the strategy in terms of socio-economic impacts?	A socio-economic assessment (SIA) and a land and natural resource use assessment will be undertaken for the proposed project. The findings of these studies will be used to assess impacts and suggest mitigation measures. These, and all studies, will be disclosed to the public during the ESIA phase of the project.	Volume 16: Social Assessment Report Volume 11: Land and Natural resource use
Toliara 20 April 2012	Toliara youth are dynamic therefore you should recruit specialists locally.	Coastal and Environmental Services have completed numerous heavy mineral mining ESIA's across the African continent. The specialists used by them are renowned in their various fields. Where possible these specialists will utilize local resources and expertise.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 20: Water Assessment, Volume 15: Sediment Transport Assessment
Toliara 20 April 2012	At the QMM project (Rio Tinto's mineral mining project at Fort dauphin – referred to as QMM locally) they said that 60% of the employment opportunities would go to local people, however they only took half of that number. Therefore they broke their contract with the people. What is your plan in terms of recruitment?	Toliara Sands will provide work for local people. However, there will not be work for everybody since there will only be approximately 250 employment opportunities. This includes skilled and unskilled labour. There will be training programmes for local people for some of the skilled labour, however it is possible that some of the skilled labour will have to be obtained from elsewhere. The operation of the mine will result in further indirect employment opportunities.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy
Toliara 20 April 2012	Is it possible to give some money to all the jobless people in the area? Even if they are not employed by TS.	No. Nobody would want to work if everybody gets paid. Furthermore, there would be an influx of newcomers to the area to reap the benefits. Taxes and royalties are paid to Government and it is their responsibility to spend this wisely and fairly.	Not relevant to ESIA
Toliara 20 April 2012	There is a lot of unemployment in the area. A number of these people have already submitted their CV's to the Chambers De	No. The employment process will only start when all the authorizations are in place. Therefore people can still apply. However there will not be work for everybody.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.25.1

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	Commerce. Does that mean you have enough workers?		Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 10: Port site impacts
Toliara 20 April 2012	In terms of recruitment, I suggest you see our local specialists in 2-3 years.	Noted.	Not relevant to ESIA
Toliara 20 April 2012	Recruitment may result in social issues. The majority of employment opportunities should go to local people.	Noted. TS is committed to employing local people as far as possible. However, some of the skilled labour may need to be outsourced. A labour desk and the development of an employment strategy to ensure fairness are likely recommendations that will be made in the SIA.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Toliara 20 April 2012	It is true that the revenue is approximately 2%. This amounts to a large amount of money. This money should be used in Southwest Region not elsewhere.	Noted, but the royalties are paid to the Government of Madagascar who then determine how they are spent.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.1, 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy, Subsection 7.4.1
Toliara 20 April 2012	Will there be work for people older than 45.	Anybody can apply for work. All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Toliara 20 April 2012	Will you be assessing the socio-cultural impacts of the proposed development as one should not	Yes. The following specialist studies will be undertaken: Specialist Study 4 - Social Impact Assessment The specific terms of reference on which the 2007 SIA report	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	neglect the customs of the 18 tribes?	was prepared were as follows: 1. Describe the local social environment with particular reference to households and/or communities' vulnerability to outside influences. 2. Gain an understanding of the levels of relationships within and between villages. 3. Obtain any strategic plans for the province in order to place the area in a regional planning context. 4. Investigate the institutional capacity and institutional relationships at the local and provincial level. 5. Assess land ownership, access rights and customary laws relating to land. 6. Assess the impact of loss of land and identify strategies to mitigate this impact. 7. Identify and assess the environmental impacts associated with improved access to the natural resource base of the area. 8. Consider compensation strategies for people who will lose access to land, currently used for cropping or grazing. 9. The number of graves, tombs and spiritual sites affected by mining, and the development of strategies to move these culturally and socially important artefacts must be developed. 10. Identify any sites of historical importance, as these are of historical significance at a national and international level. 11. Assess the effects of various disruptions to people's rural way of life resulting from mining. This could include increased dust and noise levels, safety and risk, and visual impacts. 12. Assess the changes to social structures, community interactions and institutional arrangements arising from the project. 13. Identify any needs in terms of community infrastructure in the area. However, caution must be taken not to raise any expectations. 14. Identify project-related social impacts and make recommendations for mitigating negative impacts and	Good Practice Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 3: EIE road and quarry, Section 6: Description of the Social Environment Volume 4: Jetty and Storage Facilities, Section 6: Description of the Social Environment Volume 8: Economic Assessment Report Volume 11: Land and Natural resource use Volume 16: Social Assessment Report

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		optimising potential benefits of the project. 15. Identify and assess the possible social impacts related to the transport of material to the mineral separation plant and export facilities along the proposed haul road. 16. Identify and assess the possible social impacts related to the mineral separation plant locality. In addition to the general terms of reference this study must: 1. Re-assess and update the social context of the project area and permit area by undertaking a field survey, and, where possible and appropriate, applying the same survey instruments to those used in the 2007surveys reported in the 2007 SIA. 2. Analyse, in the context of IFC Performance Standard 5, risks and impacts associated with involuntary resettlement and economic displacement. 3. Supplement the original SIA data on health aspects by expanding any questionnaires to include aspects related to health. 4. Work closely with the current land and resource use specialist to ensure close alignment of these studies, and to gain an improved understanding of local communities' livelihood strategies. 5. Review available literature and reports on the social environment prepared in the past five years and update the report accordingly. 6. Provide an update on more recent activities undertaken by NGOs and CBOs, as well as local government structures. 7. Assess any new impacts associated with the new pipeline routes. Specialist Study 5 - Current Land and Natural Resource Use Assessment The specific terms of reference on which the 2007 report was prepared were as follows: 1. Gain an understanding of the levels of community knowledge and dependence on natural resource usage, focussing on plants.	

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		2. Determine the reliance of local communities on different vegetation types for harvesting natural resources. 3. Determine current levels of exploitation of birds, small mammals and reptiles, particularly endangered species and CITES Appendix-II species. 4. Obtain information from the community regarding their understanding of the ecological functioning of their environment. 5. Assess the significance of the potential impacts of mining on the natural resources and the communities that utilise them. 6. Identify suitable mitigatory actions that can reduce negative impacts and enhance positive impacts, where possible. In addition to the general terms of reference this study must: 1. Evaluate the land capability of the mining area at a reconnaissance level, and comment on the potential of the area for agriculture and afforestation. 2. Identify the major impacts resulting from present agricultural practices. 3. Identify and assess the significance of impacts on soils and land use that could result from the mining operation. 4. Identify potential cash crop and plantation species that could be used in the rehabilitation process. 5. Work closely with the SIA specialist to ensure close alignment of these studies, and to gain an improved understanding of local community's livelihood strategies. 6. Review available literature and reports on natural resource use prepared in the past 5 years and update the report accordingly. 7. Assess the impacts of resource use (hunting) on faunal groups by drawing on information collected by the faunal expert. 8. Assess the impacts of harvesting wood and non-timber forest products on the vegetation of the Ranobe area by drawing on information collected by	

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		the faunal expert. 9. Integrate the results of surveys and research done by Madagascar Resources over the past 5 years on the impacts of resource use, specifically the impacts of hardwood harvesting for charcoal production. Specialist Study 6 - Economic Impact Assessment This study will use two main sources of data for assessing the positive impacts of the proposed development on the national economy, namely: 1. The 1999 macro Social Accounting Matrix (SAM) for the Madagascan Economy derived from the micro SAM (INSTAT, 1999), and 2. Economic data from Exxaro Resources (the development proponent at that time) on the scale of the mining activities, expenses and revenues generated for the various phases of the project. This approach, using these two models needs to be re-applied to the current, down-scaled project in order to re-assess economic multipliers and benefits at the local, regional and national contexts.	
Toliara 20 April 2012	Have you engaged with the various communities concerned?	Yes. Public meetings were held in the various affected communes during April 2012.	Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 21: Stakeholder engagement
Tsiafanoka 21 April 2012	The forest surrounding the mining area is very important for the local people. Their livelihood depends on it i.e. harvesting food, honey, etc. Will natural resources be replaced, i.e. will there be rehabilitation.	A Natural Resource Assessment will be undertaken for the proposed development. A specialist will come to you to find out what plants and animals you use for various purposes. As far as possible these will be replaced. After mining is completed the area will be rehabilitated. Rehabilitation will either consists of crops or natural forest or a variation thereof. It is important to note that the mining operation will cover a total area of about 455 hectares. However, at any one time only a small part- around 10–35ha - of the deposit will be exposed.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 11: Land and Natural resource use
Tsiafanoka 21 April 2012	Will there be work for women?	All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role. Women are encouraged to apply for all jobs and will be	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		assessed against the specific requirements for each role. Yes, there will be some work for women.	Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Tsiafanoka 21 April 2012	Will there be work for young women?	All women will be eligible for work as long as their employment is in line with Malagasy Labour Law (e.g. they are over the age of 18 years).	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Tsiafanoka 21 April 2012	How many jobs will be available?	Approximately 250.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area
Tsianishiha 21 April 2012	It is expected that Toliara Sands will provide work for local people.	Toliara Sands believes that employment of local people is critical to the projects long term success. However, there will not be work for everybody since there will only be approximately 250 employment opportunities. This includes skilled and unskilled labour. There will be training programmes for local people for some of the skilled labour, however it is possible that some of the skilled labour will have to be sourced from outside the Toliara region.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			impacts
Tsianishiha 21 April 2012	The mining area is very important to many local people and we are worried about our animals and farmland.	Someone for Toliara Sands will do a survey of all farm and grazing areas within the mining concession area. This person will then come to speak to the individuals who these areas belong to. Toliara Sands will not remove any of these areas prior to community involvement.	Volume 2: EIE mine Site, Section 4 Description of the Physical state of the environment, Subsection 4.1.4.2, Section 5: Description of the Biological state of the environment, Subsection 5.2.2; Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.2.2; Section 6: Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan
Tsianishiha 21 April 2012	Local residents will like to have some form of agricultural training, which will allow them to grow crops not currently being cultivated.	Noted.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.4.7 Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

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Ranobe 22 April 2012	There are many young people in the villages, therefore the mine should employ local people only.	Toliara Sands will provide work for local people. However, there will not be work for everybody since there will only be approximately 250 employment opportunities. This includes skilled and unskilled labour. There will be training programmes for local people for some of the skilled labour, however it is possible that some of the skilled labour will have to be sourced from outside the Toliara region.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Ankilimaliniky 22 April 2012	Only local people should be employed.	Malagasy Labour does not allow discrimination on the basis of the place of residence within Madagascar. Toliara Sands believes that employment of local people is critical to the projects long term success. However, there will not be work for everybody since there will only be approximately 250 employment opportunities. This includes skilled and unskilled labour. There will be training programmes for local people for some of the skilled labour, however it is possible that some of the skilled labour will have to be sourced from outside the Toliara region	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Ankilimaliniky 22 April 2012	There are many young people in Ankilimaliniky, therefore the mine should employ local people.	As above	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Ankilimaliniky 22 April 2012	Will there be any employment opportunities for women?	All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role. Women are encouraged to apply for all jobs and will be assessed against the specific requirements for each role. Yes, there will be some work for women.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Ankilimaliniky 22 April 2012	In terms of employment, what will the various salaries be?	It is too early in the process to establish this. The ESIA must first be completed and approved by ONE before these decisions are taken. However the communities will be kept up to date on the progress of the project and everybody will be notified where and when to apply for employment opportunities.	Not relevant to the ESIA
Ankilimaliniky 22 April 2012	Is there any age limit for employment?	Employment will be in line with Malagasy Labour Law (e.g. no child labourers, employees must be over the age of 18 years).	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Belalanda 23 April 2012	Will there be job opportunities?	Toliara Sands will provide work for local people. However, there will not be work for everybody since there will only be approximately 250 employment opportunities. This includes skilled and unskilled labour. There will be training programmes for local people for some of the skilled labour, however it is possible that some of the skilled labour will have to be outsourced.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Belalanda 23 April 2012	What type of jobs will be available to local residents?	All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role. However, there will not be work for everybody since there will	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		only be approximately 250 employment opportunities. This includes skilled and unskilled labour. There will be training programmes for local people for some of the skilled labour, however it is possible that some of the skilled labour will have to be outsourced.	Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Maromiandra 23 April 2012	We have heard that there will be employment opportunities. Please ensure that these are given to local residents as there are many unemployed people in the surrounding villages.	Toliara Sands will provide work for local people. However, there will not be work for everybody since there will only be approximately 250 employment opportunities. This includes skilled and unskilled labour. There will be training programmes for local people for some of the skilled labour, however it is possible that some of the skilled labour will have to be outsourced.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Maromiandra 23 April 2012	Thank to you very much for bringing the project to this region. Please keep in mind our need for electricity. There are many people in this area that have no jobs. If people migrate into the area looking for work there will be more people without work which may result in an increase in theft, e.g. cattle theft.	In terms of electricity, due to the remote location of the mine the project will be utilising dedicated generators for power supply. TS is committed to providing employment to local communities. The possible impacts from in-migration will be assessed fully in the ESIA and mitigation measures suggested.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy
Maromiandra 23 April 2012	What type of jobs will be available to local residents?	Mostly unskilled labour. However some training will be provided for skilled labour to a select few.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Mangily 23 April 2012	Our livelihoods are dependent upon the forest.	A Natural Resource Assessment will be undertaken for the proposed development. A specialist will come to you to find out what plants and animals you use for various purposes. As far as possible these will be replaced. After mining is completed the area will be rehabilitated. Rehabilitation will either consists of crops or natural forest or a variation thereof.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.6 Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Section 7: Study of the closure plan Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 8: Economic Assessment Report, Section 8: Impacts on local community Volume 11: Land and Natural resource use
Mangily 23 April 2012	What benefits will local residents acquire from the project?	Employment opportunities, royalties and the development of projects as part of the projects Corporate Social Investment.	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
ISSUE: INFRASTRUCTURE			
Antananarivo 17 April 2012	The new haul road should not intersect any of the villages.	Noted and agreed. This would result in serious safety issues to local residents.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Antananarivo 17 April 2012	What type of road is going to be built?	The new road will need to have sufficient capacity to carry either HMC to the transfer station and waste products back to the mine site if the MSP is sited at the Port of Toliara (MSP 2), or similar volumes of final products of ilmenite in bulk and rutile/zircon concentrate in containers if the MSP is sited at the mine (MSP 1). The road will also be used to deliver supplies to the mine, including several tanker loads of diesel fuel each week, and other supplies as required, as well as process waste material generated at the MSP in Toliara if the MSP is located at the Port of Toliara (MSP 2).	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Antananarivo	For the road design, are there two	There are two options being considered for the new road:	Volume 1: General Framework, Section

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17 April 2012	options or only one? Be careful not to give options just to hide the fact that you have already chosen one.	• Haul Road Option A is a direct route between the southern end of the major seismic line immediately to the west of the deposit; • Haul Road Option B is the old Tulear track, which is an existing route that follows a network of existing tracks and will require substantial upgrading. Additional options may be developed and investigated during the EIA process.	3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 3: EIE road and quarry, Section 3: Analysis and choice of alternatives, Subsection 3.1
Toliara 20 April 2012	What about the use of local specialists? Why is the local authority here in Toliara not seen? Why don't you use the port of Toliara instead of creating another port, or expand the port of Toliara?	CES have done numerous heavy minerals ESIA's across the African continent. The specialists used by them are renowned in their various fields. Where possible these specialists will utilize local resources and expertise. The transformation of the Toliara Port into a deep water harbour will be too expensive and not feasible in terms of the smaller scale of this project. Furthermore, if the option of the MSP at the mine site is chosen, transport and handling costs to the Port of Toliara becomes too expensive in the long term.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 4: Jetty and Storage Facilities, Section 3: Analysis and choice of alternatives
Toliara 20 April 2012	Problem regarding transport. It's up to the choice of option that there will be advantages or inconveniences. So it must be to the benefit of everybody (state, people, society)	Noted.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 3: EIE road and quarry, Section 6: Description of the Social Environment Volume 8: Economic Assessment Report, Section 6: Estimated economic impacts on the National Economy; Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report

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Toliara 20 April 2012	There is a strike at one of the existing mines because they did not study the social impacts well enough.	This ESIA will be structured to meet the requirements outlined in the IFC's Guidance Notes on Performance Standards on social and environmental sustainability (IFC, 2012). The following objectives of Performance Standard 1 (PS1): Social and Environmental Assessment and Management Systems will be assessed to meet the requirements in terms of social impacts: • Identify and assess social and environment impacts, both adverse and beneficial, in the project's area of influence. • To avoid, or where avoidance is not possible, minimise, mitigate or compensate for adverse impacts on workers, affected communities, and the environment. • To ensure that affected communities are appropriately engaged on issues that could potentially affect them. • To promote improved social and environmental performance of companies through the effective use of management systems.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 3: EIE road and quarry, Section 6: Description of the Social Environment Volume 4: Jetty and Storage Facilities, Section 6: Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report
Toliara 20 April 2012	You were thinking about expanding the existing port. Did you give up the project?	Yes. The transformation of the Toliara Port into a deep water harbour will be too expensive and not feasible in terms of the smaller scale of this project.	Volume 4: Jetty and Storage Facilities, Section 3: Analysis and choice of alternatives
Toliara 20 April 2012	During the presentation it became clear that the site is surrounded by some protected area. So we are checking and undergoing research so that both sides take benefit from it. We have to think about the importance. Why don't you take the Manombo River to transport the product? That is in the interest of the people in the surrounding area.	CES recognize that one of the greatest potential impacts of the project is the access road. During the previous EIR undertaken for Exxaro three route options for the haul road were considered, one of which was along an east-west corridor. The overall risks were regarded as moderate. Thus, this option was feasible at that time, as the proposal was to establish a jetty within Ifaty Lagoon. However, marine specialist studies indicated that the ecological impacts on the coral reefs and lagoon would be significant, and hence this option was rejected. The product cannot be transported along the Manombo River as it is dry for most of the year.	Volume 4: Jetty and Storage Facilities, Section 3: Analysis and choice of alternatives
Toliara 20 April 2012	Did you undertake research about the Toliara port?	Discussions with the Toliara Port Authority are on-going, specifically in terms of increased traffic from mining transport (i.e. barges and ships).	Volume 4: Jetty and Storage Facilities, Section 3: Analysis and choice of alternatives
Toliara 20	Will local residents be allowed to	Access to the new haul road will be restricted and local	Volume 1: General Framework, Section

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April 2012	use the new road?	residents will therefore not be allowed to utilize it for safety reasons.	3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Toliara 20 April 2012	Don't you have means to expand the Toliara port?	No. The transformation of the Toliara Port into a deep water harbour will be too expensive and not feasible in terms of the smaller scale of this project.	Volume 4: Jetty and Storage Facilities, Section 3: Analysis and choice of alternatives
Toliara 20 April 2012	What about security for the people in the area?	The mine will have its own security during the operational phase, in terms of fencing, control access, etc. However, the mine cannot be held responsible for the entire area and therefore this will have to be done in collaboration with the government. In terms of health and safety of local residents during the construction and operation of the mine, all working areas will be fenced and access will be restricted and security staff will be employed to enforce this.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan
Tsiafanoka 21 April 2012	What benefit do the people get from the project? What about benefits like electricity and a school? The reason we ask is because these amenities are very far from the village.	Employment opportunities, royalties and taxes will be paid to the state. A Corporate Social Investment (CSI) programme will be developed by TS, and as the project becomes profitable the total spend on CSI will increase. CSI projects will focus on the local context. All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. As stated	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report

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		before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required.	
Ranobe Sunday 22 April 2012	We have already asked that a new road is constructed, since the existing road is in a very bad condition.	As above.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Ranobe Sunday 22 April 2012	Ranobe is considered to be notified. However, it is a very small village and consists mainly of farmers. Therefore, if TS comes here there will be many people coming here. That means we need to have good infrastructure. Then we have to make the place better.	As above.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Ranobe Sunday 22 April 2012	We need roads and electricity.	Noted. As above.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Ranobe Sunday 22	It is important that the revenue from the mine (i.e. tax, royalties,	Taxes and royalties are paid to Government and it is their responsibility to spend this wisely and fairly.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
April 2012	etc.) is used locally in Southwest Region.		Project, Subsection 3.2.1, 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy, Subsection 7.4.1
Ranobe Sunday 22 April 2012	We require a road to pass through here so that there will be progress.	All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. As stated before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Ranobe Sunday 22 April 2012	We need development and progress. A country without industry can't develop. So the existence of TS can bring development to our village	Noted.	Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Ankilimaliniky 22 April 2012	The RN9 is currently in a very bad condition. Will TS rehabilitate this road?	TS will not use the RN9, since this will result in serious safety issues for local residents. However, this issue will be relayed to TS for their input.	Volume 3: EIE road and quarry, Section 2: Description of the Project, Subsection 2.3.1
Ankilimaliniky 22 April 2012	There is a large football field in the village. Would TS be able to upgrade it?	All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. As stated before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Mangily 23 April 2012	We need a better road from Mangily to Toliara	As above.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Belalanda 23 April 2012	We need toilets and sports fields	As above.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Belalanda 23 April 2012	We need electricity	As above. In terms of electricity, the mine will be utilising dedicated generators as there is currently insufficient reliable electrical capacity in the area.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Maromiandra 23 April 2012	The RN9 is currently in a very bad condition, it needs to be upgraded.	Noted. All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. As stated before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required.	Volume 3: EIE road and quarry, Section 2: Description of the Project, Subsection 2.3.1
Maromiandra 23 April 2012	The churches in this area are mostly destroyed therefore they need to be rehabilitated.	Any proposals from the community for social upliftment will be carefully considered, and it is likely that a committee will be established for this purpose. It is therefore not possible at this	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		stage to make any firm commitments about specific social investment projects.	Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Maromiandra 23 April 2012	We need development, electricity, water, schools, houses, teachers for the schools, fences around schools and work for women.	All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. A Corporate Social Investment (CSI) programme will be developed by TS, and as the project becomes profitable the total spend on CSI will increase. CSI projects will focus on the local context. However TS will not be able to supply everything that is required. Any CSI projects will need to be undertaken in collaboration with the government. There is no point in TS constructing a school if the government is unable to supply teachers for the school. Then it is just an empty building. TS can supply the infrastructure but not the expertise. There will be some work for women.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Maromiandra 23 April 2012	We are afraid for our health; will there be consequences to the environment and our health because of the project? What about natural resources in the mining area?	The mining process utilizes no chemicals. Therefore there will be no impact on health. The minerals that are to be extracted are not radioactive. However, Monazite is slightly radioactive but only when concentrated. Monazite is not an end product of the process and will be mixed with the tailings materials and returned to the mining void. A Natural Resource Assessment will be undertaken for the proposed development. A specialist will come to you to find out what plants and animals you use for various purposes. As far as possible these will be replaced. After mining is completed the area will be rehabilitated. Rehabilitation will either consists of crops or natural forest or a variation thereof.	Volume 6: Air Quality assessment Volume 11: Land and Natural resource use Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 17: Specialist study on Noise Impacts Volume 19: Waste and Wastewater Assessment, Section 6: Assessment of Potential environmental Impacts, Section 7: Conclusions and recommendations
Maromiandra	How many roads will there be,	The mine will construct one new haul road to be used by road	Volume 1: General Framework, Section

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
23 April 2012	and will there be any special roads for local people?	trains. Local residents will not be allowed to use this road as it will be unsafe. All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. As stated before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required. We have added the possibility of upgrading the RN9 or constructing a new road that connects the communes to the list of requests for social amenities and infrastructure to be presented to Toliara sands.	3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
ISSUE: SERVICES (WATER, ELECTRICITY, STAFF)			
Antananarivo 17 April 2012	What will energy resources consist of?	The mine will use diesel generators for the provision of power.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.2
Antananarivo 17 April 2012	We need an assessment of water availability. If you use it, there won't be enough for the people and this is very important for Toliara.	Rison Consulting (PTY) Ltd developed a sequential mining groundwater model for the proposed project near Toliara for Exxaro, and included groundwater modeling of the mining impact on the ground water within the study area. This study characterized the hydrogeological setting within the study area and established the baseline hydrogeological and hydrochemical conditions prior to mining. The major water users of groundwater within the study area was determined, and a groundwater monitoring program to fill any data gaps was designed. A sustainable source of water for mining operations (dredging) and the potential impact of such water abstraction on the environment was determined. In addition to this the following studies have also been undertaken:	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.23

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		• Preliminary Hydrogeology Study of the Ranobe Mineral Deposit (HYDROMAD, 2004) • Ranobe Mineral Deposit – Hydrogeological Investigation (GCS, 2004) • Toliara Sands Project Madagascar – Draft Hydrogeological Study (SRK, 2007) In addition to the work listed above a Groundwater Assessment will be undertaken to assess environment and social impacts. Furthermore, a hydrologic and hydraulic study may be undertaken on the Fiherenana River as part of the engineering work.	Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale
Toliara 20 April 2012	The haul road is of particular concern as it will fragment the remainder of the forest. Is it possible to look at alternatives for this road? How do you propose to deal with the issue of noise?	CES recognize that one of the greatest potential impacts of the project is the access road. During the previous EIR undertaken for Exxaro three route options for the haul road were considered. These findings, and the various options presented in Section 3.6.1 of the Scoping Report will be assessed in this EIA process. Noise from plant and machinery, mineral processing plants and vehicular transport associated with mining activities has the potential to impact negatively on residential areas – individual dwellings, settlements, villages and towns - in close proximity to operational sites and transport routes. It is important that measures be implemented to reduce noise levels to acceptable levels, especially during the night. A report on the assessment of noise impacts of the large-scale mining operation in the Ranobe Permit Area was completed by Ben van Zyl of Acusolv in November 2007 (Acusolv 2007). A baseline survey was carried out to determine existing on-site ambient sound levels in areas that could be affected by the proposed project, including the mine site, the proposed port location, and Toliara town. A noise simulation model was used to quantify emission, dispersion and atmospheric propagation of noise from the mine activities, and noise contours were generated showing the range of significant impacts around mining-related activities. World Bank Group guidelines were used as a measure of acceptability of noise levels, particularly night-time noise levels, in residential areas.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts Volume 17: Specialist study on Noise Impacts Volume 2: EIE mine site, Section 4: Description of the physical state of the

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		Although many aspects of the project have changed since the noise assessment was undertaken, especially the reduced scale of the operation the baseline noise assessment is likely to still be relevant. A noise study is therefore required to: • Re-assess the likely noise levels generated at the mine site from dry mining (earth moving) equipment and the primary concentrator plants. • Assess the noise levels generated by heavy haulage vehicles on the haul road from the mine site to the transfer station and their likely impacts on areas alongside the road. • Assess the noise levels generated at the transfer station and the likely impacts on surrounding areas. • Assess the impacts of noise generated at the minerals separation plant and their likely impacts on the surrounding areas. • Evaluate the necessity for additional noise simulation modelling.	environment, Subsection 4.5 Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment, Subsection 4.5 Volume 4: Jetty and Storage Facilities, Section 4: Description of the physical state of the environment, Subsection 4.5
Toliara 20 April 2012	In terms of the quantity of water to be utilised is it at all possible to decrease the amount of water to be used. Also the quality of the water is important. Is it possible that this water can be utilised by the local people?	The majority of the water used (80%) will be returned to the environment, i.e. recharge groundwater sources through the placement of tailings, thereby still making is available to local people. The quantity of water to be used cannot be reduced any further than that required for a dry mining and wet separation process, as wet separation is the only known technology to use for primary separation.	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale
Toliara 20 April 2012	Water is a sensitive issue in the southern area of Madagascar. In terms of this there are omissions in the report e.g. the exploitation of water. Have you taken the Malagasy water code into consideration? The Ranobe zone is a sedimentary area therefore it is very soft, and the underground resource is very fragile.	The issue of water was included in the Scoping Report. The process does not consume large quantities water. Water is used to transport material around the plant with most of the water being recycled for re-use. Only the water that flows back into the ground water through the tailings will need to be made up by a series of bore holes. The Scoping Report provides the following specific information: Water requirements for the mining operation and PCP are estimated to be 500 cubic metres per hour (m^3/hr), of which approximately 80% will be returned to the environment through the placement of tailings from the MSP. The water	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment Volume 20: Water Assessment

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		requirements for the MSP will be largely satisfied by the water arriving with the slurried ore from the PCP - additional water requirements are estimated to be 20 m^3/h. Water will also be required to enable HMC to be pumped from the transfer station to the MSP (MSP 2 option): estimated to be 80 m^3/h. Once at the MSP the water will be processed to remove the slimes and other debris that may have been dislodged during pumping and the water stored in a process water tank. This water will then be utilised in the MSP and for pumping process waste material (non-economic minerals) back to the transfer station on the Fiherenana River. The net requirement will be about 10 m^3/h, which will be pumped from a series of shallow boreholes adjacent to the Fiherenana River. Extensive research and modelling of the hydrology of the area has been carried out since 2003 with several studies being completed. Given the results of previous work by Hydromad and SRK, which concluded that there was sufficient water in the area to supply the planned Exxaro dredge mining operation (which required approximately 1 100 m^3/h as compared to 100 m^3/h), it follows that there will be sufficient water for the smaller scale Stage 1 dry mining and primary concentration operations without the resource being over-exploited. This water can readily be accessed through a system of well-spaced boreholes. A groundwater specialist study will be undertaken for the proposed project. In terms of Malagasy Law the pumping of water (surface water or groundwater) exceeding 30 cubic metres per hour is a listed activity in terms of Decret relative à la Mise en Compatibilité des Investissements avec l'Environnement (MECIE). Permits will have to be acquired for the extraction of water for the purpose of mining. This permit will be applied for once all specialist studies have been completed and the relevant information for the permit application is available. The Scoping Phase of the ESIA process simply acts as a tool to identify potential impact and studies that are required. The	

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		ESIA phase assesses these impacts based on specialist findings and recommends mitigation measures to reduce identified impacts. The entire process will be in line with Malagasy requirements.	
Ankilimaliniky 22 April 2012	Could the excess water after recycling be discharged into our irrigation channel?	No. Water will be recycled and reused during the mining operation. There will be no excess water. Water will be lost to the ground water through the tailings deposition and this will need to be made up.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1
Ankilimaliniky 22 April 2012	TS will utilise groundwater for the project. Would they be willing to increase the supply in the irrigation channel used for agricultural purposes?	This issue was explored further in the field, and it was determined that there was not enough water in the irrigation channel as the villages to the north use all the supply and therefore there is not enough water available for villages to the south. It was concluded that some form of a water management programme for the irrigation channel will be more useful than adding water to the channel that could possibly result in the same outcome.	Volume 11: Land and Natural resource use, Section 3: Water sources; Section 4: Land Use; Section 5: Resource Use; Section 8: Impacts of mining on Natural Resources
Ankilimaliniky 22 April 2012	We always hear about the advantages of the project and not the drawbacks. Will TS be able to construct another irrigation channel in addition to the one we have?	As above	Volume 11: Land and Natural resource use, Section 3: Water sources; Section 4: Land Use; Section 5: Resource Use; Section 8: Impacts of mining on Natural Resources
Ankilimaliniky 22 April 2012	The channel is there but the quantity of the water is insufficient. Therefore is it a possibility to increase the water supply? It's the water resource that is the problem.	As above	Volume 11: Land and Natural resource use, Section 3: Water sources; Section 4: Land Use; Section 5: Resource Use; Section 8: Impacts of mining on Natural Resources
Ranobe 22 April 2012	We are asking for teachers.	TS will consider requests for infrastructure such as schools, hospitals, etc. as part of the community initiative process and the decision on which initiatives are funded will be made in consultation with the community. However it is the responsibility of the government to ensure that appropriate staff are employed to operate these amenities.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of

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			the study area, subsection 5.11
Ankilimaliniky 22 April 2012	Could TS extend the existing irrigation channel by approximately 6km?	All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands as part of the community initiative process and the decision on which initiatives are funded will be made in consultation with the community. As stated before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required. We have added the possibility of extending the existing irrigation channel to the list of requests for social amenities and infrastructure to be presented to Toliara sands.	Volume 11: Land and Natural resource use, Section 3: Water sources; Section 4: Land Use; Section 5: Resource Use; Section 8: Impacts of mining on Natural Resources
Ankilimaliniky 22 April 2012	We co-operate about the project so we ask for a secondary school.	Noted.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Ankilimaliniky 22 April 2012	There will be enough water for everybody and that will be good for the cultivation.	This was in response to the suggested management of the water in the irrigation channel.	Volume 11: Land and Natural resource use, Section 3: Water sources; Section 4: Land Use; Section 5: Resource Use; Section 8: Impacts of mining on Natural Resources
Ankilimaliniky 22 April 2012	The villages directly south of the Monombo River take the majority of the water in the irrigation channel and therefore there is no water left for the villages furthest from the river.	Noted.	Volume 11: Land and Natural resource use, Section 3: Water sources;
Ankilimaliniky 22 April 2012	It's a natural resource from God. So what social assistance will you provide for the descendants of the local people? If you do it there	Local residents will benefit from the following: • Employment opportunities • A Corporate Social Investment programme There will be no benefit to TS other than being able to mine	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report

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	are some benefits that TS will get from it?	the area and produce and sell mineral sands products.	Volume 16: Social Assessment Report
Maromiandra 23 April 2012	The water from our borehole is dirty and there is not enough schools	Noted.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Maromiandra 23 April 2012	We do not have enough schools close by, children are learning under mango trees. There is also a water problem.	Noted.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
WWF	Briefly WWF comment that the proposed route crosses through a protected area, whose existence is already known by the promoter and CES and that both options would affect the Ranobe protected area by dissecting the PA (protected area) and causing habitat. WWF request the investigation of routes that do not cross the PA, and to start a process of consultation and negotiation and to investigate options according to objective technical, economic, and	CES recognize that one of the greatest potential impacts of the project is the access road. During the previous EIR undertaken for Exxaro three route options for the haul road were considered, and the findings are included below. However, these findings will be re-assessed during the EIA phase, to ensure all conclusions are still applicable: **The Inland North-South Corridor** ***Biophysical risks:*** A wide barrier running between the Ranobe Southern Deciduous Thicket and Forest, and thicket of the limestone plateau will disrupt ecosystem processes, cause notable habitat fragmentation and increase the loss of fauna due to road kills. These are regarded as project risks of high significance. Impacts on biodiversity and habitats of special concern will also be substantial, although a route can be selected to avoid sensitive areas, which will result in a risk	Volume 2: EIE mine Site, Section 5: Description of the Biological state of the environment, Subsection 5.3 Volume 3: EIE Road and Quarry, Section 5: Description of the Biological state of the environment, Subsection 5.3 Volume 7: Botanical Specialist report Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map

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	environmental criteria. The analysis should discuss the advantages and disadvantages of each alternative in terms of environmental risks, and the explanation and objective assessment of reasonable alternatives, particularly those that reduce environmental risks.	of moderate significance. Changes to physical processes are likely to represent a moderate risk, but impacts on natural resources resulting from improved access to the pristine thicket vegetation types south of the mining area (for people to exploit hardwood trees for charcoal and hunt wildlife) is a risk of high significance, and possibly critically flawed. Not for a dedicated road and subways can be created for peoples and fauna movement. The overall biophysical risks to the project were regarded as **high.** ***Social risks:*** The route traverses a largely uninhabited area for most of its north-south length, and where it is orientated in a north-east or south-west direction it cuts across degraded thicket. Towards the coast, at the location of the transfer station, the area is more populated. Landscape quality is not likely to be changed significantly, except where the corridor traverses denser thicket, and is regarded as a moderate risk. A corridor along this route will not impact significantly on livelihoods, and people will need to be able to cross the route for resource harvesting and grazing. It will not impact significantly on social and cultural resources, and these were regarded as risks of moderate significance. Some economic benefits may flow from the inland corridor but are regarded as an opportunity of low significance. The route is not compatible with any existing plans, although this is a low risk. As the area is generally unpopulated, safety and health risks are of moderate significance and the overall social impacts are of **moderate significance.**	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts

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		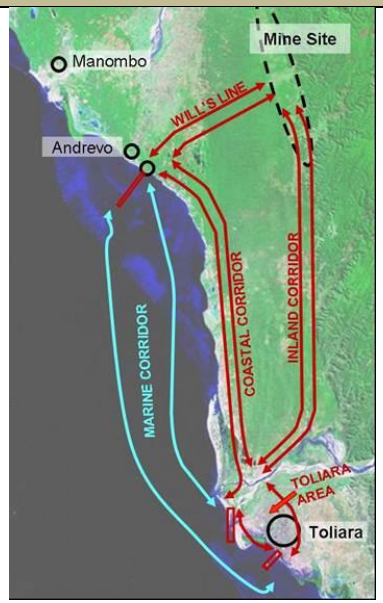 **<u>The Coastal North-South Corridor</u>** The coastal north-south route should be set well back (about 2kms) from the coastline, essentially running adjacent to the edge of the spiny thicket, and should avoid the densely populated areas. ***Biophysical risks**:* Disruption to ecosystem processes and impacts on biodiversity were seen as low risks because the route primarily traverses disturbed and degraded habitats. However, the corridor will divide the coastal ecosystem from the inland thicket of unconsolidated sands, and some wetland areas might be impacted, representing risks of moderate significance. The shallow water table and presence of depressions results in a moderate risk as a result of changes in physical processes. The coastal position could result in secondary impacts on natural resources due to the improved transport corridor, leading potentially to risks of moderate significance. However, these risks could be translated into conservation opportunities if the road serves as a boundary to a protected area. The overall **biophysical risks are less than**	

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		the inland corridor. ***Social risks**:* A transport corridor along this route will negatively affect landscape quality although this is mitigated as the landscape is already degraded, resulting in a moderate risk. Livelihoods might be compromised as the route may prevent free access to the thicket vegetation on the landward side of the corridor and the water pans utilised by the population, causing a risk of **moderate significance.** Opportunities to the formal economic base will result from a transport corridor in this position, which will be of benefit to tourism as well as agriculture by allowing tourists and agriculture products to be transported more rapidly to and from Toliara. These, coupled with benefits to regional planning, were seen as opportunities of high significance. Impacts on cultural resources are a low risk but safety and health are a high risk as, in certain cases, the route will traverse populated areas. It is also likely that people will start establishing households along the road, which might represent a significant safety risk due to the overland transport of containers. Although the benefits offset the high risks, the overall risks are regarded as moderate. **The East-West Corridor (Will's Line)** ***Biophysical risks:*** Disruption to ecosystem processes and impacts on biodiversity are regarded as low risks because the route primarily traverses spiny thicket that has been disturbed and degraded. Since sensitive habitats are infrequent and could largely be avoided, any loss is of low risk. However, this corridor will divide the spiny thicket ecosystem from the floodplain areas where water is in abundance and this habitat fragmentation represents a risk of moderate significance. The drainage channels, low-lying floodplain areas and depressions result in a moderate risk due to changes in physical processes. The route could result in secondary impacts on natural resources as a result of the improved transport corridor, but this is a risk of moderate significance as much of the area is already degraded. The overall **biophysical risks are moderate to low.** ***Social risks:*** A transport corridor along this route will not significantly affect landscape quality as the landscape is	

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		already degraded and a route already exists, resulting in a low risk. Livelihoods might be compromised as the route may prevent free access north to agricultural products (if it is a dedicated haul road), and south to other resources (grazing, wood etc.), causing a risk of high significance as there are many people in this area that require access to agricultural lands. Some opportunities to the formal economic base will result from a transport corridor in this position, for example agriculture will benefit if products can be transported along the route. This, coupled with benefits to regional planning were seen as opportunities of low significance unless an improved coastal route is linked to this corridor. Impacts on cultural resources are a low risk, but safety and health are moderate risks because, in certain places, the route will traverse populated areas. It is also likely that people will start establishing households along the road, and this might represent a significant safety risk. **The overall risks are regarded as moderate.** These options or variations thereof will be reassessed in this EIR.	
WWF	Although there is a potential risk of collision between mining vehicles and livestock of local people", no information is given on the impacts of the option of a route on the movement of local communities. Will people and the cattle will be allowed to cross the road, and will there be requirements to allow them to cross? Knowing that communities living in the west of the routes come frequently in the forest areas to the east to look for natural resources including grazing, it is important to fully measure the social impacts of such road**.**	It is unlikely that locals will be allowed free access to utilize the new haul road, but they will have to be able to cross the new road. As the road will result in serious safety risks it will need to be fenced on both sides and patrolled on a regular basis. Controlled crossing points will need to be provided. How to implement this, together with an assessment of the impacts of the haul road on existing communities will be assessed fully in the EIR. It is also recommended that the applicant assist in the establishment of woodlots for the production of charcoal. If alternatives are explored for these resources it may alleviate some of the social pressure on the protected area and could result in a positive ecological impact. Any suggestions on this matter would be much appreciated.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan

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			Volume 16: Social Assessment Report, Section 8: Haul Road impacts
WWF	Explain to communities the impact of the road.	Noted and agreed. During the disclosure period we had numerous meetings with the local villages. They are aware of the mining project in its entirety, including all infrastructure (haul road, jetty, pipeline, etc.)	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
WWF	Given the results of previous work done by Hydromad and SRK, which concluded that there was sufficient water in the area to supply the planned Exxaro dredge mining operation (which required approximately 1 100 m^3/h - p. 37 (Section 3.8.2) and Section 8.4.1 of the scoping report), it follows that there will be sufficient water for the smaller scale Stage 1 dry mining and	Over-exploration refers to abstracting water at a rate that is beyond the *safe yield* or equilibrium yield. Pump tests are required to determine the recharge rate of the aquifer, and then an upper limit of abstraction is determined. As stated in Section 8.4.1 of the Scoping Report, a review of the Groundwater Assessment will be undertaken for the proposed project since it will be necessary to assess the impacts of the project's reduced water requirements on water resources, both in terms of quantities extracted and the potential for mining and associated activities to pollute water sources. Once this study has been concluded, it will be used to assess the impacts on both environmental and social aspects.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section 4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report,

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	primary concentration operations without the resource being over-exploited ". What do we define by "over-exploitation" of water resources? Specialized studies should be conducted to assess the impacts of both environmental and social impacts of changes in groundwater and the water flow in Fiherenana / Manombo rivers, and Ranobe Lake. Environmental impacts can include changes in forest composition and structure resulting from the reduction of the groundwater**.**		Section 5: Socio-economic description of the study area, subsection 5.23 Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale
WWF	Although ilmenite is extracted by dry process, water use can worsen the existent water-scarce ecosystem. A collection of 500m^3/hour is not minimal at all. Emphasis should be placed on the project analysis of impacts on water resources (quantity and quality), that is to say the evaluation should consider not only the needs of TSP but also the needs of other sectors + community needs. Only if these needs are met can one say that there is enough water. It is essential that the impacts of the mine are analyzed in order to avoid negative effects on communities and biodiversity. The Ranobe Lake is very important and although the project will use water in smaller quantities, WWF suggests that an analysis of water at the sub-	Rison Consulting (PTY) Ltd (Contract Number 9851/72/CA) was requested by the Principal Hydrogeologist, Exxaro, to develop a sequential mining groundwater model for the proposed project near Toliara (Toliara Sands Project). The contract scope was subsequently extended to include groundwater modeling of the mining impact on the surrounding hydrogeological regime within the study area. The scope of work for the development of the groundwater model was: • to characterize the hydrogeological setting within the study area with a view to identify any significant hydrostratigraphic units (aquifers and aquitards); • to identify the potential influence of structural features on hydrogeological conditions; • to establish the baseline hydrogeological conditions prior to mining; • to establish the baseline hydrochemical conditions prior to mining; • to confirm the major water users of groundwater within the study area; • to identify the potential aquifer input parameters to be used in subsequent groundwater modeling and sensitivity analyses.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.23 Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

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	regional level should be done before the operation starts.	• to design a groundwater monitoring program to fill any data gaps that have been identified during the course of the current investigation; The additional scope of work for the groundwater modeling was: • to determine a sustainable source of water for mining operations (dredging); • to determine the potential impact of such water abstraction on the environment; • to determine the potential impact of mining water losses on the environment; • to determine the potential impact of mining water losses on the environment after 50% of the mining water losses have been intercepted and reused in the mining process. In addition to this the following studies have also been undertaken: • Preliminary Hydrogeology Study of the Ranobe Mineral Deposit (HYDROMAD, 2004) • Ranobe Mineral Deposit – Hydrogeological Investigation (GCS, 2004) • Toliara Sands Project Madagascar – Draft Hydrogeological Study (SRK, 2007)	
WWF	The construction of the road requires the extraction of limestone that the proponent proposes to find in the plateau east of the road. However, this plateau is within the NPA, and p. 38 (section 3.8.3) states: "a number of small limestone quarries will be developed in the selected valleys so that they won't be visible during their operation and where vegetation has already been severely disrupted ". No information is provided on the location of these	The location of these quarries has not yet been identified. Various alternative sites will be assessed in the EIR. The preferred option will be guided by environment and social impacts and also by stakeholder engagement during the disclosure of the Draft EIR.	Volume 3: EIE road and Quarry, Section 2: Description of the project, Subsection 2.2

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	quarries. It should be noted that valleys are more likely within the protected area PK 32 Ranobe, and the establishment of proposed quarries must comply with the Protected Areas Code and negotiated with the promoters of protected areas.		
ISSUE: HEALTH AND SAFETY			
Antananarivo 17 April 2012	What about radioactivity?	The minerals that are to be extracted are not radioactive. Monazite is slightly radioactive but only when concentrated. Monazite is not an end product of the process and will be mixed with the tailings materials and returned to the mining void. A radioactivity impact assessment will be undertaken for the proposed project and will be made available for review to all interested and affected parties once completed.	Volume 13: Radiation Assessment
Antananarivo 17 April 2012	TS have given funds to the Private Hospital in Toliara. However not all citizens have money to go to a private hospital. What about the public hospitals and clinics.	TS have provided funds to the public hospital but they have also provided funding to the medical clinic.	Volume 16: Social Impacts Assessment
Toliara 20 April 2012	It seems there is already exploitation. I understand why my colleagues are worried. The boss must be strong. I think that TS is responsible. When we speak about heavy minerals there are impacts. I'd like you to include the health impact and social impact.	This ESIA will be structured to meet the requirements outlined in the IFC's Guidance Notes on Performance Standards on social and environmental sustainability (IFC, 2012). The following objectives of Performance Standard 1 (PS1): Social and Environmental Assessment and Management Systems will be assessed to meet the requirements in terms of social impacts: • Identify and assess social and environment impacts, both adverse and beneficial, in the project's area of influence. • To avoid, or where avoidance is not possible, minimise, mitigate or compensate for adverse impacts on workers, affected communities, and the environment. • To ensure that affected communities are appropriately	Volume 6: Air Quality assessment Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 16: Social Impacts Assessment Volume 17: Specialist study on Noise Impacts Volume 19: Waste and Wastewater Assessment, Section 6: Assessment of Potential environmental Impacts, Section

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		engaged on issues that could potentially affect them. • To promote improved social and environmental performance of companies through the effective use of management systems. The primary objectives Performance Standard 4 (PS4): Community Health, Safety and Security are to: • Avoid or minimise risks to and impacts on the health and safety of the local community during the project lifecycle from both routine and non-routine circumstances. • Ensure that the safeguarding of personnel and property is carried out in a legitimate manner that avoids or minimises risks to the community's safety and security. The major requirement in terms of PS4 is that all risks and impacts to the surrounding community are assessed and managed appropriately. This includes issues such as infrastructure and equipment safety, hazardous material storage and handling, hazards associated with the natural environment (such as floods and landslides), community exposure to disease, and emergency preparedness and response.	7: Conclusions and recommendations
Toliara 20 April 2012	There is concern over the health and security of the local people.	As above.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 6: Air Quality assessment Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 17: Specialist study on Noise Impacts Volume 19: Waste and Wastewater Assessment, Section 6: Assessment of

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Potential environmental Impacts, Section 7: Conclusions and recommendations
Tsianishiha 21 April 2012	Radioactivity is a problem as said by the WWF person, and that it's not good to accept the project of TS. People are worried about those rumours.	The minerals that are to be extracted are not radioactive. Monazite is slightly radioactive but only when concentrated. Monazite is not an end product of the process and will be mixed with the tailings materials and returned to the mining void. A radioactivity impact assessment will be undertaken for the proposed project and will be made available for review to all interested and affected parties once completed.	Volume 13: Radiation Assessment
Tsiafanoka 21 April 2012	Are you sure about protecting of the people concerning their health? What about the smoke and dust in the air from the factory?	There will be no smoke from the PSP or the MSP as it is not a thermal process. Dust will be primarily from the removal of vegetation and the transport of large quantities of sand. An air quality assessment will be undertaken for the proposed project and will be made available for review to all interested and affected parties once completed.	Volume 2: EIE mine Site, Section 4 Description of the Physical State of the Environment Volume 3: EIE road and quarry, Section 4: Description of the Physical state of the environment Section 5: Description of the Biological state of the environment Volume 6: Air Quality Assessment, Section 7: Operation phases Air Quality Impact Assessment, Section 9: Air Quality Management and Mitigation measures
Ranobe 22 April 2012	We accept the project but need to think about the women. We need hospitals for their health.	All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. As stated before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required. We have added the possibility of constructing a hospital to the list.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Ranobe 22 April 2012	We are ready for the project because up to now there haven't	All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. As stated	Volume 2: EIE mine Site, Section 6 Description of the Social Environment,

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	been any doctors, hospitals so maybe TS will supply that for us.	before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required. It is also very important to note that this will need collaboration between TS and the government. There is no point in TS constructing a hospital if the government is unable to supply doctors for the hospital. TS can supply the infrastructure but not the expertise.	Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Ankilimaliniky 22 April 2012	Security is a big problem if you don't see it as very important. So we need one military camp here in Ankilimaliniky	This issue relates to cattle theft and was noted.	Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.23 Volume 16: Social Assessment Report, Section 8: Haul Road Impacts, Subsection 8.3
Ankilimaliniky 22 April 2012	TS have given something to only people in Toliara centre but why not to the local people. Security (like military camp, post office, policemen) is needed because there will be many people coming here.	TS will develop their social responsibility programme in partnership with the government of Madagascar. Once this is finalised the programme will be disclosed to the public.	Volume 2: EIE mine Site, Section 7: Study of the Closure Plan, Subsection 7.3.3
Ankilimaliniky 22 April 2012	Always about the security. We need security control to survey all the area	It is important to separate TS and government security. We understand all the problems and TS will co-operate with the government and local people to assist in finding solutions.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan
Maromiandra 23 April 2012	Women are suffering during delivery. We need more hospitals and electricity.	In terms of electricity, the mine will be utilising generators as there is currently no electrical capacity in the area. The requirement for the construction of a hospital has been noted.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.2 Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Maromiandra 23 April 2012	There are not enough doctors and nurses in the hospitals, there are not enough teachers. In addition think about the tax for Manomirandra because Toliaria wants to take that. The mayor wants to take everything especially land.	It is very important to note that the supply of social infrastructure and amenities will need to be undertaken in collaboration with the government. There is no point in TS constructing a hospital if the government is unable to supply doctors for the hospital. TS can supply the infrastructure but not the expertise. TS cannot get involved in political issues.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
ISSUE: CULTURAL CONCERNS			
Toliara 20 April 2012	I'm surprised that it's an international society but you don't know anything about national patrimony. There is no cultural patrimony. There is some historical customs like in Zimbabwe. The convention with UNESCO in 1972. We have to identify, to preserve and to check all the Malagasy patrimony. It's not fair. Our recommendation is this: There should be an investigation about cultural facts. So we shouldn't neglect because exploiting means destroying.	This ESIA will be structured to meet the requirements outlined in the IFC's Guidance Notes on Performance Standards on social and environmental sustainability (IFC, 2012). The following will have to be assessed to meet the requirements of Performance Standard 8 (PS8): Cultural Heritage: • Protect cultural heritage from adverse impacts of project activities and support its preservation. • Promote the equitable sharing of benefits from the use of cultural heritage in business activities. PS8 defines cultural heritage broadly to include tangible forms of cultural heritage (property and sites having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values, as well as unique natural environmental features that embody cultural values, such as sacred groves), and intangible forms (cultural knowledge, innovations and practices of communities embodying traditional lifestyles). The value of cultural heritage will be respected throughout the project's life. Care will be taken to ensure that all the cultural practices in which the communities participate are not impacted negatively as a result of the project. These issues will be investigated further during the specialist studies phase.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice, Subsection 5.4 Volume 16: Social Assessment Report
Tsiafanoka	We need to have a discussion	Someone from Toliara Sands will do a survey of all tombs	Volume 2: EIE mine Site, Section 6

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
21 April 2012	before moving the tombs.	within the mining concession area. This person will then come to speak to the individuals to whom these tombs belong. Toliara Sands will not remove any of these tombs prior to community involvement. Should any of the tombs be moved the owners will be allowed enough time to perform the relevant ceremonies.	Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Tsiafanoka 21 April 2012	Is TS going to work in the rainy season? In our culture we do not work in the rainy season for fear the rain will stop.	Yes. TS will be working during the rainy season. TS will not be dismissive of any local traditions and/or cultural beliefs.	Not relevant to the ESIA
Ranobe 22 April 2012	You are going to move away our tombs. So can you build us another tomb?	Any and all infrastructure that has to be moved will be replaced.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Ankilimaliniky 22 April 2012	Please explain the size of the land to be exploited. What about the tomb owners?	• The Stage 1 mining operation will take up to twenty years and will cover a total area of about 455 hectares. However, at any one time approximately 10–35ha of the deposit will be exposed, in which mining will comprise the following stages: • Clearing existing vegetation • Removing and stockpiling topsoil ahead of the mine path for later continuous replacement during rehabilitation. • Excavating mineralised sand with front-end loaders. • Transferring the mineralised sand to a slurrying plant. • Slurrying (mixing with water) the mineralised sand. • Pumping the slurry to the PCP. • Backfilling the mined areas with sand tailings from the	Volume 2: EIE mine site, Section 2: Description of the project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		PCP and MSP as mining progresses. • Rehabilitating the backfilled areas by replacing topsoil and replanting with trees / crops. Someone from Toliara Sands will do a survey of all tombs within the mining concession area. This person will then come to speak to the individuals to whom these tombs belong. Toliara Sands will not remove any of these tombs prior to community involvement. Should any of the tombs be moved the owners will be allowed enough time to perform the relevant ceremonies.	
Ankilimaliniky 22 April 2012	I have farms (cotton, mangoes) close to the exploitation area. So I ask if you will move me away or you let me stay there because I've lived there for a long time and it's our life.	Someone for Toliara Sands will do a survey of all farm and grazing areas within the mining concession area. This person will then come to speak to the individuals to whom these areas belong. Toliara Sands will not clear any crops prior to community involvement.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Maromiandra 23 April 2012	What will happen when there are tombs in the area of the mining or through the new road?	Someone from Toliara Sands will do a survey of all tombs within the mining concession area. This person will then come to speak to the individuals to whom these tombs belong. Toliara Sands will not remove any of these tombs prior to community involvement. Should any of the tombs be moved the owners will be allowed enough time to perform the relevant ceremonies.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets; Section 3: Rehabilitation offsets Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
ISSUE: ENVIRONMENTAL CONCERNS			
Antananarivo 17 April 2012	There is biodiversity in the area. How will you protect it?	This ESIA will be structured to meet the requirements outlined in the IFC's Guidance Notes on Performance Standards on social and environmental sustainability (IFC, 2012). The following requirements of Performance Standard 6 (PS6):	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice, Subsection 5.4

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		Biodiversity Conservation and Sustainable Natural Resource Management will need to be met: • Protect and conserve biodiversity. • Promote the sustainable management and use of natural resources through the adoption of practices that integrate conservation needs and development priorities. In order to conform to PS6 the study has to consider ecosystem goods and services afforded by the natural environment in the study area. This assessment has to include an investigation into provisioning services, regulating services and cultural services. A biodiversity monitoring plan will be produced at a later stage to demonstrate how the project will monitor the plant and animal biodiversity in the study area to ensure it is properly managed and conserved within designated ecological corridors. This plan will outline the monitoring and evaluation required to manage the designated ecological corridors. Biological offsets will be considered as a primary means to mitigate negative impacts on the biological environment.	Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment Volume 4: EIE Port and Jetty, Section 5: Description of the Biological State of the Environment Volume 7: Botanical Specialist report Volume 9: Faunal Baseline Assessment Volume 10: Ichthyology and Aquatic Habitat Impact Assessment Volume 11: Land and Natural Recourse use Assessment Volume 12: Marine ecology and Fisheries assessment Volume 14: Rehabilitation and offset strategy
Antananarivo 17 April 2012	What are the risks for the lagoon?	The will be no risk to the Ifaty Lagoon since no development will occur in this area. In terms of the Toliara Lagoon marine specialists will assess the possible impacts. These findings will be reported on during the next disclosure period.	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment, Subsection 4.1.4.5, 4.2 Volume 4: EIE Port and Jetty, Section2: Description of the Project, Subsection 2.3.2; Section 3: Analysis and choice of alternatives; Section 6: Description of the social environment Volume 12: Marine ecology and Fisheries assessment, Section 4: Description of the project area; Section 6: Impact Assessment
Antananarivo 17 April 2012	Carbon and CO_2: any way to minimise emissions?	This ESIA will be structured to meet the requirements outlined in the IFC's Guidance Notes on Performance Standards on	Volume 1: General Framework, Section 5: Legal Framework, International

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		social and environmental sustainability (IFC, 2012). The following objectives will have to be met in terms of carbon emissions and Performance Standard 3 (PS3): Pollution Prevention and Abatement: • Avoid or minimise adverse impacts on human health and the environment by avoiding or minimising pollution from project activities. • Promote the reduction of emissions that contribute to climate change. The primary requirement of PS3 is that technologies and practices which avoid or minimise detrimental impacts of pollution are applied throughout the lifecycle of the project. In addition to the EHS General Health and Safety Guidelines, the IFC has sector-specific guidelines which deal with pollution and human health issues associated with mining (IFC Environmental Health and Safety Guidelines for Mining, (30 April 2007)). These guidelines will be used for this project and will be included in the management plans.	Conventions, Standards And Code Of Good Practice Volume 2: EIE mine site, Section 4: Description of the physical state of the environment Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment Volume 6: Air Quality Assessment
Toliara 20 April 2012	We've seen that the area includes three zones which are protected areas. I'm surprised that you didn't mention those zones in your project. There was a meeting about those protected areas with WWF. Why didn't you put them in your report?	This omission was an oversight and CES apologises for not carrying this important point through to the updated Scoping Report. The draft report will be updated and the protected area incorporated into the Final Scoping Report, which will be made available to WWF. The impacts of the mining activities on the remainder of the Ranobe Forest will be fully assessed in the EIR.	Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 7: Botanical specialist report
Toliara 20 April 2012	There is a protected area south of the mine site that the proposed haul road will fragment. It is currently temporary. There are eight communities and specific bird and chameleon species that occur within this protected area that are endemic to Madagascar. What do you think about that	CES recognize that one of the greatest potential impacts of the project is the access road. During the previous EIR undertaken for Exxaro three route options for the haul road were considered. These findings, and the various options presented in Section 3.5.6 of the Scoping Report will be assessed in this EIA process. An analysis of the route options will be informed by the faunal, vegetation and biodiversity studies that are to be undertaken as part of the EIA phase.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice, Subsection 5.4 Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	endemism? Why do you want to destroy those things? How will you protect those animals that are endemic to the area? There is an association which protects some areas and their biodiversity.		Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment Volume 4: EIE Port and Jetty, Section 5: Description of the Biological State of the Environment Volume 7: Botanical Specialist report Volume 9: Faunal Baseline Assessment Volume 10: Ichthyology and Aquatic Habitat Impact Assessment Volume 11: Land and Natural Recourse use Assessment Volume 12: Marine ecology and Fisheries assessment Volume 14: Rehabilitation and offset strategy
Toliara 20 April 2012	I have seen the marine studies. Who were participating in these studies? We are worried and concerned. There are some intelligent teams but you worked with another team. Did you get an agreement from the University of Toliara because you have to use the local specialists? Concerning the marine impacts, we are known abroad. What team did you take with on the study?	A marine impact assessment was undertaken during the 2007 EIA study for Exxaro, but this study focused on the impacts of a jetty and other facilities in the Ifaty Lagoon. This transportation option is no longer being considered, and the 2007 marine study is therefore no longer applicable to this project. The proposed jetty to the north of Toliara town and the marine pipeline option both have the potential to negatively impact on the marine environment. Separate terms of reference have been prepared for each of these options but the results of the studies will be presented in a single report. In addition to the applicable general terms of reference presented in Section 8.3 the jetty impact assessment must: 1. Determine, through the use of underwater visual surveys, what biota exists under the jetty pathway. 2. Describe and rank the importance of the biota that exists under the jetty. 3. Determine, through interviews with local fishermen, whether the jetty pathway is likely to affect fishing activities in the area. 4. Develop a map that describes areas of high, medium	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment, Subsection 4.1.4.5, 4.2 Volume 4: EIE Port and Jetty, Section2: Description of the Project, Subsection 2.3.2; Section 3: Analysis and choice of alternatives; Section 6: Description of the social environment Volume 12: Marine ecology and Fisheries assessment, Section 4: Description of the project area; Section 6: Impact Assessment

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		and low sensitivity to be used as a guide for the final placement of the jetty piles. In addition to the applicable general terms of reference presented in Section 8.3 the marine pipeline impact assessment must: 1. Obtain any information on dredging in Toliara harbour from the harbour authorities. If available, information on sediment analyses should be obtained. 2. Based on the quality of data obtained from the harbour authorities, decide on a sampling and analysis plan to characterise and determine the physical and chemical properties of the sediment. 3. Once a sample collection plan has been prepared, collect sediment samples from the proposed pipeline route and have the samples analysed by an accredited laboratory to determine sediment texture and granulometry. Based on the information obtained, the substances listed in Table 8.2 below may need to be tested for. The results from these tests should be used to determine mitigation measures. The Marine study will be undertaken by Marc Hardy and Russell Chalmers from South Africa. It is likely that monitoring will be required, and that it could be undertaken by Institut Halieutique et des Sciences Marines (IHSM).	
Toliara 20 April 2012	Environmental monitoring. What are the propositions? Do you think about an outside team?	It is too early in the process to be definitive about monitoring issues; however the ESIA will provide guidelines and recommendations for establishing a monitoring programme. It is likely that monitoring will be required, and that it could be undertaken by Institut Halieutique et des Sciences Marines (IHSM).	Volume 2: EIE Mine site, Section 4: Description of the physical state of the environment, Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment; Section 7: Study of the closure plan Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment, Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment; Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment
Toliara 20 April 2012	Fauna and flora: There are critics about the flora. It's very difficult to bring up studies about the project within those problems. What are the precautions and measures you should take for the protection of those flora?	This ESIA will be structured to meet the requirements outlined in the IFC's Guidance Notes on Performance Standards on social and environmental sustainability (IFC, 2012). The following requirements of Performance Standard 6 (PS6): Biodiversity Conservation and Sustainable Natural Resource Management will need to be met: The following will have to be assessed to meet the requirements in terms of biodiversity: • Protect and conserve biodiversity. • Promote the sustainable management and use of natural resources through the adoption of practices that integrate conservation needs and development priorities.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice, Subsection 5.4 Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment Volume 4: EIE Port and Jetty, Section 5: Description of the Biological State of the Environment Volume 7: Botanical Specialist report Volume 9: Faunal Baseline Assessment Volume 10: Ichthyology and Aquatic Habitat Impact Assessment Volume 11: Land and Natural Recourse use Assessment Volume 12: Marine ecology and Fisheries assessment Volume 14: Rehabilitation and offset strategy
Toliara 20 April 2012	The forest is becoming endangered. There is deforestation. So what about the reforestation which is currently not being followed up on. It must be the local people who take part	We are aware of the current issues surrounding the Ranobe Forest, specifically natural resource harvesting for charcoal. To date various rehabilitation trials have been undertaken. These have shown the ability to regrow native species from the Ranobe forest in tailings material derived from the trial bulk sample processing. It is envisaged that some of the	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	in the reforestation. Is it possible to do that before mining starts?	mined areas will be returned to forest species, but establishment of cash crops such as plantation trees for charcoal production, or dry land crop production are other options to be explored, depending on the requirements of local villages. TS will be responsible for rehabilitating within the mining concession area once mining is competed. However, TS cannot be held responsible for the rehabilitation and management of the entire area.	
Toliara 20 April 2012	Thanks for the presentation. You don't mention the existence of the protected area.	The omission of this protected area has been noted and has been incorporated into the Final Scoping Report.	Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 7: Botanical specialist report
Toliara 20 April 2012	The project has been on-going for a long period of time. During that time we have learned about the environmental impact assessment process. We do not know whether the state has accepted this project. We will have to go to site to assess the situation as we cannot assess it from Toliara Town.	Specialists will go to site to investigate the area in June and July 2012. These studies will be used to supplement the baseline data collected during 2006-2008. The results of these studies will be disclosed to interested and affected parties during the ESIA phase of the project. The project has not been approved by State.	Not applicable at this stage as the ESIA have not yet been submitted
Toliara 20 April 2012	Is it possible to rehabilitate the vegetation and to increase the financial value thereof? Is it possible to reinforce the security to avoid security problems?	It is assumed that this means rehabilitating the area cleared to high value cultivation. It is possible to rehabilitate the area to crops, natural forest or a combination. The mine will have its own security during the operational phase, including fencing and controlled access. However, the mine cannot be held responsible for the entire area and therefore this will have to be undertaken in collaboration with the government.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Toliara 20 April 2012	There are some protected areas. Why don't you take another zone to exploit?	The protected area surrounds the proposed mining site and does not include it. The mining area cannot be moved elsewhere as this is where the heavy mineral deposits are.	Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 7: Botanical specialist report
Tsiafanoka 21 April 2012	Who is going to replant the trees?	TS will employ some local residents to assist with rehabilitation efforts.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
Tsiafanoka 21 April 2012	Who is going to take charge of the rehabilitation	A rehabilitation specialist will be assisting TS in their efforts.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
Tsiafanoka 21 April 2012	What will happen to the animals?	Livestock will have to be moved to other areas for grazing, while the mining is in progress. Animals that occur naturally will probably move away from the area due to increased activity and noise levels.	Volume 2: EIE mine Site, Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 6 Description of the Social Environment Volume 16: Social Assessment Report
Ankilimaliniky 22 April 2012	What about the impact of the exploitation on the forest? Are there any drawbacks and inconvenience from that?	Yes, you will not be able to harvest natural resources from the areas to be mined. Furthermore there are currently tombs and cultivated areas within the mining area. These will have to be moved elsewhere.	Volume 2: EIE mine Site, Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 6 Description of the Social Environment Volume 16: Social Assessment Report
Maromiandra 23 April 2012	You will remove the vegetation and fill the hole after mining. What about the vegetation. Will it be replaced?	Yes, the hole will be filled and vegetation will be replaced either with crops or natural vegetation or a combination.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			strategy
Maromiandra 23 April 2012	What will happen to the plants in the mining area?	All vegetation in the concession area will have to be removed prior to mining. However, after mining is completed the area will be rehabilitated. Rehabilitation will either consists of crops or natural forest or a combination.	Volume 2: EIE Mine site, Section 2: Description of the project; Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
Mangily 23 April 2012	We are worried about the trees (forest).	A Natural Resource Use Assessment will be undertaken for the proposed development. A specialist will come to you to find out what plants and animals you use for various purposes. As far as possible these will be replaced. After mining is completed the area will be rehabilitated.	Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment Volume 4: EIE Port and Jetty, Section 5: Description of the Biological State of the Environment Volume 7: Botanical Specialist report Volume 11: Land and Natural Resource Use Assessment Volume 14: Rehabilitation and offset strategy
Mangily 23 April 2012	Who is going to replant the trees?	TS will employ some local residents to assist with rehabilitation efforts.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
WWF	The forest management strategy should follow a scientific approach, allowing the monitoring of certain components of the environment and affected ecosystem. If properly managed, these forest areas within the mining blocks can give the potential to partially	Noted and agreed. Dr Ted Avis and Mr Peter B. Phillipson of MBG will be involved in the ecological assessment undertaken for the project.	Volume 7: Botanical Specialist report Volume 14: Rehabilitation and offset strategy

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	counterbalance the impacts resulting from ecological mining operations.		
WWF	The restoration of natural vegetation has significant challenges: According to the report, rehabilitation efforts have "demonstrated the ability to replant native species of Ranobe forest by residues of derived materials during test - Are the reports of these rehabilitation tests available to public?	A rehabilitation implementation plan was undertaken for the previous Exxaro EIR. This document will serve as a baseline study for the proposed rehabilitation plan for this EIR. However, Madagascar Resources established some rehabilitation trials, and these were sampled by MBG staff. This information will be further analysed, and incorporated into the EIA.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
WWF	The strategic and practical approach to rehabilitation should be clear and detailed. According to the report (pp. 36-37 (Section 3.7) and also section 8.4.11): "It is anticipated that certain mining areas will be returned to forest species, but the development of food crops, for as planting trees for charcoal production or for dry land agriculture, according to requests from local villages" What mechanisms of consultation with stakeholders will be established to inform decision makers of land the use options for the final rehabilitated areas? If rehabilitation for agriculture is selected as the preferred option, what is the procedure for selection of beneficiary farmers, and under what regime of surface rights can we grant their access to new lands for agriculture? Furthermore, it should be noted that the environmental and social	All relevant stakeholders will be engaged with and all comments received will be incorporated into the EIR and assessed. Based on this the preferred rehabilitation option(s) will ultimately be chosen. If the decision is to establish cultivation the division of land will be done in accordance with Malagasy law. WWF has been registered as an interested and affected party for the proposed development and will be informed of all decision within the scope of the EIR process. However, we acknowledge that this may not be desirable, and recognise that it is not in line with the objectives of the NPA. Our thoughts here are to use the rehabilitation requirements of mining as an opportunity to take some pressure off the existing natural resources by, for example, establishing woodlots - as a community project - which could be harvested over time to supply charcoal. Input from WWF on the rehabilitation options, and the possibility of biodiversity offsets, would be appreciated. The ecological survey that is to be undertaken in June 2012 will ultimately identify areas and species of concern and will make recommendations as to how these can be conserved. Once this data is available WWF will be invited to review these reports.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 7: Botanical Specialist report Volume 14: Rehabilitation and offset strategy Volume 21: Stakeholder engagement

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	impacts of the introduction of a new agricultural community in an area where "there is currently no permanent inhabitants" must also be evaluated. As a promoter of a protected area located around the concerned rehabilitated area, WWF is a key player and should be involved in the negotiations on the use of land reclaimed. It should be noted that there are small number of natural forest corridors between areas of red soil in the west and limestone areas in the east in the proposed mine site. We would like to know what measures will be taken to maintain corridors since dredge is no longer an option.		
WWF	The New Protected Area NPA was not mentioned at any time in the presentation or in the document. It is surprising to note that the presence of NPA PK 32 Ranobe is mentioned nowhere in the document. This is despite the fact that the WWF has presented information on the PA to CES on 7 September 2006 at the Forum on Conservation of TSP, held at the Region Atsimo Andrefana offices and other meetings in 2006 and 2007.	This omission was an oversight and CES apologises for not carrying this important point through to the updated Scoping Report. The draft report will be updated and the protected area incorporated into the Final Scoping Report, which will be made available to WWF. The impacts of the mining activities on the remainder of the Ranobe Forest will be fully assessed in the EIR.	Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 7: Botanical specialist report
WWF	This omission could cause the scepticism regarding the technical and financial partners of the Ranobe project and public opinion. How it is possible to have a mine in a legally confirmed PA	The PA will be incorporated into the ecological assessment for the project and the impacts on the PA will be fully assessed in the EIR.	Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 3: EIE road and quarry, Section

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	should be evaluated, as well as the impact of the mining project on the flora and fauna of the area and also on the biodiversity of the eco-region in a greater scale. Note that the NPA was legally defined before the presentation of the roads option to the public, and these are outside the mining concession area.		5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 7: Botanical specialist report
WWF	On p. 45 (section 4.5.1): presentation on the marine environment is extremely short and insufficient, and focuses only on the “Lagoon of Toliara" between the Fiherenana and Onilahy rivers. Since "Coastal features ... suggest that littoral drift and sand drift are in the north "(p.42), it seems strange to discuss only marine areas from the south of the proposed infrastructure. All specialized studies related to potential impacts on the marine environment should therefore include northern areas of scheduled infrastructure (i.e. the Bay of Ranobe), as well as the lagoon of Toliara. Economic and cultural Importance of these marine areas is not mentioned, but marine environmental impact studies should include assessments of social and cultural impacts as well as environmental impacts, as thousands of traditional Vezo fishermen depend from the	The marine specialist study will be undertaken in June of 2012. In addition to the field work various meetings have been schedule between the marine specialists and local fisherman, commercial fisheries and the port authority. Therefore the impacts on both the environmental and social components will be addressed in this study. Information from the earlier EIA will also be used to supplement this research.	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment, Volume 4: EIE Port and Jetty, Section2: Description of the Project, Section 3: Analysis and choice of alternatives; Section 6: Description of the social environment Volume 12: Marine ecology and Fisheries assessment, Section 4: Description of the project area; Section 6: Impact Assessment

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	extraction of natural resources of these marine areas for their livelihoods. Marine resources in the region also contribute significantly local and regional economies.		
	The loss of wetlands and endangered species and habitats or vulnerable species should be offset by the creation or improvement of equivalent habitats or other environments, through the implementation of a hierarchy based on the Business Biodiversity Offset Programme (BBOP).	To be compliant with PS6 of the IFC Standards certain biodiversity offsets will be discussed with the proponent and explored in the EIR. The primary objectives of PS 6 are to: Protect and conserve biodiversity. Promote the sustainable management and use of natural resources through the adoption of practices that integrate conservation needs and development priorities. In order to conform to PS6 the study has to consider ecosystem goods and services afforded by the natural environment in the study area. This assessment has to include an investigation into provisioning services, regulating services and cultural services. A biodiversity monitoring plan will be produced at a later stage to demonstrate how the project will monitor the plant and animal biodiversity in the study area to ensure it is properly managed and conserved within designated ecological corridors. This plan will outline the monitoring and evaluation required to manage the designated ecological corridors. Biological offsets will be considered as a means to mitigate negative impacts on the biological environment.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine site, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment Volume 7: Botanical specialist report, Section 2: The project area in context; Section 5: Sensitivity Volume 14: Rehabilitation and offset strategy, Section 5: Rehabilitation and offset strategy
GENERAL ISSUES			
Antananarivo 17 April 2012	You are currently undertaking the ESIA to meet IFC requirements. Do you think MECIE is not enough and not correct?	The project needs to be IFC compliant because of funding requirements. Most international banks require an ESIA to meet the IFC standards. For this reason the ESIA is following a slightly different process. However it is still in line with Malagasy law.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice
Toliara 20 April 2012	Could you speak about the role of topsoil?	Topsoil refers to the top layer (5-20 cm) of soil. This layer contains the highest amount of organic matter and microorganisms and is the area where biological soil activity occurs.	Not relevant to the ESIA
Toliara 20	At one of the existing mines, local	The reason for fencing the mining area and prohibiting the	Volume 5: Resettlement and

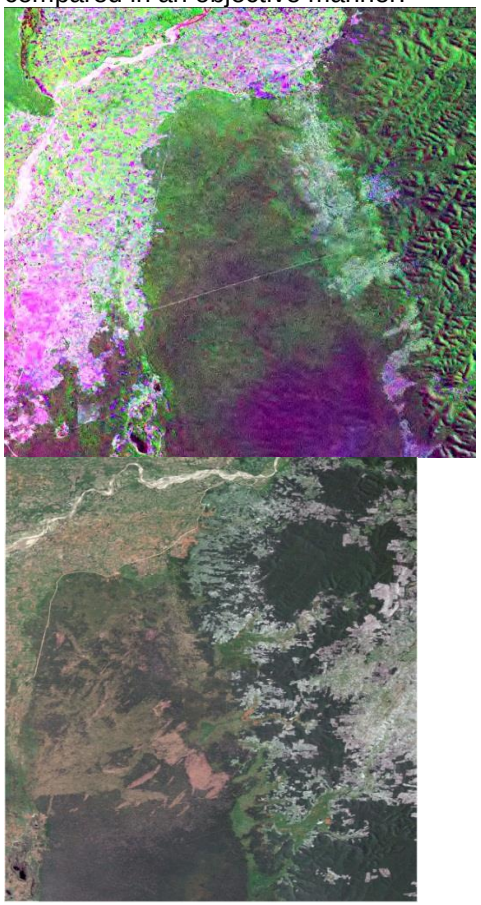
VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
April 2012	people are prohibited from entering the mining area and therefore the process is not transparent. Is this going to be the case in regards to TS's proposed mine?	entrance of locals is a safety issue. Due to the presence of large equipment on site the mine becomes a dangerous area for people. Therefore the same strategy will apply to this mine.	compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report
Toliara 20 April 2012	I congratulate Toliara Sands for their efforts. I tell everybody to call people who want to invest here not the contrary. So I ask everybody to say their recommendations, suggestions and solutions to encourage and help those investors. It's up to us to check the project.	Noted.	Not relevant to the ESIA
Toliara 20 April 2012	We have to think about the area and the people there. Are they satisfied with the project? Because we are afraid that it will be the same as the Exxaro project which was interrupted in the middle	Various meetings were undertaken with the communes in April 2012. Local residents are familiar with the project and the comments and concerns will be addressed in this ESIA.	Volume 21: Stakeholder engagement
Toliara 20 April 2012	Firstly, every time Toliara Sands does something they always consult with the local authorities and the people. Secondly we thank ONE for their assistance. ONE usually comes to Toliara to verify the "Caluei de change" it doesn't mean that it's only ONE who takes charge of the project, there are also other entities.	Noted. The ESIA will be done in accordance to Malagasy law and all relevant government departments will be notified and allowed to comment.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 21: Stakeholder engagement
Toliara 20 April 2012	You are still busy with the ESIA and relevant studies, when will the project start since we are ready to be employed?	The Final ESIA should be submitted to ONE before the end of the year. However, the starting date of the project is dependent on authorization by ONE and financial capital. .	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice
Toliara 20	How far is the follow up about the	There are numerous authorizations that need to be applied	Volume 1: General Framework, Section

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
April 2012	authorisation	for. In terms of the ESIA it is anticipated that ONE will be able to make a decision in the first quarter of next year.	5: Legal Framework, International Conventions, Standards And Code Of Good Practice
Toliara 20 April 2012	About ONE, the draft scoping report is not finished and not complete. So when will you finish it?	Once the public consultation period has lapsed and all comments have been received from interested and affected parties.	Volume 1: General Framework, Section 1: Introduction
Toliara 20 April 2012	There are social and environmental problems at existing mines in the area. How will you prevent the same issues, such as the presence of tombs which are very important? There are also health problems (air quality). How are you going to fill the hole after digging up the soil? Why are you not using local specialists?	Social and environmental impacts will be assessed in the ESIA. This will include impacts on cultural heritage such as graves and sacred areas. An air quality assessment will be undertaken to assess the issue of dust and to provide mitigation measures to minimise dust emissions. These findings will be disclosed to the public during the ESIA process. Coastal and Environmental Services have done numerous heavy mineral mining ESIA's across the African continent. The specialists used by them are renowned in their various fields. Where possible these specialists will utilize local resources and expertise.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Section 5: Description of the Biological state of the environment Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Section 5: Description of the Biological state of the environment Volume 4: Jetty and Storage Facilities, Section 6: Description of the Social Environment; Section 5: Description of the Biological state of the environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report
Toliara 20 April 2012	The mining license should stipulate that further value adding to the products should take place in Madagascar prior to export to maximise the benefit to the country.	The international market demand is for illmenite feedstock, and refined Zircon and Rutile. The TSP will produce these products for onward sale to international buyers. The processes that use the raw products are trade secrets specific to the manufacturer, and all apply a high level of technology, require substantial financial investment and reliable energy (electricity).	Volume 2: EIE mine Site, Section 2: Description of the project
Toliara 20	You build a firm here in	Mainly for white pigment that forms the basis of paint.	Volume 2: EIE mine Site, Section 2:

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
April 2012	Madagascar. But the product is exported abroad. What is the ilmenite used for?		Description of the project
Toliara 20 April 2012	Why did the first company (Exxaro) drop the project?	At the time there were many issues to be resolved, which included economic and political issues and technological developments, Exxaro re-evaluated its strategic investment in the TSP and concluded that "TSP is unfortunately no longer aligned with the new business focus of Exxaro, which led to this decision (to withdraw) after due consideration of all relevant factors, and despite the fact that the TSP may be developed by other parties in the future." The decision was also prompted by a number of factors including "disappointing prospects of economic development of the Toliara Sands Project as well as the adverse political environment prevailing in Madagascar."	Not relevant to the ESIA
Toliara 20 April 2012	Don't we need water for the transportation of the product? Can't we use the sea for that?	Water will be required to enable HMC to be pumped from the transfer station to the MSP (MSP 2 option): estimated to be 80m^3/h. Once at the MSP the water will be processed to remove the fine minerals and other debris that may have been dislodged during pumping and the water stored in a process water tank. This water will then be utilised in the MSP and for pumping process waste material (non-economic minerals) back to the transfer station on the Fiherenana River. The net requirement will be about 10m^3/h, which will be pumped from a series of shallow boreholes adjacent to the Fiherenana River. To utilise seawater will mean that water will have to be pumped from the sea to the mining area, where it will be mixed with the HMC and pumped back to the Port of Toliara to the MSP and then back again to the site to transport the tailings. Furthermore, seawater interferes with the magnetic extraction of the ilmenite and will affect the soil, making rehabilitation difficult.	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale
Tsianishiha 21 April 2012	Will people have access to the mining area once the project commences?	Unfortunately not. The area will be fenced for safety reasons and no unauthorised entry will be allowed. However, it is important to note that the entire area will not be mined at once. Smaller areas of 10-35 ha will be mined and access will be allowed for the harvesting of natural resources in the remainder of the area.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Tsiafanoka 21 April 2012	How long will the mine be in operation?	Approximately 20 years for the first phase. It should be noted that the resource at Ranobe can support a mine with a life of more than 40 years at the initial rate. The mine will be progressively rehabilitated throughout the mine life.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine Site, Section 2: Description of the project
Tsiafanoka 21 April 2012	May we prepare our demands?	All suggestions made by local residents in terms of required social amenities will be presented to Toliara Sands. As stated before TS will provide some social infrastructure to the surrounding communities, however TS will not be able to supply everything that is required.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Ankilimaliniky 22 April 2012	What is this black sand used for?	Mainly in the production of white pigment that forms the basis of paint.	Volume 2: EIE mine Site, Section 2: Description of the project
Mangily 23 April 2012	This project needs to have interaction with people	Interested and affected parties will be informed of all progress and changes to the proposed project as stipulated in terms of Malagasy Law.	Volume 21: Stakeholder engagement
Mangily 23 April 2012	It is very important for us to have this project.	Noted	Volume 1: General Framework, Section 3: Context: Summary presentation of the project
Mangily 23 April 2012	We need to talk about collaboration between TS and the government.	It is very important to note that the supply of social infrastructure and amenities will require a collaborative effort between TS and the government.	Not relevant to the ESIA
Mangily 23 April 2012	What are the benefits and negatives of the project?	There are various benefits and potential impacts. Benefits include: Social infrastructure and amenities, royalties and employment opportunities. Impacts may include: Impacts on topography, removal of topsoil and soil erosion, impacts on flora, fauna, and biodiversity and the marine environment, water use, traffic, natural resources, agricultural land, air quality, noise, in-migration, visual impacts, paleontological and historical sites, local customs. All these and more will be assessed in the ESIA.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine Site Volume 3: EIE road and quarry Volume 4: Jetty and Storage Facilities

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 5: Resettlement and compensation action plan
Maromiandra 23 April 2012	Greetings the TS team. I am very happy to see you here. You'll bring development to our country. We are waiting for your help. It's a big hope for the community of Maromiandra so we accept all collaboration between us. We don't want you to touch our environment but because of the difficulty we have to accept it.	Noted	Volume 21: Stakeholder engagement
WWF	In the analysis of alternatives, the report does not mention the alternative "No action or failure to complete the project."	The no-go alternative will be assessed in the EIR. The 'no-go' option assumes the site remains in its current state, i.e. open space continues to be utilized by local residents for activates such as harvesting of natural resources, charcoaling, and slash-and-burn practices for farming, and initiatives to advance the status of the Protected Area by WWF and other players continues. It may be argued from an environmental perspective that the no-go option is the favourable alternative as open space is maintained. However, there is no guarantee of the land being properly managed or of the protected area being preserved. Observations on the ground and from satellite images indicate that efforts to control the exploitation of timber resources have, unfortunately, not been successful. The figure below shows satellite images of the northern part of Ranobe forest. It is evident that large portions of forest areas have been cleared. In the left hand image all forested areas in the north are intact, whereas over time large cleared areas become apparent, as pink patches on the image. This is where soil has been exposed, and the canopy is no longer intact. By 2011 almost no forested area is present in the central part of the image (light coloured areas) and clearing to the south is also evident. It is therefore recommended that the 'no-go' option may not be viable in terms of ecological and economical sustainability. It will however be used as a baseline throughout the assessment process against which potential impacts will be	

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		compared in an objective manner.  **Satellite images of the Ranobe project area in 2000 and 2011 showing extensive vegetation loss in the PK 32 and Calcare areas.**	
WWF	All affected municipalities and the status of properties of land must be determined and listed in order to give more consideration to modern land law and customary	Noted and agreed.	

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	law.		
WWF	The ESIA must take into account not only direct impacts of the mine and its infrastructure, but also indirect and induced impacts, namely local inflation (which may encourage people to further exploit the natural resources of the NPA), and the migration of workers and others which may also promote the illegal exploitation of resources (including hunting if they do not have access to meat).	These issues will be dealt with in the Socio-economic and Land and Natural Resources assessments that will be undertaken in June 2012.	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 11: Land and Natural resource use assessment Volume 16: Social Assessment report
WWF	The ESIA should provide an assessment of residual impacts. In case of unavoidable residual impacts, the proponent must propose measures to compensate for the biological environment or for citizens and affected communities.	Noted and agreed.	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment; Section 5: Description of

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			the Biological State of the Environment; Section 6: Description of the Social Environment
WWF	It should highlight the cumulative impacts of different project activities and establishing relationships with other existing projects.	Cumulative impacts of all aspects of the mining process will be assessed in the EIR.	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment
WWF	p. 48-49 (Sections 4.7 & 4.8): the flora and fauna analyses are very inadequate, out-dated, and sometimes misleading. For flora, no mention is made on various un-described species recorded by the Missouri Botanical Garden, within and around the Ranobe permit area. Figures provided in the fauna analysis do not included numerous studies conducted in the region during recent years. For example, much more 50 species of reptiles are known not only in the "Toliara region", but in areas immediately	The information provided in the Scoping Report is introductory, and more detailed analyses and updates will be undertaken. The faunal analysis will be undertaken by Prof. Branch, an internationally recognised herpetologists who has sat on the IUCN committees for endangered reptiles and amphibians. Mr. Peter Phillipson of the Missouri Botanical Gardens will be the study leader for the vegetation and floristic survey, that will also include botanists from CES, MBG and PBZT.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment Volume 4: EIE Port and Jetty, Section 5: Description of the Biological State of the Environment

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	adjacent to the Ranobe permit area. Similarly, Madagascar has several hundred species mammals, and not 77 as indicated. Once all data of occurrence of species has been compiled, Table 4.1 should be updated to take into account latest updates in the Red List of IUCN. In general, above sections do not emphasize the importance of biodiversity in global, national, regional and local scale. Madagascar is considered as the highest priority conservation of biodiversity in the world, while the eco-region in the spiny forest within the Ranobe Mine Project is one of 200 Global Eco-regions. The protected area PK 32 Ranobe surrounding the site has the greatest diversity of birds, mammals, reptiles and amphibians throughout the protected area in southern and the southwest of Madagascar. WWF has already provided information on the biodiversity of the region to the CES, and can do so again if they were lost.		Volume 7: Botanical Specialist report Volume 9: Faunal Baseline Assessment Volume 10: Ichthyology and Aquatic Habitat Impact Assessment Volume 11: Land and Natural Recourse use Assessment Volume 12: Marine ecology and Fisheries assessment Volume 14: Rehabilitation and offset strategy
WWF	The section on Agriculture pp. 54-55 (Section 5.3.2): contains several factual errors, such as balo is not a culture but a wild yam, and cassava is not grown using slash and burn techniques. Many crops said to be grown for subsistence are actually mainly grown for trade.	Noted. Information gathered for the Social Impact Assessment will be based on a household level survey and interviews with local residents. Therefore it is hoped that all this information will be accurate.	Volume 2: EIE mine site, Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 6: Description of the Social Environment Volume 4: EIE Port and Jetty, Section 6: Description of the Social Environment Volume 16: Social Assessment report

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
MINING ISSUES			
Toliara 20 April 2012	Will the surface be used for the project?	The topsoil will be removed and stockpiled. The subsurface layer will be excavated and the minerals extracted.	Volume 2: EIE Mine site, Section 2: Description of the project; Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
Toliara 20 April 2012	There is always collaboration and respect between TS and the local people, so we believe there is transparency. There is also a mining obligation and we make the people aware of that.	Noted	Volume 21: Stakeholder engagement
Toliara 20 April 2012	We need transparency about the substances found in those zones. Have you found anything other than heavy minerals in the area?	No. TS can only mine for heavy minerals as stipulated on the mining license.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine site, Section 2: Description of the project
Toliara 20 April 2012	There are also other minerals apart from ilmenite and zircon. Why don't you mention that? There are also local specialists in Toliara, who can do the impact studies, so why don't you change the international specialists to local ones?	The other mineral to be mined is rutile. This was mentioned in the presentation and the Scoping Report. Coastal and Environmental Services have done numerous heavy mineral mining ESIA's across the African continent. The specialists used by them are renowned in their various fields. Where possible these specialists will utilize local resources and expertise.	Volume 2: EIE mine site, Section2: Description of the project Volume 15: Sediment Transport Assessment Volume 20: Water Assessment
Toliara 20 April 2012	If TS finds anything else apart from the ilmenite, they have to declare it, since there are legislative requirements in terms of that. All exploitation should follow the rules about mining.	Noted. If TS discovers something other than the heavy minerals stipulated they will declare it to the state.	Volume 2: EIE mine site, Section2: Description of the project
Toliara 20 April 2012	There is a big responsibility to survey and control the exploitation but there is also law to assist with this. If the law is	Noted. TS can only mine for heavy minerals as stipulated on the mining license.	Volume 2: EIE mine site, Section2: Description of the project

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	broken the government has the right to close or stop the exploitation. If there are any people who found sapphires on the site they have to relay it to the authority responsible. Everybody should be responsible.		
Toliara 20 April 2012	Have you decided what the estimated production rate and the use of the water will be?	**Stage 1 Resource : 145 million tonnes at 8.1% grade** **Initial mine plan** Ore mined : 145 million tonnes Tonnes per annum : 7.0 to 9.4 million tpa • **Annual production rates** Ilmenite : 400 000 tpa Rutile/zircon concentrate : 43 000 tpa Water requirements for the mining operation and PCP are estimated to be 500 cubic metres per hour (m^3/hr), of which approximately 80% will be returned to the environment through the placement of tailings from the MSP. The water requirements for the MSP will be largely satisfied by the water arriving with the slurried ore from the PCP: additional water requirements are estimated to be 20m^3/h. Water will also be required to enable HMC to be pumped from the transfer station to the MSP (MSP 2 option): estimated to be 80m^3/h. Once at the MSP the water will be processed to remove the slimes and other debris that may have been dislodged during pumping and the water stored in a process water tank. This water will then be utilised in the MSP and for pumping process waste material (non-economic minerals) back to the transfer station on the Fiherenana River. The net requirement will be about 10m^3/h, which will be pumped from a series of shallow boreholes adjacent to the Fiherenana	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section 4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.23 Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
		River. Extensive research and modelling of the hydrology of the area has been carried out since 2003 with several studies being completed. Given the results of previous work by Hydromad and SRK, which concluded that there was sufficient water in the area to supply the planned Exxaro dredge mining operation (which required approximately 1 100 m^3/h), it follows that there will be sufficient water for the smaller scale Stage 1 dry mining and primary concentration operations without the resource being over-exploited. This water can readily be accessed through a system of well-spaced boreholes.	
Toliara 20 April 2012	Will the road be tarred or gravel? Where will you get the material for constructing the road?	The road will not be tarred but will be a good condition gravel road. The construction of the road will require limestone. A number of small limestone quarries will be developed in selected valleys so they are not visible during their operating lives, and where vegetation has already been severely disturbed. Once operations cease the quarries will be made safe and rehabilitated by returning soil and planting local endemic species. The location of these quarries has not yet been identified. Various alternative sites will be assessed in the EIR. The preferred option will be guided by environment and social impacts and also by stakeholder engagement during the disclosure of the Draft EIR.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Section 6: Description of the Social Environmen Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Toliara 20 April 2012	What are the chemicals and substances mixed with the sand, and what are the precautions taken to avoid the health problems?	There are no chemicals used in the processing of the minerals and therefore no adverse health effects that can be associated with the use of chemicals.	Volume 6: Air Quality assessment Volume 11: Land and Natural resource use Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 17: Specialist study on Noise Impacts

VENUE	COMMENT	RESPONSE	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
			Volume 19: Waste and Wastewater Assessment, Section 6: Assessment of Potential environmental Impacts, Section 7: Conclusions and recommendations
Tsianishiha 21 April 2012	Some people don't know about the project. They don't know what mining is.	We have had various meetings in Antananarivonarivo, Toliara and numerous villages. We have explained the mining process to them as we have explained it to you today. However if there is anyone who would like more detail on the project they can contact us directly.	Volume 21: Stakeholder engagement
Tsianishiha 21 April 2012	The people will be happy when the project puts back all the sand from the mining.	Noted.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

1.3 Stakeholder Engagement during the ESIA Phase of the present ESIA

This draft ESIA was submitted to ONE for their review and the comments from ONE have been addressed. This final ESIA will be submitted to ONE who are responsible for the disclosure of the ESIA to I&APs. ONE will place copies of the final ESIA in public buildings in the vicinity of the proposed project area for review. ONE will also supply relevant government departments, NGOs and parastatals with copies so they can provide comments. Once the review period is complete, ONE will make a final decision on the proposed project.

CES and World Titanium Resources have conducted consultation sessions with I&APs similar to that undertaken for the scoping phase and a full comments and response report is included in Table 1.3. In addition to this, all written comments from stakeholders post ESIA disclosure have been addressed in Table 1.4.

Table 1.3: Comments and Response Trail (ESIA Disclosure)

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013) Harivelo Miora (Mining engineer from the Association of Mining Engineers)	Requires explanation of the significance scale used to assess whether a particular impact is considered to be high, moderate or low.	To ensure a balanced and fair means of assessing the significance of potential impacts a standardised rating scale was adopted for the ESIA as well as the individual specialist assessments. This rating scale adopts four key factors that are generally recommended as best practice around the world that include: **1. Temporal Scale**: This scale defines the duration of any given impact over time. This may extend from the short-term (less than 5 years or the construction phase) to permanent. Generally the longer the impact occurs the more significant it is. **2. Spatial Scale:** This scale defines the spatial extent of any given impact. This may extend from the local area to an impact that crosses international boundaries. The wider the impact extends the more significant it is considered to be. **3. Severity/Benefits Scale:** This scale defines how severe negative impacts would be, or how beneficial positive impacts would be. This negative/positive scale is critical in determining the overall significance of any impacts. The Severity/Benefits Scale is used to assess the potential significance of impacts prior to and after mitigation in order to determine the overall effectiveness of any mitigations measures. **4. Likelihood Scale:** This scale defines the risk or chance of any given impact occurring. While many impacts generally do occur, there is considerable uncertainty in terms of others. The scale varies from unlikely to definite, with the overall impact significance increasing as the likelihood increases. These four scales are ranked and assigned a score to determine the overall impact significance.	Volume 22: Appendix

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013) Harivelo Miora (Mining engineer from the Association of Mining Engineers)	What will the impacts of the jetty be on the following aspects: economic (including employment) and health related impacts	A Social Impact Assessment as well as an Economic Impact Assessment was undertaken for the proposed project and is included in the specialist volume that is available on the CES website for review. In terms of economic impacts related to the jetty, it is anticipated that a number of employment opportunities will be available to the local communities during the construction of the jetty and associated infrastructure. There are no health related impacts anticipated for the construction and operation of the jetty.	Volume 16: Social Impact Assessment Report Volume 8: Economic Assessment Report: - Section 6: Estimated Economic Impacts on the National Economy, - Section 7: Impacts on the Regional Economy, - Section 8: Impacts on the Local communities
Antananarivo (16 April 2013) Harivelo Miora (Mining engineer from the Association of Mining Engineers)	What component of employment will be available for local people?	The project is expected to create jobs for approximately 500 people during construction and 250-400 during the operational phase. Preliminary Human Resources studies undertaken by the proponent indicate that it will be possible for the company to source a sufficient number of skilled Malagasy people who have tertiary qualifications and two years of technical work experience. However, most of these may not come from the Toliara District, but will have to be sourced from other parts of Madagascar. These studies do however indicate that at least 30 capable mechanics can be sourced from the south-west region. It is assumed therefore that at least 30 skilled employees can be sourced from the south-west region whereas the remainder (46) will have to be sourced from elsewhere. All unskilled labour will be sourced locally.	Volume 16: Social Impact Assessment Report: - Section 9: Transfer station and jetty impacts, - Section 10: Port site impacts Volume 8: Economic Assessment Report: - Section 7: Impacts on the Regional Economy, - Section 8: Impacts on the Local communities

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013) Rabezary (Jurist)	Why are Toliara Sands not educating people in the area to prevent large scale clearing?	Toliara Sands have been involved and is active within the community. From previous consultation with the affected communes (during the Scoping Phase) it became apparent that the communities are well aware of the pressures currently being placed on the Ranobe Forest and PK32 area and the consequences thereof. However, the communities feel that they have no choice since their livelihoods currently depends on clearing forested areas for charcoaling, agriculture, food, etc. Therefore the current degradation of the forest is not due to a lack of education but rather a lack of alternative livelihood strategies. At this stage Toliara Sands is not sufficiently active in the area to initiate environmental education programmes, and this is not their primary function, nor their responsibility. If the project proceeds, Toliara Sands could offer assistance to WWF and relevant Government Department to assist in solving this problem, but a long term intervention such as this will only occur once the project is implemented.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2
Public Meeting in Antananarivo (16 April 2013) Rabezary (Jurist)	Is ilmenite carcinogenic?	No	Volume 2: EIE mine Site, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013)	In exchange for exploitation there are various social upliftment programmes suggested, why not include the environmental component (e.g. degradation of the PK32 area) as well?	There have been numerous discussions between Toliara Sands and WWF in relation to this issue. In addition to this a Rehabilitation and Offset Strategy was completed as part of the specialist volume available on the CES website for review. It is recommended in this report that priority areas, as identified by WWF, within the PK32 area be actively managed as a conservation area in partnership with Madagascar National Parks (MNP formerly known as ANGAP = *Association Nationale pour la Gestion des Aires Protégées*). Furthermore, additional funding and training will allow for the improved and active management of the area and thus facilitate biodiversity conservation. These areas should be monitored consistently throughout the life of the project and performance reports on the implementation and management of biodiversity offsets reviewed on a regular basis (e.g. annual). These reports should be in a form that enables ready comparison of the objectives and measures with the actual results achieved over time.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2 Volume 14: Rehabilitation and Offset strategy
Public Meeting in Antananarivo (16 April 2013) Andry Raharison (Journalist)	Why are Toliara Sands utilising experts from abroad and not from Madagascar? There are some specialists in the country that can be used for this purpose. International specialists are not familiar with the cultures and values of the Malagasy people.	CES and its associated specialists has undertaken numerous large ESIA's for heavy mineral mining across Africa, including Kenya, Mozambique, Egypt and South Africa and are therefore familiar with the process of heavy mineral mining. CES has relied on in country staff employed by Toliara Sands for assistance in facilitating meetings with local communities, NGO's and Government Departments. In addition to this various in country specialists have been appointed to undertake specialist work such as Aquaterre, INSTN, Colas, etc.	Volume 15: Sediment Transport Assessment Volume 20: Water Assessment
Public Meeting in Antananarivo (16 April 2013) Andry Raharison (Journalist)	In the beginning of the video clip shown as part of the presentation, Madagascar is shown in red. Is there something implied with this?	No there was nothing implied by this. The colour red was simply chosen to grasp the attention of the audience.	Not relevant to the ESIA

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013)	Where will the water required for the proposed mine come from, and where does it go after processing?	Only groundwater (no surface water) will be uitlised for the mining process. Approximately 90% of the water will recharge the aquifer, mainly through runoff from stockpiles. The remaining 10% will be recycled through processing.	Volume 20: Water Assessment - Section 3; sub-section 3.1 Volume 11: Land and Natural Resource Use - Section 3
Public Meeting in Antananarivo (16 April 2013) Lea (Student)	The presentation focuses on the negative impacts resulting from the proposed project, could you please expand on the positive impacts.	Unfortunately this presentation mainly focuses on negative impacts since those are the issues that need to be rectified, if possible, and discussed. However, various positive impacts have been included in the ESIA, including (but not limited to): • Increased employment opportunities • Expansion of infrastructure and service provision • Decrease the illegal use of natural resources • Impacts on the National Economy • Increased income and expenditure due to direct employment • Increased income and expenditure due to indirect and induced impacts • Additional income from lease and royalty payments to local authorities and residents and from community development	Volume 8: Economic Assessment report Volume 16: Social Impact report
Public Meeting in Antananarivo (16 April 2013) Jacques (WWF)	Will the land required for mining as well as all associated infrastructure be bought or rented from the people that it currently belongs to?	Residents will be compensated for agricultural land, grazing areas, dwellings, tombs, etc. However, the compensation mechanism has not yet been finalised. This will be done as part of the Compensation Plan that will be undertaken for the project and will be initiated towards the end of this year.	Volume 16: Social Impact Assessment
Public Meeting in Antananarivo (16 April 2013)	What is the ambient radiation levels of the ilmenite, rutile and zircon once processed?	The uranium and thorium concentrations are between 10-150 ppm for ilmenite and 700 ppm for the zircon / rutile concentrate. This equates to approximately 5 mSV, thus less than the measured baseline values. Given this low level of radioactivity there are currently no special regulations required for the export of the product in terms of radioactivity.	Volume 13: Radiation Assessment - Section 4

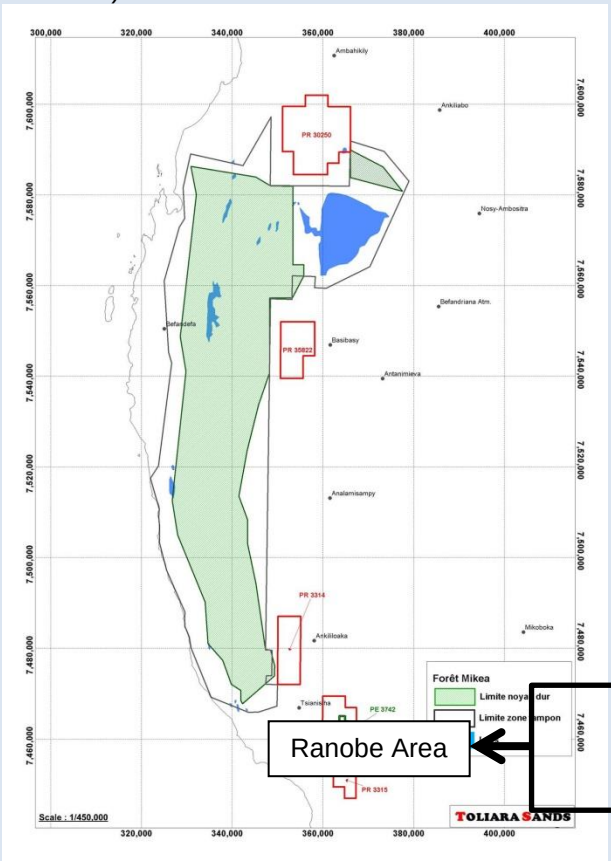
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013) Andrianarison	The effect of radiation is long term and therefore will remain long after mining has ceased (e.g. carcinogenic properties). What will the difference be prior to and after mining in terms of radiation levels.	1. According to the Radiation Assessment undertaken for the proposed project, the mining and processing operation will remove the majority of the radioactive mineral fraction (monazite) from the ore body by processing at the MSP. The coarse tails from the PCP will therefore contain a small fraction of the original radioactivity. Since the product materials produced by the MSP (ilmenite, rutile and zircon concentrates) also contain radioactivity, the export of these materials will permanently remove a fraction of the total radioactive inventory from the project area. 2. The remaining radioactive inventory comprises a variety of MSP tails containing varying levels of radioactivity. The majority of the radioactive inventory will be contained in the monazite tails. Provided that these tails are properly disposed of by blending with low radioactivity materials the radiation levels above the surface of the ore body will be reduced to baseline levels or slightly below. This is a minor positive impact of the project.	Volume 13: Radiation Assessment
Public Meeting in Antananarivo (16 April 2013)	During the presentation it was mentioned that areas within the mining area will be rehabilitated with indigenous species to create corridors, if this is possible. Why was it said “if possible”?	Due to current land use practices it is uncertain if any viable forest surrounding the proposed project area will be present after mining is completed (i.e. in 21 years time). It is therefore not possible to predict whether any corridors established during rehabilitation will result in proper connectivity. In addition to this restoration of the area will be extremely difficult as the majority of the mining area has already been transformed by existing land use.	Volume 14: Rehabilitation and offset strategy - Section 1: General site description and context - Section 4: Offsets and rehabilitation at the proposed Ranobe Mine - Section 5: Rehabilitation and offset strategy
Public Meeting in Antananarivo (16 April 2013)	Why not utilize a railway line instead of a road?	Due to the small scale of the project a railway line will not be cost effective.	Volume 3: EIE road and quarry, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013) Harivelo Miora (Mining engineer from the Association of Mining Engineers)	Will local people within the construction area be compensated for traditional land even if they do not have proof of it belonging to them?	All these claims will be considered and investigated. However, the validity of claims will have to be confirmed through ongoing surveys, community consultation.	Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan
Public Meeting in Antananarivo (16 April 2013)	We thank you for informing us of the process and the social upliftment provided to the villages thus far, however, the issue of employment needs to be clarified to the communities, since they do not understand what it entails. The communities also need to be informed of the possibility of tombs having to be relocated, economic displacement, physical displacement etc. The communities will also need to understand that the mining process will require the use of water.	All these aspects (i.e. employment, water usage, tombs, etc.) have been explained to the various communities within the 4 communes affected during the previous stakeholder engagement undertaken during the Scoping Phase in April 2012. Further engagement with affected communities will be undertaken from the 22nd to the 24th of April 2013, where all these aspects will be explained again in detail and all communities will have the opportunity to comment. In addition to this a Resettlement Action Plan and a Compensation Plan will be undertaken to deal with physical and economic displacement.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts Volume 20: Water Assessment Volume 11: Land and Natural Resource Use - Section 3
Public Meeting in Antananarivo (16 April 2013)	It is understood that there will be protective gear for all workers, however workers tend to get hot and therefore take it off.	If any worker is found without protective gear they will be subject to the appropriate disciplinary procedure and consequences up to and including dismissal.	Volume 13: Radiation Assessment, Section 12: Administrative Controls over the Radiation Exposures of the Workers and the Public Volume 5: Resettlement and compensation action plan, Section 3: Environmental Management Plan

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013)	The disclosure process is informative, however the 5 minute television clip used to explain the project is too short. More information is required.	All the relevant documents (i.e. ESIA and all specialist studies) are available on the CES website for review. In addition to this, CES consultants are available for consultation during the process. Contact details are available in the presentation as well as on the CES website.	Volume 1: General Framework, - Section 3: Context: Summary Presentation of the Project Volume 21: Stakeholder engagement
Public Meeting in Antananarivo (16 April 2013) Mme Sahndra Ramahefamanana	What about the water after mining. A country that has water is considered to be wealthy. The mine will use all the water and there will be no water left for the local people.	Water requirements for the dry mining and processing operations are estimated to be 560 m^3/hr, of which approximately 90% of the water demand will be abstracted from boreholes and 10% recovered / recycled from the mined ore. Approximately 90% of the water demand will be returned to the environment through the placement of tailings from the wet processing plant, thereby artificially recharging the underlying Eocene limestone aquifer. In addition to this, drawdrawn will be monitored through a number of well positioned boreholes throughout the life cycle of the mine.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.23 Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale Volume 11: Land and Natural Resource Use - Section 3
Public Meeting in Antananarivo (16 April 2013) Mme Razafimamamonjy Norosoa (EIA Specialist)	Impacts related to the proposed construction camp should be included in the ESIA.	Noted. This will be incorporated in the detailed Construction Phase EMP that will be undertaken for the proposed activities.	Volume 2: EIE Mine site - Section 2 Description of the project; Subsection 2.2.3

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013) Rabezary (Jurist)	Toliara Sands must take care of young Malagasy people in regards to employment, education, etc.	Noted. It is proposed that the mine will employ approximately 250 Malagasy staff and, the environmental and social projects will employ approximately 150 additional residents. The company will advertise all positions locally and will recruit from the local community whenever qualified individuals can be found. In addition to this the company will actively develop its own local staff and work with regional and national educational institutions to match the skills of graduates to the needs of the company. Education is critical for the continual development of a country. Therefore, it is proposed that WTR consider sponsoring the improvement and development of schools in the communes near the Ranobe deposit. This sponsorship could include: • Promoting the training of teachers; • Purchase equipment; and • Develop scholarship opportunities.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 2: EIE mine Site, Section 7: Study of the Closure Plan
Public Meeting in Antananarivo (16 April 2013) Rabezary (Jurist)	Toliara Sands will make $2000 per ton of product which equates to a large amount of money, whereas the investment is low.	This is incorrect. The market price for ilmenite is currently $250 per ton. However the long term price is forecast to be $150 per ton. The overall average revenue per tonne of product for the project has been forecast to be $271 per ton for a combination of ilmenite and non-magnetic concentrate.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy
Public Meeting in Antananarivo (16 April 2013) Rabezary (Jurist)	Why not bring the industry for producing the pigment to Madagascar as well?	There is no market for pigment in Madagascar. Pigment production occurs predominantly in end use markets (North America, Europe and China).	Volume 2: EIE mine Site, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013) Corine Razafindrakoto	We have noticed that very few Malagasy people are currently employed by Toliara Sands and that more and more external people are being employed.	This is incorrect, Toliara Sands currently have 47 permanent employees (12 in Antananarivo and 35 in Toliara). Of these only 3 are expatriates. The total includes guards, drivers, office personnel etc.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013) Corine Razafindrakoto	There are indigenous people, i.e. the Mikea currently living in and utilizing the Ranobe Forest. What will happen to them?	There are currently no Mikea people living within the Ranobe Forest. The live north of the proposed project area (see map included below):  The green area refers to the limit of the Mikea people. The solid back line is a buffer placed around the area. The blue areas refers to lakes within the area.	Volume 16: Social Impact Assessment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Antananarivo (16 April 2013)	Toliara Sands must send out tenders for every job opportunity instead of only utilizing known companies.	Noted and agreed.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy
Public Meeting in Antananarivo (16 April 2013)	The Mikea people may not live in the area, however they do utilize various resources within the forest.	This is considered to be unlikely as the Mikea people would have to travel long distances to be able to uitlise the Ranobe Forest (see map included above). In addition to this, the Mikea are currently under threat from local people as much if not more than from the proposed mining activities.	Volume 16: Social Impact Assessment - Section 5: Socio-economic description of the study area; Subsection 5.17.2 Ethnic groups
Professional Meeting in Antananarivo (16 April 2013) Tsimarivo Rahilahy (Toliara)	What is the potential for sedimentation occurring as a result of the construction of the jetty?	It is anticipated that the proposed new port facility will consist of an open piled berth and access trestle. According to the Sediment Transport Assessment undertaken by PRDW for the project this type of structure is not expected to have a noticeable impact on the sediment transport dynamics.	Volume 4: EIE Port and Jetty - Section 3: Analysis and choice of the alternatives; Subsection 3.1 Position of proposed jetty - Section 4: Description and impacts on the physical state of the environment; Subsection 4.2: Sediment dynamics
Professional Meeting in Antananarivo (16 April 2013) Tsimarivo Rahilahy (Toliara)	Will the jetty be private or will it be utilised for commercial purposes as well?	The jetty has been designed for the purpose of exporting ilmenite. However, the new jetty will have a higher capacity than will be required for the export of product. WTR would be willing to negotiate with anyone who would like to utilise the structure on commercial terms, provided the product to be shipped is compatible with ilmenite.	Volume 4: EIE Port and Jetty Section 2: Description of the project; Subsection 2.3 Operational phase - jetty

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Tsimarivo Rahilahy (Toliara)	Will the villages benefit from water abstraction for crop cultivation?	No, abstracted water will only be used for processing. However, the project would promote and support some agricultural projects, which would in part supply the mine site with meat and vegetables. In addition to this, some initiatives may be funded to support the farming production in the mining project area. The project could also support a technical program to improve farming productivity.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine Site Volume 3: EIE road and quarry Volume 4: Jetty and Storage Facilities Volume 5: Resettlement and compensation action plan
Professional Meeting in Antananarivo (16 April 2013) Rasaminaivo Lalaina (Jirama)	Will the water that recharges the aquifer be radioactive?	Water is currently (through rainfall and run-off) percolating through the soil which has baseline radiation levels of 7 mSV. Therefore, the groundwater in the project area is naturally affected by radiation.	Volume 20: Water Assessment - Section 3; sub-section 3.1 Volume 11: Land and Natural Resource Use - Section 3
Professional Meeting in Antananarivo (16 April 2013) Malagasy Association for Environmental Promotion	Who will financially be responsible for rehabilitation of the area?	Toliara Sands.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013)	Sediment from the Fiherenana River is discharged into the Toliara Bay during the rainy season. What will the impact of the jetty be on this?	This is correct and has been confirmed by the Sediment Transport Assessment. It should be noted that over the past five decades, the south-western region of Madagascar has undergone severe deforestation. This has the effect of increasing the sediment load of the rivers whose catchments are located in the deforested areas. This is because vegetation generally increases the cohesion of surface sediments. It therefore can be argued that due to the increased deforestation, the sediment load of the Fiherenana River has increased recently, thereby delivering an increased volume of sediment to the littoral zone between Toliara and Ranobe Bay. The preferred option of an open piled berth and access trestle is, however, not expected to have an impact on sediment transport characteristics (PRDW Sediment Transport Assessment).	Volume 4: EIE Port and Jetty - Section 4: Description and impacts on the physical state of the environment; Subsection 4.2: Sediment dynamics
Professional Meeting in Antananarivo (16 April 2013)	Will sediment discharge from the Fiherenana River affect shipping movements in the vicinity of the jetty in the future due to potential decreases in depth?	It is possible that significant shoreline accretion could result in the siltation of the proposed berth, reducing the navigable depth of the facility. However, a shoreline monitoring programme is being undertaken, and includes beach profiles spaced at 250 m intervals and a grid survey of the Toliara sand spit with spot heights taken at 50 m intervals. These surveys are being undertaken on a three-monthly basis.	Volume 4: EIE Port and Jetty Section 4: Description and impacts on the physical state of the environment; Subsection 4.2: Sediment dynamics
Professional Meeting in Antananarivo (16 April 2013)	Will surface water be used for the mining activities?	No, only groundwater will be utilised.	Volume 11: Land and Natural Resource Use - Section 3

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013)	We would like a financial commitment that rehabilitation will be undertaken.	According to IFC Guidance Note 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources) the costs associated with reclamation and/or with post-decommissioning activities should be included in business feasibility analyses during the planning and design stages. Minimum considerations should include the availability of all necessary funds, by appropriate financial instruments, to cover the cost of reclamation and project closure at any stage in the project's lifetime, including provision for early or temporary reclamation or closure. Reclamation funding mechanisms are well-established in the mining industry and are described in Section 1.4 of the Environmental, Health and Safety Guidelines for Mining. These guidelines states that for short life mines, a fully detailed Mine Reclamation and Closure Plan (with guaranteed funding) as should be prepared prior to the start of operations. The cost of rehabilitation has been included in the feasibility study.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
Professional Meeting in Antananarivo (16 April 2013)	Have simulations of the current and wave patterns been undertaken in the study area?	A year long study on wave and ocean currents (baseline) will be commencing shortly.	Volume 12: Marine ecology and Fisheries assessment - Section 3: Methodology
Professional Meeting in Antananarivo (16 April 2013) Mahaleo Ratsarazaka Ratsimandresy (Environmental Specialist)	How many communes are directly affected by the project?	There are 5 communes that will be affected by the proposed project. These include: • Tsianisiha (mining); • Ankilimalinke (mining and haul road); • Belalanda (haul road); • Maromiandra (haul road); and • Toliara I (jetty, existing Port and access roads)	Volume 1 - General Framework Volume 2 - EIE Mine Site Volume 3 - EIE Road and Quarry Volume 4 - EIE Port and Jetty

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Mahaleo Ratsarazaka Ratsimandresy (Environmental Specialist)	What are the impacts of mining on the affected communities?	A Social Impact Assessment was undertaken for the proposed project. The impacts of mining on the various communities are explained and assessed in Chapters 6-10 of this report. These impacts included (but are not limited to) the following: • Increase in employment opportunities and related economic benefits; • In-migration of large numbers of economic migrants and job seekers; • Physical and economic displacement of structures and fields; • Expansion of infrastructure and service provision (or increased pressure on existing ones); • Increased competition and conflict between communities; • Loss of productive land and natural resources; • Loss of sacred and culturally important heritage sites; • Exhumation of tombs and gravesites; • Decrease the illegal use of natural resources; • Reduced access to local fishing grounds; • Loss of recreational facilities; • Loss of mooring facilities and fishing boats; and • Risks of road accidents and injury.	Volume 16: Social Impact Assessment - Section 6: Impacts identification and assessment - Section 7: Mine site impacts identified and assessed
Professional Meeting in Antananarivo (16 April 2013) Mahaleo Ratsarazaka Ratsimandresy (Environmental Specialist)	Where will the people employed by the mine live?	A construction camp will be erected on site for the housing of construction workers. However, during the operational phase workers will be housed in Toliara Town or nearby villages (i.e. existing place of residence).	Volume 2: EIE Mine site - Section 3: Analysis and choices of the alternatives; Subsection: Alternatives associated with ancillary infrastructure; Sub-subsection 3.3.3 Construction and Operation Accommodation

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Mahaleo Ratsarazaka Ratsimandresy (Environmental Specialist)	Is Toliara Town ready, in terms of infrastructure, for the influx of people?	The project is likely to have a positive impact on project-affected areas in terms of the improvement of road networks, which are currently in a poor condition and limit access to markets, schools and healthcare facilities. The development of the haul road, albeit not intended for third party use, as well as improvements to the local road network, will significantly improve access to social services and mobility between *fokontany,* which may in turn have positive social, economic and health benefits. Moreover Toliara Sands is likely to invest, or attract investment by national providers, in developing related infrastructure, such as telecommunications, which would assist government with rolling out infrastructure and development projects in the areas of health, water and sanitation, and education. Local communities have high expectations with regards to Toliara Sands' provision of boreholes and the construction of schools and clinics. Although Toliara Sands have implemented a number of social development projects in the villages neighbouring the proposed mine lease area, it must be noted that Toliara Sands aims to identify and implement infrastructure, and social development programmes in consultation with the Government and the communities themselves. This will ensure that the benefits accruing from these programmes continue after closure of the mine.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Professional Meeting in Antananarivo (16 April 2013) Mahaleo Ratsarazaka Ratsimandresy (Environmental Specialist)	Should Toliara Sands utilise the existing Port in Toliara, will it have an affect on shipping traffic?	Yes. According to the Marine Ecology and Fisheries Assessment undertaken for the proposed project, the construction of the MSP at the Port of Toliara (and thus the use of the existing Port for export) is likely to result in more significant impacts for fisher communities by virtue of its proximity to existing villages and much larger volumes of pirogue traffic. It is also likely to result in more significant impacts on existing fishing grounds and general shipping activity in and around the port.	Volume 12: Marine ecology and Fisheries assessment, Section 6: Impact Assessment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Mahaleo Ratsarazaka Ratsimandresy (Environmental Specialist)	Will the road be private or utilized by locals as well?	The new haul road will be private, since large road trains may pose a danger to public safety. However, the road and the causeway could be handed to the appropriate government departments (i.e. Department of Roads) and could potentially be utilised by the local communities once mining has been completed.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Professional Meeting in Antananarivo (16 April 2013) Rakotoniarainy (DREF)	What will happen to the topsoil? Rehabilitation would be unsuccessful without the utilisation of topsoil.	Topsoil will be removed and stockpiled prior to mining. Topsoil will be replaced after mining has been completed and prior to planting of vegetation as part of the rehabilitation process.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Rakotoniarainy (DREF)	Is it possible for the topsoil to be utilised for agriculture?	It is possible, however not ideal as you would not want to move it to an area that is a great distance from where is naturally occurs. In addition to this, agricultural practises in the study area are mainly rain-fed. This results in the topsoil being washed away during the rainy season, thereby reducing soil fertility after a few years of farming. Furthermore, the topsoil removed during the mining process will be needed for rehabilitation of the mining site.	Volume 2: EIE mine site, Section 2: Description of the project Volume 5: Resettlement and compensation action plan Volume 14: Rehabilitation and offset strategy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Professional Meeting in Antananarivo (16 April 2013) Rakotoniarainy (DREF)	Why did you not include information on contractors and suppliers in your presentation?	Contractors and suppliers for the construction of the project will not be appointed until all relevant authorisations, including the environmental authorisation has been granted. Therefore no information on these issues is available at this stage in the process.	Not Relevant to the ESIA
Professional Meeting in Antananarivo (16 April 2013) Rakotoniarainy (DREF)	Rehabilitation of the area with woodlots may not be effective in reducing current degradation due to harvesting.	Noted. It is unlikely that the establishment of woodlots will result in preventing current land use practices. However, due to the fact that fast-growing species can be selected for these purposes it may result in the alleviation of these pressures as indigenous hardwood trees currently preferred for charcoaling are extremely slow growing. On-site investigations showed that the majority of hardwood trees within the Ranobe Forest area have already been cleared and the few that remain are seedlings and/or saplings. The lack of hardwood trees have subsequently resulted in the use of woody shrubs for charcoal production, which yields relatively low quality charcoal. For this reason it is anticipated that woodlots would be preferred to utilizing woody shrubs and other trees unsuitable for charcoaling, thereby alleviating some of the existing pressures.	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.2 Biodiversity offsets

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Rabearizafy (Win Consulting)	The artificial creation of natural corridors will not have a positive impact on the area.	While the natural corridors will not represent the exact natural species composition of the area after initial restoration, it will still provide corridors for animal migration and seed dispersal. It is believed that over time it will return to its natural state if managed correctly. For this reason it is anticipated that these corridors will have a positive impact in the region.	Volume 7: Botanical specialist report - Section 7: Impacts identified and assessed; subsection 7.2.3
Professional Meeting in Antananarivo (16 April 2013)	What are the energy requirements for the project and how will it be generated?	The total installed power requirements of the operation once it is at full capacity are estimated to be approximately 5.6 MW with actual consumption estimated to be 80% of installed power. Self-generated diesel power is considered to be the only practical option for the project.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.2

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013)	Have the impacts of fine dust particles been assessed?	Yes. An Air Quality Assessment has been undertaken for the proposed project. This assessment concluded the following: The main construction activities likely to result in noticeable impacts of PM_{10} and TSP include vehicle entrainment from unpaved roads and wind erosion from the topsoil stockpiles. Dust fall impacts are generally confined to the near-field (<1 km to 3 km) of sources. This is due to the fact that larger particles, which contribute most to dust fall rates given their mass, are likely to settle out in close proximity to the source (assuming a ground-based source). The area influenced by the operations off course depends on the dispersion potential of the site, the extent of the construction operations and the mitigation measures applied. Various mitigation measures are suggested and the overall significance before and after mitigation is considered to be low. Fugitive $PM_{2.5}$, PM_{10} and TSP emissions during the operation phase of the proposed project will be generated by the following activities: • Topsoil bulldozing; • Ore excavation and handling; • Ore and HMC screening; • HMC, ilmenite and zircon/rutile handling; • Wind erosion of stockpiles; • Material transport by trucks and FELs on unpaved surfaces; • Transportation of day and shift workers by bus on unpaved surfaces; • Transportation of diesel by diesel tanker on unpaved surfaces; and • Transportation of containers on unpaved surfaces. In addition to this the dryer stacks and baghouse stack at the MSP are expected to result in PM_{10}, $PM_{2.5}$, TSP, NO_x, SO_2, CO and SO_3 emissions and the use of diesel generators will result in $PM_{2.5}$, PM_{10}, TSP, NO_x, HC and SO_2 emissions. Various mitigation measures are suggested and the overall significance before mitigation is considered to be moderate and after mitigation low.	Volume 6: Air Quality Assessment - Section 4: Assessment Criteria and Regulatory Context; Subsection 4.3: Dustfall Criteria; Sub-subsection 4.5.1.1: Fugitive Dust Emissions - Section 7: Operational Phases Air Quality Impact Assessment; Subsection 7.3 Impact assessment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Martin Nicoll (WWF)	What will happen to the road once mining is complete? If it is handed over to the Government for utilization by local residents, it would result in increased access to the Ranobe Forest, which will exacerbate degradation due current land use practices.	The road and the causeway could be handed to the appropriate government departments (i.e. Department of Roads) and could potentially be utilised by the local communities once mining has been completed. The position of the haul road has been amended to mainly follow areas of moderate sensitivity, which consist mainly of agricultural areas and grazing land. It is therefore evident that this area is already accessed by the local communities.	Volume 1: General Framework, Volume 2: EIE mine Site Volume 3: EIE road and quarry Volume 4: EIE Port and Jetty Volume 16: Social Impact Assessment

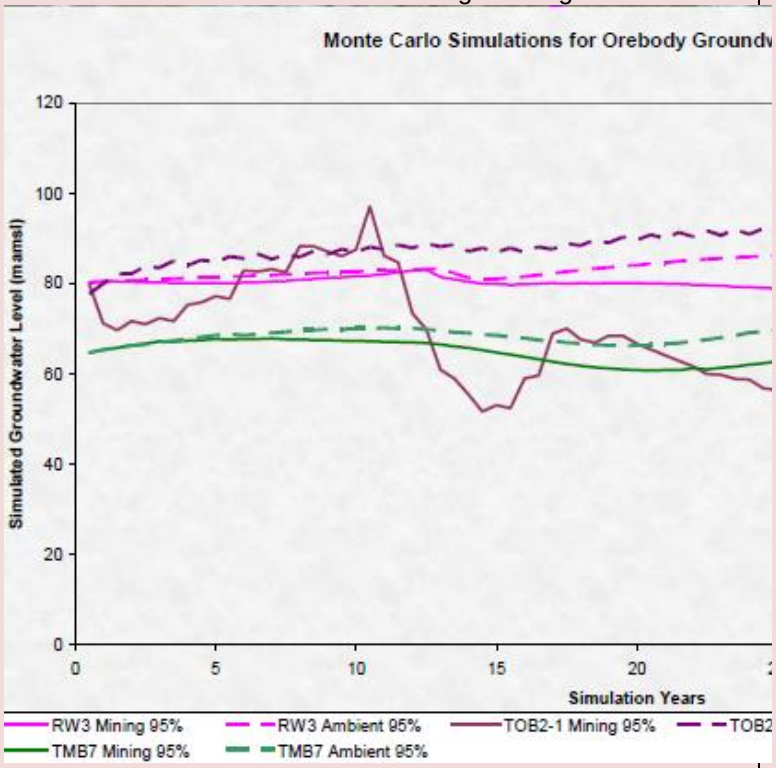
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Martin Nicoll (WWF)	The PK32 area is a Category 5 area not a Category 6 area.	This has been confirmed by WWF. The objectives of Category V areas are as follows: • Maintain the diversity of landscape and habitat, and of associated species and ecosystems. • Maintain harmonious interaction of nature and culture, protecting the landscape and / or seascape and the continuation of traditional natural occupation and construction, as well as the expression of local socio-cultural realities. • Promote sustainable livelihoods and economic activities in harmony with nature and the preservation of socio-cultural identity of the communities concerned. • Meeting the needs of populations within the protected area through sustainable use (farm forestry, livestock and fisheries) natural resources and the maintenance of ecological services (drinking water or income derived forms sustainable tourism). • Maintain and strengthen the traditional system of natural resource management that contributes to the preservation of the landscape and human activities that are compatible. The severe and ongoing degradation of the area shows that these objectives are currently not being met. Toliara Sands could assist in meeting some of these objectives in selected areas in the Ranobe Forest as part of the proposed offset strategy. In addition to this the Forestry Department is under the impression that the area should fall within a Category 6 due to the extensive degradation in the area. CES is still awaiting a response from PGES in regards to this issue.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 7: Botanical specialist report Volume 9: Faunal Baseline Report Volume 11: Land and Natural Resource Use

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) (Advisor in Environment)	The report incorporates climate and temperature data as monthly averages. Could it rather be displayed as 10 year intervals?	No, since the data used for the analyses is based on climate data for the past 3 years.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine site, Section 4: Description of the physical state of the environment Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment Volume 6: Air Quality Assessment
Professional Meeting in Antananarivo (16 April 2013) (Advisor in Environment)	Where will the monazite be stockpiled prior to backfilling?	Monazite will not be stockpiled; it will be mixed with the other tailings from the PCP and MSP and placed back into the mine void. If stockpiling is required the tailings will be blended prior to stockpiling and not as a separate monazite stockpile. These stockpiles would be the mine site, since the preferred location for the MSP is considered to be there.	Volume 13: Radiation - Section23: Appendix 7 An overview of engineered control methods

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) (Advisor in Environment)	Will it be possible to construct a road that could be utilised by local residents as well?	No, only one road will be constructed that will be utilised by large vehicles for the purposes of mining. This road cannot be shared with the local communities, since large road trains presents a safety hazard to pedestrians, zebu carts, taxi bruise and livestock (currently utilising the RN9).	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Professional Meeting in Antananarivo (16 April 2013) (Advisor in Environment)	Will the road be surfaced?	No, it will be a gravel road.	Volume 3: EIE road and quarry
Professional Meeting in Antananarivo (16 April 2013) (Advisor in Environment)	What will the impact of deforestation be on the recharge of the limestone aquifer?	We cannot provide a definitive answer to this question. On the one hand direct interception of rainfall by, and evapotranspiration from the leaves of the trees are likely to decrease, and this may increase the recharge rate of groundwater. On the other hand surface water run-off may increase, which may result in a reduction in recharge. This water balance is currently unknown and therefore the effect cannot be determined with any precision.	Volume 20: Water Assessment - Section 3; sub-section 3.1

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) (Advisor in Environment)	There is currently a tourism project ongoing in the area proposed for the jetty, referred to as SRAT. What will the impact of the project be on this?	CES has a scheduled meeting with the Department of Tourism in Toliara. However, it is unlikely that this project will be impacted upon by the construction of the new jetty and associated export.	Volume 4: EIE Port and jetty
Professional Meeting in Antananarivo (16 April 2013) (Advisor in Environment)	Could you provide us with information on the blending process?	The radioactivity of the MSP tails will be reduced to the original background levels by blending these tails with PCP tails prior to final disposal. The radioactive minerals in the MSP tails was originally dispersed in the material now called PCP tails before mining, so blending will return the radioactivity of the mix to levels occurring in the deposit prior to mining.	Volume 13: Radiation - Section 1: Introduction; subsection: Project overview - Section 9: Rejects management disposal options at the Ranobe MIne
Professional Meeting in Antananarivo (16 April 2013) Jeannot Don Bosco	The presentation mentioned that “employment will be limited when compared to the dimensions of the population”. What does this mean?	The study area has a density of 36 people per km², and the villages range from small populations of about 120 people to much larger populations of about 4 412 people. According to key informant interviews with village Chiefs the current population of the area is approximately 58 000 people (Social Impact Assessment). The project is expected to provide jobs for around 500 people during construction and approximately 250-400 people during the operational phase, including those employed by the project directly by the mining, haul road and other contractors for example rehabilitation and providing services such as building, clearing, catering and vehicle hire. The 250 staff employed directly by Toliara Sands provisionally will include 44 highly skilled, 76 skilled, 87 semi-skilled and 94 unskilled positions.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Jeannot Don Bosco	What measures will Toliara Sands employ to ensure that local residents are employed?	In order to optimise use of local labour it is suggest that Toliara Sands develop and implement the following mitigation measures: • HR policies and procedures that prioritise local employment to the extent allowed under Malagasy law and local skills development, and are based on the principle of gender equity; • Develop and implement a Labour, Recruitment and Influx Management Plan; • Develop and implement procurement and supply chain policies and procedures that prioritise local resources and suppliers, where possible, procure services and supplies form local vendors; • Develop a Community Development Plan (CDP) that prioritises skills development and vocational training programmes; and • Implement sustainable development programmes that focus on the creation of small business enterprises and business and financial management training and other livelihood restoration programmes.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Professional Meeting in Antananarivo (16 April 2013)	Will Phase 2 of the proposed project be subject to an environmental impact assessment as well?	Yes, since this ESIA only assesses the area for Phase 1 a separate ESIA will have to be undertaken for Phase 2 prior to this area being mined.	Not relevant to the ESIA
Professional Meeting in Antananarivo (16 April 2013) DGEF	If you mine into the water table how will you prevent contaminating it?	The depth of the water table (60-80 m) within the area is well below the depth of the proposed mining operations (30 m). In addition to this, as a dry mine the water table will be avoided, since mining below the water table will result in the mine pit having to be dewatered which will result in additional costs.	Volume 2: EIE mine Site, Section 2: Description of the Project

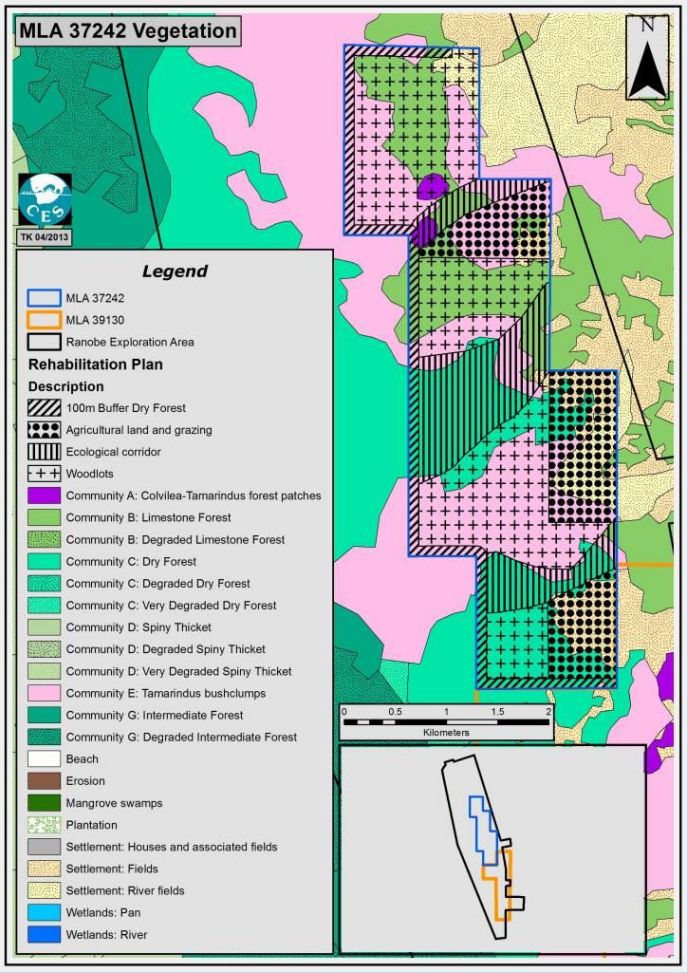
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) General Manager (Water Ministry)	Has this been confirmed and mapped by a specialist?	Yes, see graph included below, extrapolated from the groundwater modelling undertaken by Rison for the higher water abstraction associated with dredge mining 	Volume 20: Water assessment

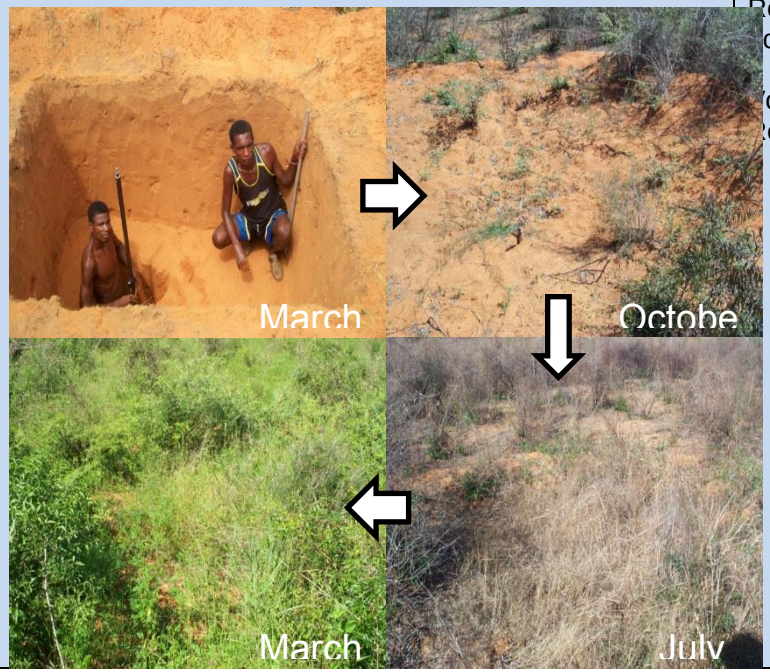
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Mamy Rakotoarijaona (MNP)	How will you ensure population demographics post closure? (This relates to inmigration).	The Social Impact Assessment undertaken for the proposed project suggest that the following plans are compiled to manage and mitigate negative influx related impacts: • A Labour, Recruitment and Influx Management Plan; • Social Labour Plan; and • A Stakeholder Engagement Plan that involves developing collaborative management strategies for in-migration. In addition to this the IFC has published a handbook for addressing project induced in-migration, which outlines proactive and reactive management approaches to in-migration. These may include, but are not limited to: • Promoting regional growth; • Planning access routes; • Managing the initial project footprint (multi-local projects, initial project bases); • Use of buffer zones; • Spatial planning, administration and resource allocation (including identification of appropriate settlement sites and creating “pull” factors); • Infrastructure, services and utilities; • Planning workforce recruitment policy and management; • Access control; • Planning material transportation; • Planning worker transportation; • Planning worker housing; • Planning procurement of goods and services and development of supply centres; • Definition of project-affected people (PAPs), compensation, participation, and development; and • Building multi-stakeholder frame works and stakeholder capacity.	Volume 16: Social Impact Assessment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Antananarivo (16 April 2013) Samoeline (Centre National Environment)	Will water built up behind the causeway and thus impede fish migration?	No, all instream structures built across the Fiherenana River channel will be designed to allow the free passage of migratory biota and maintain the continuity between marine/estuarine and freshwater habitats. In addition to this, the natural longitudinal profile of the riverbed both upstream and downstream of the structure should be maintained, in order to allow the natural movement of the mobile bed material and to ensure that water velocities are not increased downstream of or within the structure.	Volume 10: Ichthyology and Aquatic Habitat Assessment - Section 5
Professional Meeting in Antananarivo (16 April 2013) Advisor in Environment	Has there been an assessment undertaken on the dunes within the region of the jetty?	There has been no specific assessment undertaken for the dune system in the area. However a section on this was included in the Sediment Transport Assessment and a short description has been included in the ESIA.	Volume 15: Sediment Transport Assessment - Section 5: Sediment transport monitoring programme; subsection 5.2
Professional Meeting in Antananarivo (16 April 2013) Samisoa (Geologist)	Is there gold inside your quarries?	No.	Not relevant to the ESHIA
Professional Meeting in Antananarivo (16 April 2013) Youth Ministry	The project will result in the increase in prices of local products, which may have an affect on maize and result in an increase in deforestation.	This is a very real impact that can be extremely difficult to manage. However, there is certain mitigation measures, such as selective buying and restrictions to what is bought, that may be incorporated to alleviate the situation. One such measure is that Toliara Sands would promote and support some agricultural projects, which would in part supply the mine site with meat and vegetables.	Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Toliara (19 April 2013) Ratsimbazaty	How long did it take for Toliara Sands to complete all the required studies?	Approximately 7 months for the current study. This relied in part on extensive studies completed in 2006 and 2007 that took approximately 10 months to complete.	Not relevant to the ESHIA

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toliara (19 April 2013) Ratsimbazaty	Will there be compensation for people who will be required to move out of the area due to mining?	Yes.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities
Public Meeting in Toliara (19 April 2013) Ratsimbazaty	Toliara Sands will disturb the fishermen in the area. These fishermen will be frightened of strangers working for Toliara Sands. How do you propose to deal with that?	As part of the ongoing stakeholder engagement process beach users, and fisherman in particular, will be subject to forward notification processes of activities and movement in the proposed jetty area and project related shipping movements in general. There will be a standard operating procedure in place that covers shipping movements and fisherman safety measures that will have to be followed by all project related shipping. The area to be affected is relatively small in comparison to the La Batterie beach area. It is also noted that the main fishing areas are not in this area but further removed across the bay, and further north and south of the beach landing areas.	Volume 16: Social Assessment Report

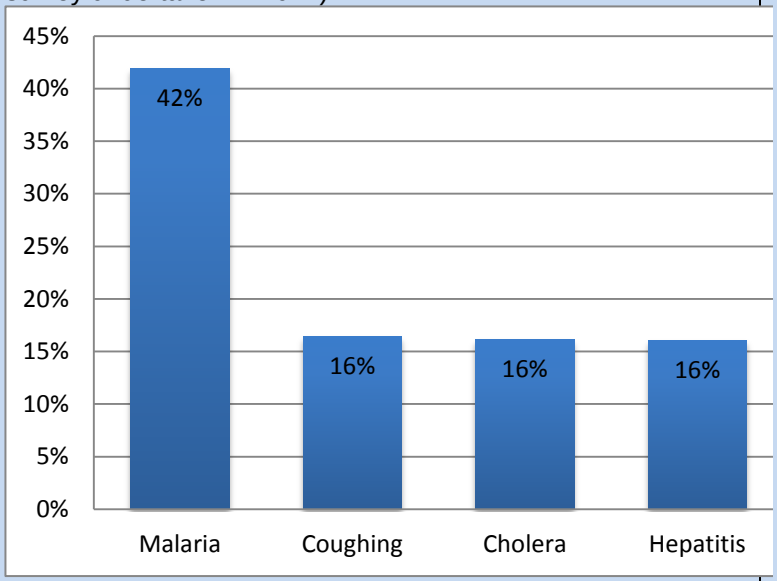
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toliara (19 April 2013) Maherison Jonson (Geologist)	Will the water abstracted for the proposed project be used for agriculture as well?	No, approximately 90% of abstracted water will be returned to the environment through the placement of tailings from the wet processing plant, thereby artificially recharging the underlying Eocene limestone aquifer.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toliara (19 April 2013) Macel David (Professor at the University of Toliara)	Restoration is extremely difficult, will you restore or rehabilitate?	Both. The rehabilitation component will consist of woodlots, agricultural fields and grazing lands. Whereas certain areas will be restored to ecological corridors to facilitate the migration of fauna and seed dispersal. This is depicted in the Figure included below. 	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 11: Land and Natural resource use

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toliara (19 April 2013) Macel David (Professor at the University of Toliara)	There will be serious negative impacts on both the social and economic environments if rehabilitation is not successful.	Noted and agreed. To date there have been success in the rehabilitation of the trial pits at the pilot plant site (see images below). In addition to this a number of nurseries have been established by Toliara Sands as part of the ongoing process of establishing indigenous species for rehabilitation.  	Volume 14: Rehabilitation and offset strategy Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation ction plan, olume 16: Social Assessment eport,

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toliara (19 April 2013) Macel David (Professor at the University of Toliara)	There must be training for local people, workers should not be sourced from other areas such as Antananarivo.	Noted and agreed. It is proposed that the mine will employ approximately 250 Malagasy staff and, the environmental and social projects will employ approximately 150 additional local residents. The company will advertise all positions locally and will recruit from the local community whenever qualified individuals can be found. In addition to this the company will actively develop its own local staff and work with regional and national educational institutions to match the skills of graduates to the needs of the company. In terms of skilled positions, preliminary Human Resource studies undertaken by the proponent indicate that it will be possible for the company to source a sufficient number of skilled Malagasy persons who have tertiary qualifications and two years of technical work experience. However, most of these may not come from the Toliara District, but will have to be sourced from other parts of Madagascar. These studies do indicate however, that at least 30 capable mechanics could be sourced in the Southwest Region. It is assumed therefore that around 30 skilled employees will be sourced in Southwest Region and the rest (46) will be sourced from outside the province.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Toliara (19 April 2013) Fihenena Dorothea (Teach at the University of Toliara)	Please explain what is meant by Phase 1 and Phase 2.	Phase 1 (MLA 37242) and Phase 2 (MLA 39130) refer to two separate mining lease areas. This ESIA assesses only the mining area for Phase 1 and associated infrastructure.	Volume 2: EIE mine site, Section 2: Description of the project
Public Meeting in Toliara (19 April 2013) Fihenena Dorothea (Teach at the University of Toliara)	Is the mining permit for 20 years?	The mining licence is for 40 years however the Phased mine plan results in a 21 year mine life.	Volume 2: EIE mine site, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toliara (19 April 2013) Fihenena Dorothea (Teach at the University of Toliara)	What is the next step once mining of Phase 1 is complete?	It is likely that Toliara Sands will move on to mining the Phase 2 area and/or other areas within the Ranobe exploration licence area once they are converted to mining licences.	Not relevant to the ESIA
Public Meeting in Toliara (19 April 2013) Fihenena Dorothea (Teach at the University of Toliara)	What will happen to constructed infrastructure once mining is complete?	Certain infrastructure may remain post closure, including the jetty, the causeway and the haul road. The jetty will be handed over to the Ports Authority who will in turn take over the responsibility of maintaining it in the long term. This is in line with the legislation of Madagascar. However, should this not be possible it is recommended that the jetty is decommissioned? The road and the causeway could be handed to the appropriate government departments (i.e. Department of Roads) and could potentially be utilised by the local communities once mining has been completed. In addition to this, it is assumed that the buildings of the administration block, workshop and maintenance area will remain to support post closure use. Once closure is complete, a decision to either demolish remaining facilities or hand them over to Government for conversion into social infrastructure (e.g. schools, clinic) will need to be made using a consultative process.	Volume 2: EIE mine Site, Section 7: Study of the Closure Plan Volume 3: EIE Road and Quarry, Section 7: Study of the Closure Plan Volume 4: EIE port and Jetty Section 7: Study of the Closure Plan

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toliara (19 April 2013) Fihenena Dorothea (Teach at the University of Toliara)	There should be a focus on health within the area.	Noted. The Social Impact Assessment includes sections on health within both the National and Regional context and the local context. Below is a diagram showing the most dominant illnesses within the project area (based on the household survey undertaken in 2012).  It clearly shows that malaria is currently the largest health related issue within the project area. In 2004 a health survey was undertaken which indicated that 50% of children in households display symptoms of malaria, with 42% of households reporting that they did not use mosquito nets the evening prior to the survey. While in the 2012 household survey it was reported that 41% of households experienced malaria up to six months prior to the survey; although 83% of household stated that they had mosquito nets, and as such it may be that they are not regularly or properly used, or there is an inadequate supply for all household residents.	Volume 16: Social Impact assessment - Section 5: Socio-economic description of the study area; Subsection 5.12

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toliara (19 April 2013) Jean Dank	There was no mention of dust as a result of the bulk loading of ships in the presentation. Has this been assessed?	Yes. An Air Quality Assessment was undertaken for the proposed development. The bulk loading of ships was considered as a component of "materials handling". Materials handling, including bulk loading of ships, is the smallest contributor to off-site fugitive PM_{10}, $PM_{2.5}$ and TSP emissions for both product export options.	Volume 6: Air Quality Assessment - Section 4: Assessment Criteria and Regulatory Context; Subsection 4.3: Dustfall Criteria; Sub-subsection 4.5.1.1: Fugitive Dust Emissions - Section 7: Operational Phases Air Quality Impact Assessment; Subsection 7.3 Impact assessment
Public Meeting in Toilara (19 April 2013) Jean Dank	Why not construct a railway line instead of a road?	Due to the small scale of the project a railway line will not be cost effective.	Volume 3: EIE road and quarry, Section 2: Description of the Project
Public Meeting in Toilara (19 April 2013) Lucian Fiheneue (Environmental Specialist at the University of Toliara)	Why is Toliara Sands contemplating rehabilitation only and not restoration?	Both rehabilitation and restoration will be undertaken. The rehabilitation component will consist of woodlots, agricultural fields and grazing lands. Whereas certain areas will be restored to ecological corridors to facilitate the migration of fauna and seed dispersal.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 11: Land and Natural resource use

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Lucian Fiheneue (Environmental Specialist at the University of Toliara)	Rehabilitation efforts to date have been unsuccessful. How do you propose to deal with this in the long term?	To date there have been success in the rehabilitation of the trial pits at the pilot plant site (see photo below taken of rehabilitated trial pit at the pilot plant site in April 2012). In addition to this a number of nurseries have been established by Toliara Sands as part of the ongoing process of establishing indigenous species for rehabilitation. 	Volume 14: Rehabilitation and offset strategy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Lucian Fiheneue (Environmental Specialist at the University of Toliara)	Toliara Sands is currently promising various social and economic benefits associated with the project. However, once the project is authorised it is unlikely that Toliara Sands would keep these promises.	The Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. These development projects will have to be identified by all stakeholders and ultimately be accountable and auditable as part of the Corporate Social Responsibility Programme that will manage these development projects, as well as in terms of the International Finance Corporation Performance Standard requirements that will be applicable to the project through project financing loan conditions.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Laza (Student at the University of Toliara)	Why are all the specialist studies being undertaken by International experts and not Malagasy specialists?	CES is one of the largest specialist environmental consulting firms in southern Africa. Established in 1990, and with offices in Grahamstown, East London and Port Elizabeth in South Africa and Maputo in Mozambique, we primarily specialise in assessing the impacts of development on the natural, social and economic environments. CES's core expertise lies in the fields of strategic environmental assessment, environmental management plans, environmental management systems, ecological/environmental water requirements, environmental risk assessment, environmental auditing and monitoring, integrated coastal zone management, social impact assessment and state of environment reporting. In addition to adhering to all relevant national legislative requirements, which we are often required to review and summarise for specific projects, acquisition of equity funding from the majority of financial institutions demands that developments must meet certain minimum standards that are generally benchmarked against the Policy and Performance Standards of the International Finance Corporation and the World Bank Operational Directives and Policies. The quality of our work during our long and extensive association with heavy mineral mining in Africa (we have worked on large projects in South Africa, Mozambique, Malawi, Kenya, Madagascar and Egypt) has been acknowledged by international lenders such as the World Bank and the International Finance Corporation, and the large mining companies continue to approach us as their preferred environmental consultant for this type of project. CES has relied on in country staff employed by Toliara Sands for assistance in facilitating meetings with local communities, NGO's and Government Departments. In addition to this various in country specialists have been appointed to undertake specialist work such as Aquaterre, INSTN, Colas, etc. Furthermore, it is likely that a combination of international and Malagasy specialists will be used for monitoring purposes throughout the life of the project, with the role of international specialists decreasing over the life of the project.	Volume 15: Sediment Transport Assessment Volume 20: Water Assessment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Laza (Student at the University of Toliara)	A portion of a protected area will be destroyed as a result of the proposed development. Will you be able to replace the species that are removed due to construction with the same species during rehabilitation?	The rehabilitation plan proposes a combination of three methods: 1. Rehabilitating the affected area to woodlots, agricultural fields and grazing 2. Restoring natural corridors that span the project area to facilitate seed dispersal and animal migration and 3. Implementing biodiversity offset strategy's to offset species' and habitats that will be lost. Where feasible, the same species that were removed during construction will be used to restore the proposed ecological corridors. However, while every effort will be made to restore these corridors to their natural state, it must be acknowledged that not all species are easily transplanted or can be successfully grown from seeds and/or cuttings.	Volume 14: Rehabilitation and offset strategy
Public Meeting in Toilara (19 April 2013) Laza (Student at the University of Toliara)	If certain sections of the protected area will be destroyed there should be environmental offsets (i.e. protecting a different area within the study site). If you are going to destroy certain portions of the forest it should be offset by protecting another area.	Noted and agreed. Environmental offsets have been proposed in the Rehabilitation and Offset Strategy that was included in the EIA process. It has been recommended that priority areas, such as the Ranobe forest area, as identified within the PK32 area, be actively managed as a conservation area in partnership with Madagascar National Parks. In addition it has been proposed that Toliara Sands consider partnering with community reforestation programs that are already in place in the area and offer resources that will aid in the rehabilitation of these areas and that educational programmes and workshops on the sustainable use of natural resources are implemented to alleviate the impacts the current land use is having on the area.	Volume 14: Rehabilitation and offset strategy
Public Meeting in Toilara (19 April 2013) Laza (Student at the University of Toliara)	According to WWF the impacts on the forest resulting from the proposed mining project will be severe. However, you infer that it would be less. Does this mean there is political involvement in this project?	No, there is no political involvement. The impacts that have been identified were rigorously assessed by a team of independent specialists using a standardised impact rating scale. The results presented take in to account all aspects of the project that not only include the impacts on the biological environment but also the social implications and current state of the area due to the current land use.	

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Laza (Student at the University of Toliara)	What are the criteria for recruitment?	These are currently unknown as the recruitment process has not yet started. However, all recruitment criteria will be clarified in the HR policy for Toliara Sands and during job specific advertising and notifications.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Toilara (19 April 2013) Laza (Student at the University of Toliara)	Will there be training for local residents?	Yes it is anticipated that Toliara Sands will have a staff training programme that would aim to develop skills to promote local and national employment. This staff training programme would involve working closely with the University of Toliara and/or other local institutions to set up a technical, management and other training programs which meet Toliara Sands' requirements.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Josselyn (Technician)	When will the recruitment process start?	The recruitment process will be initiated once all the relevant authorisations (including the environmental authorisation) have been procured.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Toilara (19 April 2013) Josselyn (Technician)	Is the water that will be abstracted from the limestone aquifer for processing purposes, drinkable?	A groundwater quality analysis was undertaken by GCS (Pty) Ltd in 2004. The results of the analysis were compared to the Target values of the South African Water Quality Guidelines for Fresh Water for Domestic Water Use, published by the Department of Water Affairs and Forestry (DWAF) in 1996 and, where these exist, the World Health Organisation Guidelines for Drinking-Water Quality (1996). The three water samples collected were all classified as Calcium-Bicarbonate Type water. However, the groundwater quality is good, although the water is classified as hard to very hard due to the high calcium concentration. Although this causes the production of scale on heat exchange surfaces (like the element of a kettle), and an increase in the amount of soap that is required to produce lather, no adverse health effects would be caused by the elevated calcium concentrations, and the water is drinkable.	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale
Public Meeting in Toilara (19 April 2013) Josselyn (Technician)	Does Toliara Sands collaborate with other mining projects?	Toliara Sands is an active member of the Malagasy Chamber of Mines.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Dama Momsta (University of Toliara)	You discussed flora at length, however there were no mention of fauna in the presentation. There are numerous faunal species within the area, including chameleons, tortoises, etc.	A Faunal Impact Assessment was undertaken for the proposed development. This assessment includes information on amphibians, reptiles, birds and mammals in the project area and surrounds. The presentation focused on the key issues and findings of the various specialist studies. According to the Faunal Impact Assessment the most pressing issue is fragmentation which was discussed in terms of both the faunal and floral aspects.	Volume 9: Faunal Baseline Assessment
Public Meeting in Toilara (19 April 2013) Dama Momsta (University of Toliara)	There are mico-organisms of importance in the soil. Disturbing the soil could result in changes in the soil profile. How will this be dealt with?	The Change to soil's physical, chemical and biological properties has been assessed in Chapter 7 of the ESIA. It is recommended to strip the top 30cm of all topsoil for utilisation during rehabilitation. Careful consideration should be given to handling, placement and stockpiling of topsoil so as to minimise loss of potentially productive soils. As mining progresses, stockpiling of soil should be avoided by direct placement on mined out areas. A soil management strategy needs to developed and integrated into the rehabilitation strategy. In addition to this, rehabilitation could re-instate soil fertility as slimes will be blended back into the soils as a slimes rich layer on the surface.	Volume 7: Botanical Specialist Report

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Dama Momsta (University of Toliara)	Who will be in charge of the monitoring process? Will it be International experts or Malagasy specialists?	The specific terms for monitoring have not yet been determined. However, it is likely that a combination of international and Malagasy specialists will be used with the role of international specialists decreasing over the life of the project.	Volume 2: EIE Mine site, Section 4: Description of the physical state of the environment, Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment; Section 7: Study of the closure plan Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment, Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment; Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Dama Momsta (University of Toliara)	There is a serious lack of water in the region. Therefore some of the abstracted water should be used to augment supply in the irrigation canal so that it can be used for agricultural processes.	The hydrological EIA study indicates that the volume of water accessed via the irrigation system is 1 300 000 m^3/month (SRK, 2006). Therefore it can be stated that there is a large amount of water available for agricultural purposes. The fundamental problem with irrigated agriculture is therefore not due to a lack of water but rather as a result of the following issues: • The height of the weir has been reduced; • The weir seems to be leaking; and • Current management of the water resources is inefficient. For this reason it is unlikely that increased water supply from the limestone aquifer will solve the water issues in the region in the long term. Perhaps other solutions such as fixing the weir and training in terms of management processes and agricultural practises (growing crops more suited to the dry area) would be more beneficial.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations
Public Meeting in Toilara (19 April 2013) Dama Momsta (University of Toliara)	How will corruption in regards to employment be dealt with by Toliara Sands?	Toliara Sands will have a clearly defined employment procedure in place that stipulates the manner in which recruitment will occur on the local level, as well as for externally sourced skills. All employment opportunities will be advertised and eventual appointments will be by a transparent process managed by Toliara Sands human resources personnel.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Toilara (19 April 2013) Dama Momsta (University of Toliara)	Houses in Toliara are made of bricks. Large trucks utilising the road will demolish the town of Toliara.	Large road trains will not be utilising the existing road infrastructure in Toliara. This will be limited to container trucks that are much smaller and are not anticipated to cause any damage to physical structures.	Volume 3: EIE road and quarry, Section 2: Description of the Project

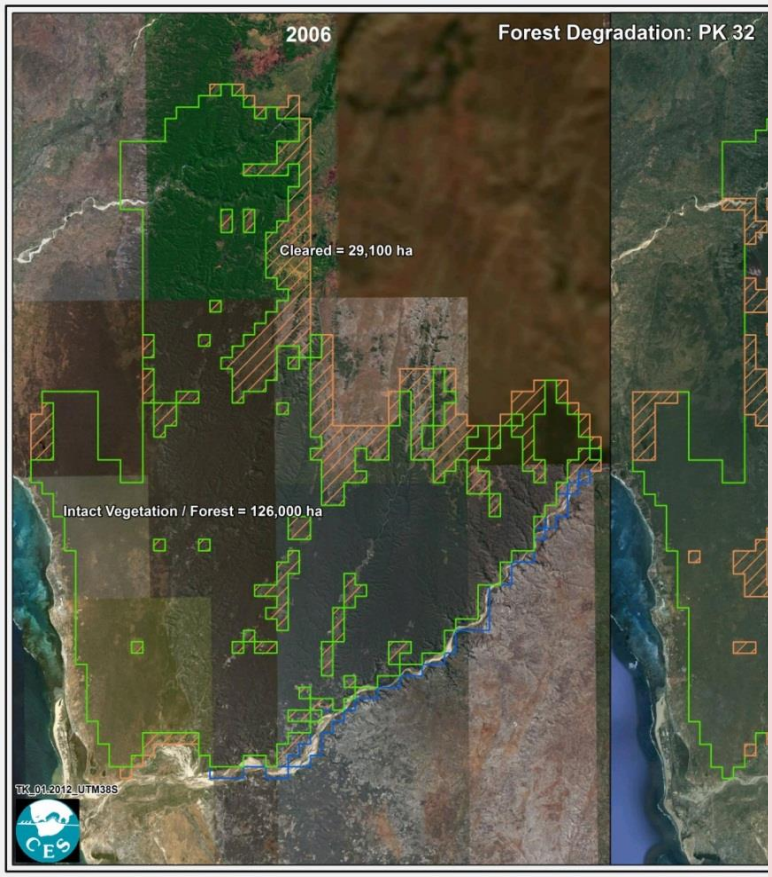
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013)	There are gold deposits in the area. What will happen to the gold (i.e. will you keep it, export it, etc.).	There are no gold deposits within the mining lease area.	Not relevant to the ESIA
Public Meeting in Toilara (19 April 2013) Daniel	Local employment must be prioritised.	Noted and agreed. It is proposed that the mine will employ approximately 250 Malagasy staff and, the environmental and social projects will employ approximately 150 additional residents. The company will advertise all positions locally and will recruit from the local community whenever qualified individuals can be found. In addition to this the company will actively develop its own local staff and work with regional and national educational institutions to match the skills of graduates to the needs of the company.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Toilara (19 April 2013) Daniel	The influx of people to the area will result in a hike in inflation. This will result in products such as food, charcoal, etc. becoming more expensive. How will this be mitigated?	This is a very real impact that can be extremely difficult to manage. However, there is certain mitigation measures, such as selective buying and restrictions to what is bought, that may be incorporated to alleviate the situation. One such measure is that Toliara Sands would promote and support some agricultural projects, which would in part supply the mine site with meat and vegetables.	Volume 2: EIE mine site Volume 16: Social Assessment report , Section 7: Mine site impacts; Section 8: Haul road impacts; Section 9: Transfer station and jetty impacts
Public Meeting in Toilara (19 April 2013) Daniel	Will there be any development programmes in the area as a result of the project? There is a need for hospitals, schools, etc.	Yes, as part of Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community.	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) George Prince (Medical Doctor)	The minerals should remain in the ground until such time as it can be exploited by a Malagasy company.	It is the Malagasy government who will make the decision as to who can mine the area.	Volume 8: Economic Assessment Report
Public Meeting in Toilara (19 April 2013) George Prince (Medical Doctor)	Toliara Sands have been in the country for approximately 10 years. Why have they not yet started to train people?	The project is still in its feasibility phase so very few people have been employed as yet. Capacity building and up-skilling initiatives will occur in the construction and operational phases of the project whereby local employees will be the subject of ongoing training and skills development programmes. Over the time since Toliara Sands first began working on the Ranobe project many local people have been employed on either a temporary or permanent basis. In many cases these employees acquired new skills during their employment by Toliara Sands or its contractors.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.13 Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.4.7 Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) George Prince (Medical Doctor)	Will the same species be planted as those that were removed for the purpose of construction during the rehabilitation process?	As stated above, the rehabilitation plan proposes a combination of three methods: 1. Rehabilitating the affected area to woodlots, agricultural fields and grazing 2. Restoring natural corridors that span the project area to facilitate seed dispersal and animal migration and 3. Implementing biodiversity offset strategy's to offset species' and habitats that will be lost. Where feasible, the same species that were removed during construction will be used to restore the proposed ecological corridors. However, while every effort will be made to restore these corridors to their natural state, it must be acknowledged that not all species are easily transplanted or can be successfully grown from seeds and/or cuttings.	Volume 14: Rehabilitation and offset strategy
Public Meeting in Toilara (19 April 2013) George Prince (Medical Doctor)	Why does Toliara Sands have an office in Antananarivo if exploitation will occur in Toliara?	The various permit application that are required for the proposed development has to be obtained at a national level. The majority of the various government departments (at a national level) have offices in Antananarivo, therefore Toliara Sands needs to have a presence in the area.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice
Public Meeting in Toilara (19 April 2013)	Has the water that will be abstracted from the limestone aquifer undergone testing to determine if it can be used for human consumption and/or agriculture?	A groundwater quality analysis was undertaken by GCS (Pty) Ltd in 2004. The results of the analysis were compared to the Target values of the South African Water Quality Guidelines for Fresh Water for Domestic Water Use, published by the Department of Water Affairs and Forestry (DWAF) in 1996 and, where these exist, the World Health Organisation Guidelines for Drinking-Water Quality (1996). The three water samples collected were all classified as Calcium-Bicarbonate Type water. However, the groundwater quality is good, although the water is classified as hard to very hard due to the high calcium concentration. Although this causes the production of scale on heat exchange surfaces (like the element of a kettle), and an increase in the amount of soap that is required to produce lather, no adverse health effects would be caused by the elevated calcium concentrations, and the water is drinkable.	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
	There were 3 options assessed for the proposed location of the new haul road. Vegetation will have to be removed for all three of these options. A number of species within the forest are utilised by local residents for traditional purposes. What will happen to these species?	A Land Natural Resource Use Assessment has been undertaken for the proposed project partially for this reason. Species that are important for construction purposes, as a source of food and have medicinal value were identified during this study. Every effort will be made to include as many of these species in the rehabilitation and restoration process of the mine.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 3: EIE road and quarry, Section 3: Analysis and choice of alternatives, Subsection 3.1
Public Meeting in Toilara (19 April 2013)	What about fauna in the area?	A Faunal Impact Assessment was undertaken for the proposed development. This assessment includes information on amphibians, reptiles, birds and mammals in the project area and surrounds. The presentation focused on the key issues and findings of the various specialist studies. According to the Faunal Impact Assessment the most pressing issue is fragmentation which was discussed in terms of both the faunal and floral aspects.	Volume 9: Faunal Baseline Assessment
Public Meeting in Toilara (19 April 2013) Egyptienne (Woman's Organization)	Many people within the region have University qualifications and still cannot find appropriate employment. For this reason the employment opportunities that may be created by Toliara Sands is much needed.	Noted.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Toilara (19 April 2013) Egyptienne (Woman's Organization)	Exploitation by Toliara Sands may result in various diseases. Treatment for these diseases (such as radiation poisoning) should therefore be free.	As part of the project's overall monitoring programme key health indicators (such as radiation levels and exposure) will be monitored. As such, due to the localised nature of the elevated ambient radiation levels that are restricted to the mining areas itself it is Toliara Sands personnel who are potentially exposed and not the larger public. Issues such as elevated dust levels from vehicle traffic could also result in potential health problems such as respiratory diseases and these will also need to be monitored on a community wide scale in areas close to haul roads or stockpiling areas. Ultimately, if it can be demonstrated through monitoring that the mine is responsible for causing disease and sickness they would have to bear responsibility for this.	Volume 6: Air Quality assessment Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 16: Social Impacts Assessment Volume 17: Specialist study on Noise Impacts Volume 19: Waste and Wastewater Assessment, Section 6: Assessment of Potential environmental Impacts, Section 7: Conclusions and recommendations
Professional Meeting in Toliara (19 April 2013) Fida Cyrille (Director of Tourism)	How will you ensure that the coral reefs in the area are protected against shipping accidents?	Vessels using the new port will be governed under the same laws and rules as for the existing port at Toliara. In addition vessels utilised will be of satisfactory standards and equipped with modern, long-range weather-monitoring equipment for the early detection of inclement weather. Operational guidelines must be drafted, restricting vessel movement to traffic ways and prescribing procedures for the early evasion of inclement weather and heavy seas. The arrangement for the services of a standby tug to assist vessels in distress may be appropriate.	Volume 4: EIE Port and Jetty - Section 5: Description of the biological state of the environment; Subsection 5.1.6 Impact 2 Collision with barrier reef
Professional Meeting in Toliara (19 April 2013) Fida Cyrille (Director of Tourism)	What about fuel spills as a result of refuelling at the proposed new jetty?	This will not occur as no vessel refuelling will take place at the proposed new jetty.	Volume 4: EIE Port and Jetty - Section 4: Description and Impacts on the physical state of the environment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Chief of the District	What data/proof do you have to be able to conclude that there has been a loss of species and degradation within the area?	Satellite imagery indicates that in 2006 18% (approximately 29 100 ha) of the PK32 area had been cleared. In 2012 the imagery indicated that this had increased to 31% (approximately 47 500 ha). Over a period of six years, an estimated 18 400 ha or (13%) of the forest in the PK32 area had been cleared (as shown in the Figure below) and is continuing to be cleared at an alarming rate. It is inferred that species loss occurs when large areas of habitat are removed for agricultural purposes. 	Volume 7: Botanical Specialist Report - Section 4: Vegetation composition; Subsection 4.3 Vegetation mapping; Sub subsection 4.3.3: Degradation and human impacts

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<tr><th></th><th>Questions</th><th>Response</th><th>CROSS REFERENCE TO RELEVANT SECTION IN ESIA</th></tr>
<tr><td>Professional Meeting in Toliara
(19 April 2013)
Chief of the District</td><td>Have you assessed the potential noise impacts of large trucks on the surrounding communities south of the proposed causeway?</td><td>Yes, the noise related to the transport of the product from the mining area to the port was modelled by Acusolv. The expected increase in traffic noise is presented in the table below.
<table>
<tr><td>Parameters</td><td>5 Light and 3 Heavy Vehicles</td><td>10 Light and 3 Heavy Vehicles</td><td>15 Light and 3 Heavy Vehicles</td><td>20 Li and Hea Vehi s</td></tr>
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<tr><td>existing noise (dB(A))</td><td>6.1</td><td>3.8</td><td>2.6</td><td>1.9</td></tr>
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The overall increase in the noise from the trucks decreases as the number of light vehicles increases. It is not anticipated that the proposed number of trucks will be a significant impact due to the low number of daily trips. The ambient noise at the Toliara Junction (South) was reported in the Acusolv report (Report G672-R1) as 64dB(a) during the day and 65dB(a) during the night. The increase in noise due to the additional trucks is thus not significant as the existing noise exceeds the World Bank Guidelines of 45dB(A) at night.</td><td>Volume 17: Specialist study on Noise Impacts</td></tr>
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	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Chief of the District	There will be various health risks associated with the increased noise levels in the area.	This is unlikely as the Specialist Assessment on Noise Impacts concluded that the World Bank Guideline of 45dB(A) at night and 55dB(A) during the day will not be exceeded at any of the identified noise sensitive areas that are outside of the mining area. Individual homes within the mining area could be affected, but these will most likely be relocated as mining progresses. In addition to this the increased vehicular traffic will have little effect on sensitive receptors alongside the three optional transport routes as the vehicle count will only increase by an average of ±3 vehicles per hour. However, during the construction phase there will be an impact on the immediate surrounding environment from the construction activities. The area surrounding the construction site will be affected for approximately 640 m in all directions, should a number of pieces of equipment be used simultaneously. Various mitigation measures have been included in the specialist assessment and considering that construction activities will be limited to the short term, the overall impact was considered to be of low significance.	Volume 17: Specialist study on Noise Impacts
Professional Meeting in Toliara (19 April 2013) Chief of the District	The proposed coastal route is in close proximity to the RN9. This will result in an increase in road accidents and a decrease in the safety of the communities within the area.	It is important to note that only haul road option 3 (coastal route) runs in close proximity (< 1 km) to the existing RN9 for its entire length and that the other 2 options assessed (including the preferred option) are relatively far (> 1 km) from the existing RN9 for the majority of its length (only 3.5 km of the approximately 35 km long preferred haul road). The construction of the preferred option of the haul road may affect community health and safety by increasing the incident of accidents between haul road trucks, other vehicles and road users at haul road crossing points, only. However, stringent mitigation measures, such as warning signs and signals, and the fact that all mining related vehicles will have to come to a full stop prior to crossing the RN9, will reduce the probability of this occurring.	Volume 3: EIE road and quarry, Section 2: Description of the Project, Subsection 2.3.1

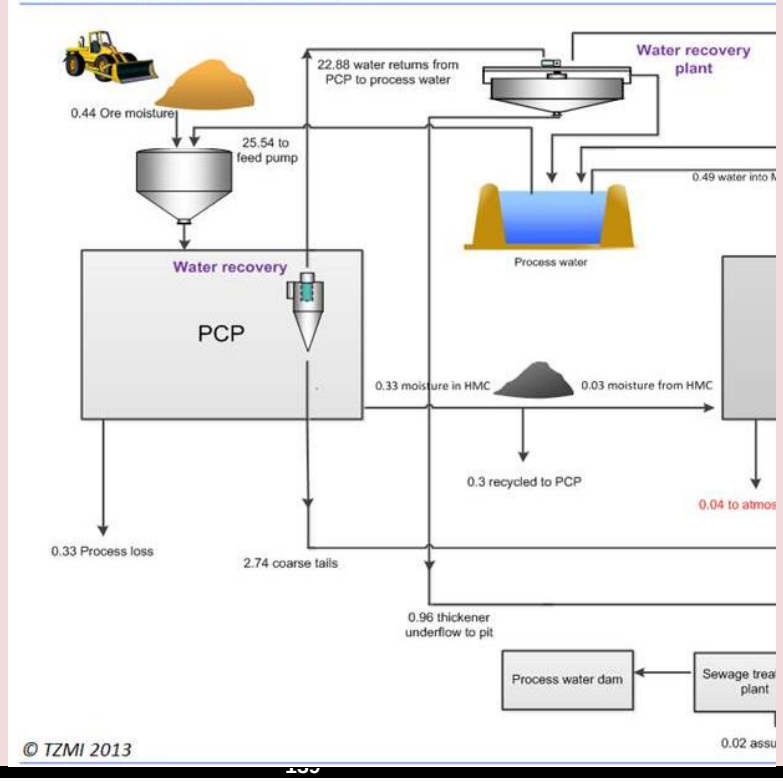
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Gilbert	If you are permitted to construct the jetty, would you also rehabilitate the lagoon? The Government will not do it and the people in the region cannot afford it.	A marine conservation programme can be considered as one of the corporate social responsibility initiatives. However, this will have to be done in conjunction with local government, NGOs and other relevant stakeholders.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project
Professional Meeting in Toliara (19 April 2013) Ramampierika (IHSM)	What about the anticipated increase in CO_2 as a result of the proposed project? Toliara Sands currently utilises a large quantity of vehicles (2.6 kg of CO_2 per vehicle). What is the estimated increase in carbon emissions that will result from this project?	According to the IFC's Performance Standard 3 (2012), the production of more than 25 000 tonnes of CO_2-equivalents annually by a development should be regarded as significant. Based on an estimated diesel consumption of 14 million liters/annum during the operational phase and an emissions factor of 2.63 kg CO_2 e/L diesel, fuel consumption alone is therefore likely to equate to 36 820 tonnes of CO_2-equivalents per annum and would thus exceed the IFC threshold and be regarded as a significant contribution to CO_2 emissions. As such, it is recommended that a carbon footprint be established for the facility within the first year of operation. This must take into consideration the loss of vegetation. Thereafter it will be necessary to develop a greenhouse gas management plan for the operation with the specific intention of reducing GHG emissions as far as practicable.	
Professional Meeting in Toliara (19 April 2013) Ramampierika (IHSM)	The ships that will be used for export will result in the destruction of the coral reefs. This project will be a pollutant. What mitigation measures will be incorporated to ensure the protection of the reefs and that no pollution occurs?	Vessels using the new port will be governed under the same laws and rules as for the existing port at Toliara. In addition to this, vessels utilised will be of satisfactory standards and equipped with modern, long-range weather-monitoring equipment for the early detection of inclement weather. Operational guidelines must be drafted, restricting vessel movement to traffic ways and prescribing procedures for the early evasion of inclement weather and heavy seas. The arrangement for the services of a standby tug to assist vessels in distress may be appropriate. In addition to this, the establishment of a strict environmental operating plan for the jetty and stockpile area, covering aspects such as transfer of fuel, plastic pollution, waste-water dumping etc., is required.	Volume 4: EIE Port and Jetty - Section 5: Description of the biological state of the environment; Subsection 5.1.6 Impact 2 Collision with barrier reef

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Ramampierika (IHSM)	There are currently numerous projects run by various NGOs in place for the purpose of protecting the PK32 area. Will Toliara Sands get involved in these projects?	As part of the biodiversity offset strategy proposed for this project, Toliara Sands will work closely with NGO's to protect priority areas within the PK32 area. It was recommended that priority areas, such as the Ranobe forest area, as identified within the PK32 area be actively managed as a conservation area in partnership with Madagascar National Parks, that they assist with the management of these areas and consider partnering with community reforestation programs that are already in place in the area and offer resources that will aid in the rehabilitation of these areas and that educational programmes and workshops on the sustainable use of natural resources are implemented to alleviate the impacts of the current land use on the area.	Volume 14: Rehabilitation and Offset strategy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Atomic Energy	Could you please explain the section on radiation again in terms of occupational and public exposure and the baseline situation.	3. The dose limits recommended by the IAEA are set down in the Basic Safety Standards of the International Atomic Energy Association (IAEA, 2011). The exposure of individuals must be restricted so that both the total effective dose and the total equivalent dose to relevant organs or tissues do not exceed any of the relevant dose limit specified below: **Occupational exposure** • An effective dose of 20mSv per year averaged over five consecutive years, and of 50 mSv in any single year, • An equivalent dose to the lens of the eye of 20 mSv per year averaged over 5 consecutive years and of 50 mSv in any single year, and • An equivalent dose to the extremities (hands and feet) or the skin of 500mSv in a year. **Public exposure** • An effective dose of less than 1mSv in a year • An equivalent dose to the lens of the eye of 15mSv in a year, • An equivalent dose to the extremities (hands and feet) or the skin of 50mSv in a year. **Current Baseline Situation** The back ground dose rates recorded on the mine lease were of the order of 7 mSv per annum during a preliminary pre-mining survey. Further detailed background studies will be done to establish the statistical variation of the background, as the operator will be responsible for doses incurred above this level.	Volume 6: Air Quality assessment Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 16: Social Impacts Assessment Volume 17: Specialist study on Noise Impacts Volume 19: Waste and Wastewater Assessment, Section 6: Assessment of Potential environmental Impacts, Section 7: Conclusions and recommendations

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) SG Region	Thank you very much for the invitation. The disclosure process is much appreciated. I do hope that you will employ all mitigation measures as discussed. To all the participants here today please make the effort to read the reports. Is there any measures that the Region can adopt to ensure that Toliara Sands respects what they are proposing in terms of mitigation measures, compensation, social and environmental programmes, rehabilitation, etc.	It is recommended that a number of committees are established to oversee these issues. These committees will consist of various representatives of various stakeholders depending on the nature of the activity.	Volume 21: Stakeholder engagement Volume 16: Social Impact Assessment
Professional Meeting in Toliara (19 April 2013) SG Region	You need to take the recommendations made by Mr Josselyn from Toliara Sands into account as he is an expert on the area.	Noted.	Not relevant to the ESHIA
Professional Meeting in Toliara (19 April 2013) SG Region	Are the issues of taxes and royalties discussed in the report?	Yes, these are discussed in the Economic Impact Assessment that was undertaken for the proposed project. The mining legislation for Madagascar specifies that 1.4% (which is expected to amount to US$35million over the 21 year life of the mine) of the total 2% royalties paid by the mine to the government must be given to the Autonomous Provinces, Regions and Communes. This indicates that if the local governance structures exist and function efficiently and transparently, that a portion of these funds will accrue to the Toliara town authorities. This has the potential to increase their capacity to deliver the required services.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) SG Region	I think it is very good that the CNRE will be accompanying you to the disclosure meetings in the various affected communes next week.	Noted.	Not relevant to the ESHIA
Professional Meeting in Toliara (19 April 2013) Ratsimbazafy Roland (Superior Council of Transition)	Will radiation levels, as a result of mining, result in various plant mutations in the area?	No, this is extremely unlikely. Furthermore, due to the high baseline levels of radiation in the area (7 mSV), if mutations would occur this would have already been the case.	Volume 13: Radiation assessment Section 19: Appendix 3: The harmful effects of ionising radiation
Professional Meeting in Toliara (19 April 2013) Ratsimbazafy Roland (Superior Council of Transition)	You said that 90% of the water used for processing will be returned to the environment; therefore you are going to discharge contaminated water into the area. Which Government Authority will monitor this contamination?	The water that is returned to the environment will not be contaminated as no chemicals are used during the processing of ore. From the mine, a pipe line conveying the ore in the form of a slurry feeds into the PCP where the contained heavy minerals (HM) are concentrated to produce a heavy mineral concentrate (HMC). The incoming ore slurry is passed through a feed screen with the undersize fed into a surge bin. From the surge bin the sand is pumped to a gravity concentration circuit comprising spirals and an up current classifier. These circuits separate most of the quartz from the ore concentrating the heavy minerals. The mineral separation plant (MSP) uses conventional mineral sands separation equipment to produce final products consisting of primary ilmenite, secondary ilmenite and a valuable non-magnetic product comprising rutile and zircon. A combination of magnetic separators and high tension rolls are used to achieve the required separation and a small gravity circuit is incorporated to reject the remaining light gangue.	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Ratsimbazafy Roland (Superior Council of Transition)	Could you please explain the water use cycle again, including drilling, usage for processing and recharge from run-off.	Water requirements for the dry mining and processing operations are estimated to be 560 m^3/hr (a little less than 13 500m^3/day), of which about 90% will be abstracted from boreholes and 10% recovered - recycled - from the mined ore. Approximately 90% of the water demand will be returned to the environment through the placement of tailings from the wet processing plant, thereby artificially recharging the underlying Eocene limestone aquifer. The processing plants make significant use of recycled process water, and in the long term the ratio of process water to external freshwater inputs is about 6.5 to 1. Water requirements will remain essentially constant during the 21-year operational lifetime of the mine, but may increase by 10% or so in the final few years of operation. Below is a simpilified diagram explaining the water usage for the proposed mine. 	Volume 2: EIE mine Site, Section 2: Description of the project; Section 4: Description of the physical state of the environment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Ratsimbazafy Roland (Superior Council of Transition)	If the current proposal for a Joint Venture with Lomon is successful, will the project description remain the same or will it change?	This is unsure that this stage. If the joint venture with Lomon is successful and if as a result the project description changes significantly, these changes will be subject to an amendment to the existing ESIA and therefore additional public participation.	Not relevant to the ESIA
Professional Meeting in Toliara (19 April 2013) Ratsimbazafy Roland (Superior Council of Transition)	This area is a desert. What trees will you plant during rehabilitation?	At this stage it is difficult to say with certainty what tree species will be used as this will depend on the results from the rehabilitation trials. Indigenous trees will be used to restore the ecological corridors. Where feasible, they will also be used in the woodlots. Preliminary studies suggest that the following indigenous trees could be used *Securinega perrieri, Givotia madagascariensis, Cedrelopsis grevei, Tetrapterocarpon geayi, Louvanafia mahafaliensis, Mimosa deliculata.* Possible exotic trees include: *Azadirachta indica, Eucalyptus camaludensis, Eucalyptus cerbra, Acacia auriculiformis, Acacia mangeum and Casuarina equisetifolia*	Volume 14: Rehabilitation and offset strategy; - Section 3: Rehabilitation - Section 5: Rehabilitation and offset strategy; Subsection 5.1.3 Replacement strategy
Professional Meeting in Toliara (19 April 2013) Charlie (WWF)	After the cyclone in February the internet connection in Toliara is intermittent at best, therefore downloading these documents off the internet and sending comments via e-mail is extremely difficult. How can people without access to the internet and e-mail view the documents and submit comments?	Copies of these documents are available at the Toliara Sands offices in both Toliara and Antananarivo. In addition to this all comments and/or queries can be submitted in writing to the Toliara Sands offices in both cities.	Volume 21: Stakeholder engagement

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Charlie (WWF)	I am extremely happy to hear Mr Jules Le Clezio say that Toliara Sands will make $500 000 - $1 million per annum available for social and/or environmental programmes. Is this a written promise?	As part of Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5
Professional Meeting in Toliara (19 April 2013) CRID	I suggest that a committee is established consisting of local residents to ensure that rehabilitation and restitution occurs as stated.	Noted and agreed. In terms of monitoring a few committees will be established. These committees will consist of various representatives of various stakeholders depending on the nature of the activity being monitored.	Volume 14: Rehabilitation and offset strategy
Professional Meeting in Toliara (19 April 2013) University of Toliara	What kind of energy will be utilized for this project?	Self-generated diesel power is considered to be the only practical option for the project.	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment; Section 6: Description of the social environment
Professional Meeting in Toliara (19 April 2013) University of Toliara	Will local residents be supplied with energy as is the case with QMM and/or Ambatovy?	No. Energy generated will be utilised for mining purposes only. The proposed mining activities only require approximately 6 MW for operational purposes. The QMM operation is much larger and utilises a capacity of approximately 25 MW. In addition to this the proposed mining activities will occur relatively far from the town of Toliara thereby making distribution of power from diesel generators unfeasible. Should there be any spare capacity, this may be distributed to local communities in very close proximity to the mining area.	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment; Section 6: Description of the social environment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) University of Toliara	As stated in the presentation the baseline radiation at the site is 7 mSV. What will the radiation levels be after mining is complete?	According to the Radiation Assessment undertaken for the proposed project, the mining and processing operation will remove the majority of the radioactive mineral fraction (monazite) from the ore body by processing at the MSP. The coarse tails from the PCP will therefore contain a small fraction of the original radioactivity. Since the product materials produced by the MSP (ilmenite, rutile and zircon concentrates) also contain radioactivity, the export of these materials will permanently remove a fraction of the total radioactive inventory from the project area. The remaining radioactive inventory comprises a variety of MSP tails containing varying levels of radioactivity. The majority of the radioactive inventory will be contained in the monazite tails. Provided that these tails are properly disposed of by blending with low radioactivity materials the radiation levels above the surface of the ore body will be reduced to baseline levels or slightly below. This is a minor positive impact of the project.	Volume 13: Radiation Assessment - Section 4

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) University of Toliara	How will employees be protected against radiation exposure?	In areas where it is required employees will be equipped with safety gear including radiation tags, however when dust control systems and radiation protection programs are put in place, the maximum occupational exposures will normally not exceed 5 mSv per annum (i.e. a quarter of the annual dose limit).	Volume 5: Resettlement and compensation action plan, - Section 3: Environmental management plan Volume 6: Air Quality assessment Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 17: Specialist study on Noise Impacts Volume 19: Waste and Wastewater Assessment, - Section 6: Assessment of Potential environmental Impacts, - Section 7: Conclusions and recommendations

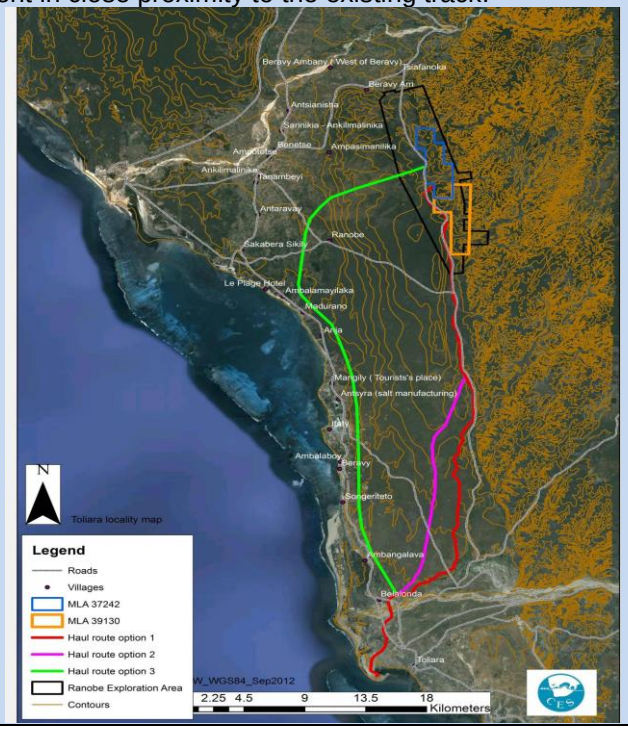
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) University of Toliara	Will radiation levels be monitored?	Yes, radiation levels will be monitored during all phases of the proposed development as well as prior to construction activities being undertaken (i.e. the baseline situation). There are 4 aspects of background radiation levels that need to be known: (i) Gamma dose measured by a handheld dose rate meter across the whole site with more concentrated readings in high activity areas. (ii) Radionuclides in the ground and surface waters before the operation starts. Since soluble radionuclides may be taken up in food stuffs. This is important for establishing the public exposure background levels. (iii) Radionuclides in airborne dusts. These will have to be measured for the plant workers and the background levels will need to be known to again establish the contribution from the plant (iv) Radon and thoron gas backgrounds. Whilst not quite so important these gases can make a contribution to the doses received by workers and the public and the contribution from the plant needs to be separated from the contribution due to the natural background.	Volume 13: Radiation Assessment
Professional Meeting in Toliara (19 April 2013) University of Toliara	What will the radiation levels at the MSP be?	Estimates of possible radiation exposures of workers in the PCP indicated expected levels of gamma radiation above the typical background. Doses on the HMC stockpile are predicted to be around 5 µSv/hour, and inside the PCP around 1 µSv/hour. It is, therefore, concluded that the radiation exposure expected for the worker involved in mining and operation of the PCP will be in order of 5-6 mSv/year. A similar evaluation of possible radiation exposures of workers in the MSP concluded that the radiation exposure expected for the workers involved in operation and maintenance of the MSP will be in order of 12-13 mSv/year.	Volume 13: Radiation Assessment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) University of Toliara	Will workers be supplied with a radiation monitoring device?	Yes. Where required workers will be supplied with radiation tags to monitor radiation exposure.	Volume 13: Radiation Assessment
Professional Meeting in Toliara (19 April 2013)	What will the impact of radiation be on water resources in the area?	The gaseous, particulate and liquid effluents released from the operation may result in some exposure of the public living or working close to the mining and processing operations. Historical information from heavy mineral plants in Australia (IAEA, 2011) and South Africa (Alara, 2003) indicates that the maximally exposed critical groups close to the plant cannot receive more than a fraction of a millisievert per annum from these radioactive discharges (the annual exposures range from 0.01-0.30 mSv per annum). 4. It is important to note that the potential for water contamination by radionuclides is very low for heavy minerals plants, the main exposure pathway to the public is likely to be by inhalation of particulate matter.	Volume 13: Radiation Assessment
Professional Meeting in Toliara (19 April 2013) Ramampierika (IHSM)	Evaporation will result in an overall loss in water. This should be considered in the assessment. Which components of the project have the greatest evaporation risk?	The greatest risk in terms of evaporation loss would probably be related to the processing water and/or stormwater retention ponds. However, water losses emanating from these are unlikely to be significant.	Volume 2: EIE mine site, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) George Prince (CRID)	I would prefer that this mine is only exploited once all impacts have been resolved and/or controlled.	We are confident that impacts have been identified during the ESIA process. However, the management and monitoring of these issues is an ongoing process and thus the success of these cannot be established prior to the start of the project.	Volume 2: EIE Mine site, Section 4: Description of the physical state of the environment, Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment; Section 7: Study of the closure plan Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment, Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment
Professional Meeting in Toliara (19 April 2013) George Prince (CRID)	What will the impacts of radiation be on plants, cattle and people? An increase in radiation will result in the shortening of people's lifespans.	Provided that the public are kept out of the active mining area, the MSP and export facilities; and that there is adequate control over windblown dusts from the stockpiled materials, there should be no incremental gamma dose above normal background levels arising from the mine and plant operations. The highest theoretically possible exposure of a member of the public has been calculated to be 0.02 mSv/year, which is considered to be negligible – as it represents about 2% of the public annual exposure limit of 1 mSv/year.	Volume 13: Radiation Assessment; - Section 13: The anticipated radiological impacts of the Ranobe Mine

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) George Prince (CRID)	How will you prevent increased radiation levels in the area? There are many Malagasy specialists who can assist in this regard.	In the case of the Ranobe mine project, the relevant regulatory authorities - Institut National des Sciences et Techniques Nucléaires (Madagascar-INSTN) will ultimately determine the radiological protection and waste management requirements associated with the project. The INSTN will be notified of the intention to process radioactive minerals, but the regulation of such materials in Madagascar will depend on discussions with the INSTN at the time of or before notification. The mine, will as a minimum, meet the requirements of the local Madagascar legislation and will in addition strive to meet international best practice.	Volume 13: Radiation Assessment; Section 13: The anticipated radiological impacts of the Ranobe Mine
Professional Meeting in Toliara (19 April 2013) Rasolondray Renaldo (Doctor in Archaeology)	According to your presentation the Region will be a paradise if you actually implement all of these measures and programmes. However, no mention was made of the culture and values of the area. Have you done a specialist assessment on the Archaeology of the area? Cultural patrimony is seriously neglected worldwide.	Yes, Dr Rudy Fidacy has done an assessment on the area which will be incorporated in the Final ESIA document. This will include a map showing the location of all cultural sites within the project area.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 16: Social Assessment Report
Professional Meeting in Toliara (19 April 2013) SG Region	When will the next professional disclosure be?	This will be the last disclosure undertaken by CES for this project unless there are any fundamental changes to the project description, in which case the public will have to be informed. However, according to Malagasy legislation, ONE will have to do public disclosure once the final report has been submitted.	Volume 21: Stakeholder engagement
Professional Meeting in Toliara (19 April 2013)	Will there be any problems related to sulphur as is the case at Ambatovy?	No. The mineral separation process does not require any hazardous substances or chemicals. Sulphur will not be stored on site, or be a by-product of any separation process.	Volume 2: EIE mine site, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Professional Meeting in Toliara (19 April 2013) Nantenaina (Energy)	I am not satisfied about your response in terms of supplying the community with energy. The supply of energy is needed in Toliara, therefore you should commit to supplying the affected communes with energy.	Noted.	Volume 2: EIE mine site, Section 4: Description of the physical state of the environment; Section 6: Description of the social environment
Professional Meeting in Toliara (19 April 2013)	Why are you not considering using renewable energy?	The mining plant and equipment requires a base load electrical generation capacity that cannot be supplied by renewable energy alone. Clearly there is an option to utilise solar power capacity extensively in the project area but this potential energy source is more suited to residential and office energy needs, but can reduce reliance on fossil fuel energy sources. These options will be explored in the detailed design process for the mine. Options such as solar geysers for hot water and panels for lighting are likely to be implemented.	

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Sakabera (20 April 2013)	Where will the new haul road be located?	Three options for the position of the new haul road have been assessed. These are depicted in the map below. The preferred option utilises a portion of the existing Toliara track, whereas the remainder of this route is in close proximity to the existing Toliara track. This portion of the route has been amended to avoid sensitive vegetation and households present in close proximity to the existing track. 	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Sakabera (20 April 2013)	Will there be employment opportunities for women?	All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role. Women are encouraged to apply for all jobs and will be assessed against the specific requirements for each role. Yes, there will be some work for women.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Sakabera (20 April 2013)	Will there be employment opportunities for young people?	Anybody over the age of 18 may apply for employment. The specific recruitment process will be explained to all affected communes once the project has acquired all relevant authorisations.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Sakabera (20 April 2013)	There are grazing areas and agricultural lands in the general area where the road is proposed. Will there be compensation for the people to whom these belong?	Yes. Toliara Sands is currently in the process of doing an inventory of these land parcels (i.e. what they consist of and who they belong to). When the project has acquired the relevant authorisations the compensation process will start. This will include community and other stakeholder involvement.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Sakabera (20 April 2013)	We require a secondary school and a hospital within the area. In addition to this we also require electricity and a water pump.	Noted. To date the company has sponsored Australian Doctors for Africa, refurbished wells in a number of communities around the project site and undertaken other community initiatives. Should the project proceed to development WTR is proposing to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in various projects outside the mine that will employ and help improve the lives of the Malagasy people. The company is committed to establishing a community trust to ensure positive social and economic changes in the communities close to the mine and processing facilities. The trust will be funded by World Titanium Resources and will be managed by Toliara Sands SARL and community representatives to ensure that projects selected will maximise the impact on and benefit to the communities. However, it is important to note that these projects will only be initiated and selected once the project has been approved.	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Sakabera (20 April 2013)	We are concerned about the hole that will be created as a result of mining. People and/or cattle may fall in.	During mining access to the mine site will be restricted. The mining operation will cover a total area of approximately 455 hectares. However, at any one time only a small part, around 10 – 35 ha of the deposit will be exposed. Vegetation and topsoil removal, mining, concentration and tailings disposal will occur as a continuous process. The composition of the sand tailings from the PCP, which amount to > 90% of the mined material, will be unchanged by the process and will be immediately returned to the mining void as backfill material. Once the mine void has been backfilled (with a combination of tailings and slimes) the surface will be contoured and the topsoil that was previously removed and stockpiled as part of the clearing and stripping process will be returned and spread by bulldozers and replanted and no hole will remain.	Volume 2: EIE mine site, Section 2: Description of the project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Sakabera (20 April 2013)	How will we be affected by the movements of large vehicles?	Although the haul road will not be used by third parties, the construction of the haul road may affect community health and safety by increasing the incident of accidents between haul road trucks, other vehicles and road users at haul road crossing points. In addition to this there may be increased noise levels associated with the new haul road. Furthermore, since the haul road will be a gravel road there may also be increased dust levels in the area as a result. It is important to note that numerous mitigation measures have been recommended by the various specialists (Specialist Assessment on Noise Impacts, Air Quality Assessment and Social Impact Assessment). Should these mitigation measures be adopted by Toliara Sands the majority of these impacts could be reduced to that of low significance.	Volume 1: General Framework - Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site - Section 6 Description of the Social Environment Volume 3: EIE road and quarry - Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2 - Section 6: Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report - Section 8: Haul Road impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Sakabera (20 April 2013)	At which speed will these trucks be moving along the road?	Approximately 40 to 60 km/h	Volume 1: General Framework - Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site - Section 6 Description of the Social Environment Volume 3: EIE road and quarry - Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2 - Section 6: Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report - Section 8: Haul Road impacts
Public Meeting in Sakabera (20 April 2013)	We suggest that the truck driver uses his hooter when on approach so that people can be warned about on coming trucks in advance.	Noted. Various mitigation measures can be employed to ensure the safety of people and/or cattle required to cross the road. However, the haul road will be private and access by local residents will therefore be restricted.	Volume 3: EIE road and quarry Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan
Public Meeting in Sakabera (20 April 2013)	What is radiation? We are forest people and do not know.	Radiation is energy that is emitted. Light, heat and sound are types of radiation. The radiation that we are referring to is called ionising radiation, which is cause by unstable atoms (i.e. particles that have too much energy). To become stable the particles give off this excess energy which we refer to as radiation. In large doses this radiation can be harmful to people. However the mine will have certain measures in place to insure that the public and workers are not exposed to large doses of radiation as a result of the project.	Volume 13: Radiation Assessment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Sakabera (20 April 2013)	Does the black sand (ilmenite, rutile and zircon) affect people?	The heavy minerals to be mined have very low radiation emissions, however these are not considered to be harmful to people at the low levels expected.	Volume 2: EIE mine Site, Section 2: Description of the project
Public Meeting in Sakabera (20 April 2013)	Will the land be fertile after mining?	Yes. After mining is complete the mine void will be backfilled, topsoil will be replaced and the area revegetated. It is anticipated that a portion of the mining area will be rehabilitated to agricultural land and grazing areas.	Volume 11: Land and Natural resource use Volume 14: Rehabilitation and Offset strategy Volume 16: Social Assessment Report
Public Meeting in Sakabera (20 April 2013)	How long will mining occur?	21 years.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine Site, Section 2: Description of the project
Public Meeting in Sakabera (20 April 2013)	Will workers be eligible for pension and/or retirement funds?	All employment related issues will be undertaken in accordance with the Malagasy Labour Law and will be the responsibility of the HR Department of Toliara Sands.	Volume 16: Social Assessment Report
Public Meeting in Sakabera (20 April 2013)	Security is a big issue in the area due to cattle rustling and other crime. Will Toliara Sands be able to assist with security issues?	A recommendation could be made to include security related issues into Toliara Sands' social and corporate responsibilities which will only come into effect once the project has been authorised. However, the general security of the region is the responsibility of the Government and therefore cannot be the responsibility of Toliara Sands.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan
Public Meeting in Sakabera (20 April 2013)	The cyclone destroyed many houses and crops. As a result there is currently a lack of food in the area. Will Toliara Sands be able to help with this?	The weir on the Manombo River has been damaged as a result of the cyclone. Toliara Sands have temporarily fixed this problem by placing sandbags in the area where the weir has been damaged so that there is still water available in the irrigation canal for crop cultivation. No other commitments can be made at this time other than the fact that this request will be relayed to Toliara Sands for consideration. Toliara Sands' social and corporate responsibilities will only come into effect once the project has been authorised.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Sakabera (20 April 2013)	We understand, however we require help now.	Noted.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations
Public Meeting in Sakabera (20 April 2013)	We currently have teachers in the area, however no school buildings. Can Toliara Sands assist with this?	Noted. Education is critical for the continual development of a country. To date it has been proposed that WTR consider sponsoring the improvement and development of schools in the communes near the Ranobe deposit. This sponsorship could include: • Promoting the training of teachers; • Purchase equipment; and • Develop scholarship opportunities.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Sakabera (20 April 2013)	When will the mining start?	Mining cannot start until all relevant authorisations and permits have been acquired. It is anticipated that construction will start early next year, but this has not yet been confirmed.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice
Public Meeting in Sakabera (20 April 2013)	When will people in the area be able to start working?	Local residents in the area will only be employed once all relevant authorisations have been acquired and construction begins.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice
Public Meeting in Tsongobory (20 April 2013)	What is ilmenite and what is the impact thereof?	Ilmenite is a black mineral consisting of iron and titanium oxide. Ilmenite is non-toxic and harmless to people.	Volume 13: Radiation Assessment; - Section 4; Subsection 4.2.3

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	There are currently many issues and/or problems relating to the irrigation canal. Can Toliara Sands assist with these issues since this will improve our standard of living?	The irrigation canal has been a topic of discussion in numerous villages visited within the area. It has been recommended in the Land and Natural Resource Use Assessment that Toliara Sands consider giving assistance to the local community with the upgrading of the existing weir to increase water supply in the irrigation canal and that an agricultural programme should be established to teach local residents about sustainable agricultural practices within the general project area.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations
Public Meeting in Tsongobory (20 April 2013)	The community requires various benefits from the project.	As part of Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine Site Volume 3: EIE road and quarry Volume 4: Jetty and Storage Facilities Volume 5: Resettlement and compensation action plan
Public Meeting in Tsongobory (20 April 2013)	Will Toliara Sands rehabilitate areas that are to be destroyed due to mining?	Yes. After mining is complete the mine void will be backfilled, topsoil will be replaced and the area revegetated. It is anticipated that a portion of the mining area will be rehabilitated to agricultural land and grazing areas.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	How will the project impact on community life?	Tsongobory will mainly be impacted on by the construction and operation of the haul road south of the Fiherenana River and the jetty. Toliara Sands will have to acquire land from local residents in the area for the construction of the haul road. Owners of these land parcels will be compensated and a separate public participation process will be undertaken in conjunction with local communities and other stakeholders to determine what this compensation will be. The construction and operation of the jetty will result in access to a small section in the immediate vicinity of the jetty being restricted and/or controlled. However, people will still be able to utilise the majority of Le Batterie beach and will still be able to fish in the area.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities Volume 16: Social Assessment Report
Public Meeting in Tsongobory (20 April 2013)	The project will result in the forest being destroyed. As a result there will be no more rainfall in the area.	Satellite imagery indicates that in 2006 18% (approximately 29 100 ha) of the PK32 area had been cleared. In 2012 the imagery indicated that this had increased to 31% (approximately 47 500 ha). Over a period of six years, an estimated 18 400 ha or (13%) of the forest in the PK32 area had been cleared and is continuing to be cleared at an alarming rate. Large areas within the proposed mining area as well as along the preferred haul road option have been completely transformed. As a result only a small portion of intact indigenous forest will have to be removed for the proposed project. In addition to this, the mine site will be rehabilitated once mining is complete. As such it is unlikely that this will impact on rainfall in the area.	Volume 7: Botanical Specialist Report - Section 4: Vegetation composition; Subsection 4.3 Vegetation mapping; Sub subsection 4.3.3: Degradation and human impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	What is the growth rate of the species that will be used for rehabilitation?	Species growth rate varies with changes in climate, temperature and water availability. A species that is fast growing in one region may be very slow growing in another region. For this reason, rehabilitation trials are underway to determine which species are best suited for rehabilitation. Fast growing species are generally preferable as they are more cost effective than using slow growing species.	Volume 14: Rehabilitation and offset strategy
Public Meeting in Tsongobory (20 April 2013)	Where will water be abstracted from?	From the limestone aquifer approximately 60-80 m below the surface of the ground.	Volume 20: Water Assessment - Section 3; Sub-section 3.1
Public Meeting in Tsongobory (20 April 2013)	Where will the new haul road be located?	Three options for the position of the new haul road have been assessed. These are depicted in the map included in the section above. The preferred option utilises a portion of the existing Toliara track, whereas the remainder of this route is in close proximity to the existing Toliara track. This portion of the route has been amended to avoid sensitive vegetation and households present in close proximity to the existing track.	Volume 3: EIE Road and Quarry - Section 3; Sub-section 3.1
Public Meeting in Tsongobory (20 April 2013)	We did not know about this project before today. However, now we do know.	Noted.	Not relevant to the ESHIA

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	Will there be compensation for landowners and users of the general Le Batterie area. This area is used for leisure as well as fishing.	Toliara Sands is currently in the process of doing an inventory of these land parcels (i.e. what they consist of and who they belong to). When the project has acquired the relevant authorisations the compensation process will start. This will include community and other stakeholder involvement. In terms of the general Le Batterie area, people will still be able to utilise this area. Access will only be restricted to a small section in the immediate vicinity of the jetty. Since this area is owned by the Government of Madagascar there will be no compensation to the communities.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	What mitigation measures will be adopted to ensure that there are no deaths of zebu crossing the new road?	There are various mitigation measures that can be implemented to prevent this from happening, for example: • Employees and communities must be trained on community safety issues and requirements particularly road safety awareness through the Community Health and Safety Plan; • Warning signs should be displayed next to dangerous points to discourage people from crossing the haul road; • Road crossings must be clearly marked, and guarded by trained guards with strict adherence to safety and standards; • A maintenance system should be put into place to ensure the physical integrity of the haul road is maintained; • Drivers should not be allowed to exceed working hours; • Traffic should slow down approaching the haul road crossings by erecting speed bumps 500 m from the crossing points; and • Speed and road safety controls should be implemented and train drivers adhere to these safety requirements.	Volume 3: EIE Road and quarry Volume 16 Social Impact Assessment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	What are the health problems associated with the project?	There are a variety of risks associated with the proposed project, these may include traffic accidents and injury, radiation exposure, dust inhalation, impacts of noise, etc. However, as part of the project's overall monitoring programme key health indicators (such as radiation levels and exposure) will be monitored and numerous mitigation measures will be incorporated to ensure that there are minimum risks to health.	Volume 6: Air Quality assessment Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 17: Specialist study on Noise Impacts Volume 19: Waste and Wastewater Assessment, Section 6: Assessment of Potential environmental Impacts, Section 7: Conclusions and recommendations
Public Meeting in Tsongobory (20 April 2013)	The smoke and smell from the factory will result in various illnesses within the communities.	There will be no atmospheric emissions from the PCP or the MSP. In addition to this there will be no bad odours as the processing of the product does not require the use of any chemicals, only water and sand.	Volume 2: EIE mine Site, Section 4 Description of the Physical State of the Environment Volume 3: EIE road and quarry, Section 4: Description of the Physical state of the environment Section 5: Description of the Biological state of the environment Volume 6: Air Quality Assessment, Section 7: Operation phases Air Quality Impact Assessment, Section 9: Air Quality Management and Mitigation measures

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	There is not enough rain in the area. We require wells and pumps.	As part of Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5
Public Meeting in Tsongobory (20 April 2013)	There should be a breeding programme in the area for livestock to support local farmers.	The project would promote and support some agricultural projects, which would in part supply the mine site with meat and vegetables. Some initiatives may be funded to support the farming production in the mining project area. The project could also support a technical program to improve farming productivity.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project
Public Meeting in Tsongobory (20 April 2013)	Toliara Sands is currently employing people from outside the region. Local people should be used to fill these positions.	Toliara Sands currently have 47 permanent employees (12 in Antananarivo and 35 in Toliara). Of these only 3 are expatriates. The project is expected to create jobs for approximately 500 people during construction and 250-400 during the operational phase. Preliminary Human Resources studies undertaken by the proponent indicate that it will be possible for the company to source a sufficient number of skilled Malagasy people who have tertiary qualifications and two years of technical work experience. However, most of these may not come from the Toliara District, but will have to be sourced from other parts of Madagascar. These studies do however indicate that at least 30 capable mechanics can be sourced from the south-west region. It is assumed therefore that at least 30 skilled employees can be sourced from the south-west region whereas the remainder (46) will have to be sourced from elsewhere. All unskilled labour will be sourced locally.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	How can we benefit now, before the project starts?	To date the company has sponsored Australian Doctors for Africa, refurbished wells in a number of communities around the project site and undertaken other community initiatives. Therefore there have already been numerous benefits to the area.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine Site Volume 3: EIE road and quarry Volume 4: Jetty and Storage Facilities Volume 5: Resettlement and compensation action plan
Public Meeting in Tsongobory (20 April 2013)	Security is a big problem within the area, can Toliara Sands assist with this?	A recommendation could be made to include security related issues into Toliara Sands' social and corporate responsibilities which will only come into effect once the project has been authorised. However, the general security of the region is the responsibility of the Government and therefore cannot be the responsibility of Toliara Sands.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan
Public Meeting in Tsongobory (20 April 2013)	Local residents affected by the construction of the jetty at Le Batterie should benefit from employment first.	There are various components to the project, including the mining area, haul road and port facilities. The proposed construction of the facilities will impact on 5 communes within the area, which should all benefit to some degree from employment opportunities.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsongobory (20 April 2013)	Zebu usually crosses the area where the haul road will be constructed between 6 and 8 am and 12 and 2 pm. We suggest that no traffic is allowed on the haul road at these times.	Noted. Thank you of this information. This will be relayed to Toliara Sands.	Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment
Public Meeting in Ambohitsabo (20 April 2013)	How many hectares will be exploited during the mining process?	455 ha over the 21 year mine life with only 25-35 hectares in active use at any time.	Volume 2: EIE mine site, Section 2: Description of the project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ambohitsabo (20 April 2013)	How many jobs will be available to the local communities?	The project is expected to create jobs for approximately 500 people during construction and 250-400 during the operational phase. Preliminary Human Resources studies undertaken by the proponent indicate that it will be possible for the company to source a sufficient number of skilled Malagasy people who have tertiary qualifications and two years of technical work experience. However, most of these may not come from the Toliara District, but will have to be sourced from other parts of Madagascar. These studies do however indicate that at least 30 capable mechanics can be sourced from the south-west region. It is assumed therefore that at least 30 skilled employees can be sourced from the south-west region whereas the remainder (46) will have to be sourced from elsewhere. All unskilled labour will be sourced locally.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ambohitsabo (20 April 2013)	We are worried about the project. Not sure how big a hectare is could you please convert it to a measurement we know.	A football field is approximately 1 hectare in size. Therefore about 455 football fields.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 11: Land and Natural resource use
Public Meeting in Ambohitsabo (20 April 2013)	The community should benefit from the project before outsiders do.	As part of Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in local community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. In addition to this, approximately 500 job opportunities will be available during the construction phase and between 250 and 400 during the operational phase. Local residents will be employed for all unskilled labour positions and there will be training for local people to fill the semi-skilled positions. Only highly skilled positions will need to be outsourced.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ambohitsabo (20 April 2013)	The proposed road will pass through agricultural fields. Will the owners of these fields be compensated?	Residents will be compensated for agricultural land, grazing areas, dwellings, tombs etc. However, the compensation mechanism has not yet been finalised. This will be done as part of the Compensation Plan that will be undertaken for the project and will be initiated towards the end of this year. This is due to the fact that this is heavily reliant on community involvement which is yet to be undertaken. It is important to note that the actual payment of compensation will not start prior to the project being authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities
Public Meeting in Ambohitsabo (20 April 2013)	The proposed jetty is very large. Where will the pirogues be able to moor?	Access will only be restricted in close proximity to the structure and storage facilities. There will therefore be enough space for the mooring of pirogues, however this will have to be done further up and/or down the beach from where mooring currently occurs.	Volume 4: EIE Port and Jetty - Section 6: Description of the social environment; Subsection 6.1.2: Operational phase Impacts: Impact 3 Loss of mooring facilities for fishing boats

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ambohitsabo (20 April 2013)	What is the health impacts associated with the project?	There are a variety of risks associated with the proposed project, these may include traffic accidents and injury, radiation exposure, dust inhalation, impacts of noise, etc. However, as part of the project's overall monitoring programme key health indicators (such as radiation levels and exposure) will be monitored and numerous mitigation measures will be incorporated to ensure that there are minimum risk to health.	Volume 6: Air Quality assessment Volume 13: Radiation Assessment Volume 14: Rehabilitation and Offset strategy Volume 17: Specialist study on Noise Impacts Volume 19: Waste and Wastewater Assessment, Section 6: Assessment of Potential environmental Impacts, Section 7: Conclusions and recommendations
Public Meeting in Ambohitsabo (20 April 2013)	Will there be work for women. The women would like to provide general maintenance services (such as cleaning, cooking etc.).	All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role. Women are encouraged to apply for all jobs and will be assessed against the specific requirements for each role. Yes, there will be some work for women.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ambohitsabo (20 April 2013)	Will we have to pay money to get a job? We are concerned about possible corruption during the recruitment process.	No, payment will be never be required to apply for a job with Toliara Sands or their contractors. Toliara Sands will have a clearly defined employment procedure in place that stipulates the manner in which recruitment will occur on the local level, as well as for externally sourced skills. No local individuals or community representatives will be responsible for recruitment and as such all employment opportunities and eventual appointments will be a transparent process managed by Toliara Sands human resources personnel.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ambohitsabo (20 April 2013)	Will there be any jobs for the fishermen in the area, other than fishing?	All local residents will be able to apply for unskilled labour positions. However, it is important to note that there will not be work for everybody and that job allocations will have to be distributed amongst all 5 affected communes.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ambohitsabo (20 April 2013)	What is ilmenite used for?	White pigment that is used to make paint and plastics.	Volume 2: EIE mine Site, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ambohitsabo (20 April 2013)	The fishermen in the area require jobs to alleviate the pressure that current fishing practices are placing on the marine resources in the area.	Noted and agreed.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ambohitsabo (20 April 2013)	You will destroy a portion of the forest. What will happen to the medicinal plants in the area? Where will we get these from in the future?	The area will be rehabilitated after mining. A Land and Natural Resource Use Assessment were undertaken for the proposed project. This assessment identified approximately 40 species that are currently utilised by the local population for medicinal purposes. Where possible, these species will be used for rehabilitation of the mine site.	Volume 11: Land and natural resource use assessment Volume 14 Rehabilitation and offset strategy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsiafanoka (22 April 2013)	We have an agreement with Toliara Sands. They have promised compensation for our land. However, to date, no one has received any money.	Toliara Sands is currently doing an inventory only, i.e. identifying relevant land owners and current land use of the areas that will be utilised for construction and mining purposes. Once these land parcels have been identified, Toliara Sands will draft a Compensation Plan in conjunction with the local communities and other relevant stakeholders. No compensation will be paid to the local communities until such time as all authorisations for the proposed project has been received. Once these authorisations have been granted, the compensation process will start. No person/s will be required to vacate their land prior to compensation being received.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsiafanoka (22 April 2013)	Toliara Sands has already started mining and are currently busy exporting product. So where is our compensation?	Toliara Sands has not yet started mining, they are currently in the exploration phase for which they have the required permits. Toliara Sands will export a relatively small amount of product (± 6 tons) for testing and no material has been sold. Mining will be at a much larger scale with an estimated 400 000 tons of product being exported annually.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsiafanoka (22 April 2013)	Will Toliara Sands assist with cyclone relief?	The following activities have been sponsored by Toliara Sands to support the collective regional efforts in supporting the restoration of sustainable lifestyles of people affected by the passage of cyclone Haruna in late February 2013, focusing on five towns covered by the Area of Social Influence of the Ranobe Project: 1. The weir on the Manombo River has been damaged as a result of the cyclone. Toliara Sands have donated 2 000 bags for sand filling so that the weir can be temporarily fixed by placing sandbags in the area where the weir has been damaged so that there is still water available in the irrigation canal for crop cultivation. In addition to this, Toliara Sands has donated rice and beans to feed workers during the construction. 2. Toliara Sands has donated fuel to Fokontany Anketraka to assist with the evacuation of stagnant waters, a vector for diseases such as malaria. 3. The rehabilitation of the office in the Commune of Ankilimalinike. 4. The rehabilitation of the office in the Commune of Belalanda. 5. The rehabilitation of the public high school in Mangily. 6. The rehabilitation of two primary schools in Tsianisiha. 7. The rehabilitation of the office in the Commune of Mariomiandra. No other commitments can be made at this time other than the fact that this request will be relayed to Toliara Sands for consideration. Toliara Sands' social and corporate responsibilities will only come into effect once the project has been authorised.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsiafanoka (22 April 2013)	Toliara Sands have promised various social programmes, such as school, clinics, etc. but to date nothing has happened.	As part of Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Tsiafanoka (22 April 2013)	We have grown a number of seedlings for Toliara Sands, however they have not bought these seedlings from us as promised.	The cyclone resulted in serious damage to Toliara Sands' nurseries. Once these are up and running again, Toliara Sands will purchase these seedlings as promised.	Direct response from Toliara Sands. Reference to all rehabilitation and nursery can be found in Volume 14: Rehabilitation and offset strategy
Public Meeting in Tsiafanoka (22 April 2013)	We are concerned about the forest. We are struggling to monitor the area with only the community association. We need guards.	Noted and agreed. Environmental offsets have been proposed in the Rehabilitation and Offset Strategy that was included in the EIA process. It has been recommended that priority areas, such as the Ranobe forest area, as identified within the PK32 area, be actively managed as a conservation area in partnership with Madagascar National Parks. In addition it has been proposed that Toliara Sands consider partnering with community reforestation programs that are already in place in the area and offer resources that will aid in the rehabilitation of these areas and that educational programmes and workshops on the sustainable use of natural resources are implemented to alleviate the impacts the current land use is having on the area.	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.2 Biodiversity offsets
Public Meeting in Tsiafanoka (22 April 2013)	We have tried to replant what we harvest in the forest. However, since there is no water in the area the plants die once replanted in the forest. Could Toliara Sands assist with this?	Toliara Sands have established a number of nurseries in the area and are undergoing rehabilitation trials to gather data to assist with rehabilitation of the area.	Direct response from Toliara Sands. Reference to all rehabilitation and nursery can be found in Volume 14: Rehabilitation and offset strategy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsiafanoka (22 April 2013)	We need Toliara Sands to buy these seedlings from us for the rehabilitation of the mine	The cyclone resulted in serious damage to Toliara Sands' nurseries. Once these are up and running again, Toliara Sands will purchase these seedlings as promised.	Direct response from Toliara Sands. Reference to all rehabilitation and nursery can be found in Volume 14: Rehabilitation and offset strategy
Public Meeting in Tsiafanoka (22 April 2013)	There is no point in growing these seedlings if Toliara Sands will not buy them from us.	Noted, as above.	Direct response from Toliara Sands. Reference to all rehabilitation and nursery can be found in Volume 14: Rehabilitation and offset strategy
Public Meeting in Tsiafanoka (22 April 2013)	I would keep it to sell to Toliara Sands.	Noted.	Not relevant to the ESHIA
Public Meeting in Tsiafanoka (22 April 2013)	Toliara Sands should start their social programmes now, not only when the project starts.	To date the company has sponsored Australian Doctors for Africa, refurbished wells in a number of communities around the project site and undertaken other community initiatives. Therefore community programs have already started and there have been numerous benefits to the area.	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Tsiafanoka (22 April 2013)	There should be training for women which should include raising chickens and growing legumes.	The project would promote and support some agricultural projects, which would in part supply the mine site with meat and vegetables. Some initiatives may be funded to support the farming production in the mining project area. The project could also support a technical program to improve farming productivity.	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Tsiafanoka (22 April 2013)	Toliara Sands will import their food supply from Antananarivo once the project starts, instead of buying from locals.	During the construction phase food supply may have to be brought from outside the region, due to the large amount required. However, it is anticipated that during the operational phase the project would promote and support some agricultural projects, which would in part supply the mine site with meat and vegetables. The reason that this cannot be undertaken for the construction phase as well is that it would take some time to initiate and this cannot be done until the project has been authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project,

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsiafanoka (22 April 2013)	Toliara Sands should have a symposium to sensitize people about the forest and the value thereof. This symposium should include training on replanting what is harvested and how to grow these plants.	Noted. As part of the Rehabilitation and Offset Strategy to be undertaken by Toliara Sands it was recommended that Toliara Sands consider partnering with community reforestation programs that are already in place in the area and offer resources that will aid in the rehabilitation of these areas and that educational programmes and workshops on the sustainable use of natural resources are implemented to alleviate the impacts the current land use is having on the area.	Volume 14: Rehabilitation and Offset strategy
Public Meeting in Tsiafanoka (22 April 2013)	If the joint venture between Lomon and Toliara Sands occur, the contracts between the communities and Toliara Sands will change.	If the joint venture with Lomon is successful World Titanium Resources and/or Toliara Sands will retain responsibility for the various community programmes and therefore there will be no change in the contracts.	
Public Meeting in Tsiafanoka (22 April 2013)	There is a signed agreement between Toliara Sands and the communities in regards to infrastructure. If Lomon gets involved in the project the communities will no longer accept it.	May I ask why you will not support the project?	Not relevant to the ESIA
Public Meeting in Tsiafanoka (22 April 2013)	Chinese companies currently working in Madagascar do not respect the Malagasy people and their traditions. In addition to this they do not adhere to Malagasy laws specifically the labour law.	Noted. It is true that some Chinese companies (and companies from other countries and even Malagasy companies) do not always respect local laws however this is not true of all Chinese companies operating in Madagascar. Lomon are a respected company who operate in accordance with local laws in their own operations in China and they intend to do the same in Madagascar.	Not relevant to the ESIA
Public Meeting in Tsiafanoka (22 April 2013)	There are serious security issues in the Region. This results in the loss of development opportunities.	A recommendation could be made to include security related issues into Toliara Sands' social and corporate responsibilities which will only come into effect once the project has been authorised. However, the general security of the region is the responsibility of the Government and therefore cannot be the responsibility of Toliara Sands.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Meeting with the water board in charge of the irrigation canal (22 April 2013)	Where does the water from the limestone aquifer come from?	The main source of groundwater recharge, which is critical for sustainable water supply, is from rainfall which is estimated to vary between 3% and 32% of mean annual precipitation. Additional groundwater recharge within the aquifer originates from stream flow losses where the piezometric surface (the imaginary surface to which groundwater rises under hydrostatic pressure in wells or springs) is below the surface topography. Groundwater discharges along the Manombo River downstream of the Mamovoky Spring and at the coast along beach rock outcrop. Some discharge is observed within surface water bodies such as at Ranobe Marsh.	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment Volume 20: Water Assessment,
Meeting with the water board in charge of the irrigation canal (22 April 2013)	You said that you will not use our water (i.e. surface water from rivers and dams and water from the irrigation canal). Will you respect that?	Correct, no water will be used from any surface water features.	Volume 20: Water Assessment - Section 3; sub-section 3.1 Volume 11: Land and Natural Resource Use - Section 3

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Meeting with the water board in charge of the irrigation canal (22 April 2013)	Our water resources will be poisoned by the mining activities which in turn will result in various diseases.	The water that is returned to the environment will not be poisoned as no chemicals are used during the processing of ore. From the mine, a pipe line conveying the ore in the form of a slurry feeds into the PCP where the contained heavy minerals (HM) are concentrated to produce a heavy mineral concentrate (HMC). The incoming ore slurry is passed through a feed screen with the undersize fed into a surge bin. From the surge bin the sand is pumped to a gravity concentration circuit comprising spirals and an up current classifier. These circuits separate most of the quartz from the ore concentrating the heavy minerals. The mineral separation plant (MSP) uses conventional mineral sands separation equipment to produce final products consisting of primary ilmenite, secondary ilmenite and a valuable non-magnetic product comprising rutile and zircon. A combination of magnetic separators and high tension rolls are used to achieve the required separation and a small gravity circuit is incorporated to reject the remaining light gangue. Since both the water and the ore utilised come from the Ranobe area, no new substances will be introduced into the area.	Volume 2: EIE mine Site, Section 2: Description of the project; Section 4: Description of the physical state of the environment;
Meeting with the water board in charge of the irrigation canal (22 April 2013)	We want a signed agreement from Toliara Sands in regards to water quality.	Noted.	

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Meeting with the water board in charge of the irrigation canal (22 April 2013)	The water board requires funding and materials to be able to fix the weir on the Monombo River. This will ensure that everyone in the area has enough water.	Noted. Toliara Sands have temporarily fixed this problem by placing sandbags in the area where the weir has been damaged so that there is still water available in the irrigation canal for crop cultivation. In addition to this it has been recommended in the Land and Natural Resource Use Assessment that Toliara Sands consider giving assistance to the local community with the upgrading of the existing weir to increase water supply in the irrigation canal and that an agricultural programme should be established to teach local residents about sustainable agricultural practices within the general project area. No other commitments can be made at this time other than the fact that this request will be relayed to Toliara Sands for consideration. Toliara Sands' social and corporate responsibilities will only come into effect once the project has been authorised.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Meeting with the water board in charge of the irrigation canal (22 April 2013)	There is not enough water for agriculture in the area, Therefore we have no choice but to harvest the forest. We will not accept the mine utilising our water resources.	The hydrological EIA study indicates that the volume of water accessed via the irrigation system is 1 300 000 m^3/month (SRK, 2006). Therefore it can be stated that there is a large amount of water available for agricultural purposes. The fundamental problem with irrigated agriculture is therefore not due to a lack of water but rather as a result of the following issues: • The height of the weir has been reduced; • The weir seems to be leaking; and • Current management of the water resources is inefficient. For this reason it is unlikely that increased water supply to the irrigation canal will solve the water issues in the region in the long term. Perhaps other solutions such as fixing the weir and training in terms of management processes and agricultural practises (growing crops more suited to the dry area) would be more beneficial. Furthermore, the mine will not be utilising water from any surface water resources in the area. In addition to this, groundwater will be utilised from the limestone aquifer, which is approximately 60-80 m below surface level. Water abstraction from this aquifer is unlikely to have an effect on the existing wells within the area. However, to pre-empt any potential effect, groundwater drawdown will be monitored throughout all phases of the project.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations
Meeting with the water board in charge of the irrigation canal (22 April 2013)	Where will the boreholes for the abstraction of water be situated?	The exact locations for these boreholes have not yet been determined. However all boreholes will be situated in close proximity to the mine site.	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA

Meeting with the water board in charge of the irrigation canal (22 April 2013)	What are the negative impacts associated with the abstraction of water?	Various impacts have been identified in Chapter 7 of the ESIA. These include:
		• Lowering of the water table due to abstraction from wellfield
		  ○ Reduced groundwater resources available to the communities
		  ○ Reduced surface water resources available to the communities
		  ○ Reduced groundwater resources available to commercial facilities situated along the coastline
		  ○ Loss of functionality in the Tsiake salt marsh and salt works
		  ○ Loss of crops due to drying of sub-surface soils
		  ○ Loss of vegetation due to drying of sub-surface soils
		  ○ Development of sinkholes
		  ○ Loss of aquatic freshwater habitat in the south-central coastal plains (Ranobe and surrounds)
		  ○ Loss of aquatic saline habitat in the south-central coastal plains (Ambolomailaka hinterland)
		• Elevation of water table due to tailings stacking
		  ○ Surface water ponding and increase due to mining activities
		• Variations in groundwater flow due to groundwater abstraction and aquifer recharge from tailings stacking
		  ○ Effect of decreased flow in seeps and springs on the coastline on local communities and aquatic habitats
		• Impact on surface and groundwater quality
		  ○ Increased salt load to the aquifer from tailings disposal
		  ○ Contamination due to spillages from mining facilities
		It should be noted that various mitigation measures are suggested for these proposed impacts and 10 out of the 13 impacts assessed are considered to be of low significance after mitigation.
			Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Meeting with the water board in charge of the irrigation canal (22 April 2013)	What will the benefits be to the community? We need materials, funding etc.	Noted. As part of Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine Site Volume 3: EIE road and quarry Volume 4: Jetty and Storage Facilities Volume 5: Resettlement and compensation action plan
Meeting with the water board in charge of the irrigation canal (22 April 2013)	We want Toliara Sands to dig a canal from Ranobe to Ankilimalinike so that Ankilimalinike can have their own irrigation canal.	As stated above, according to specialists' assessments there is enough water in the irrigation canal for agricultural purposes. Constructing another irrigation canal will not solve water related issues in the long term.	Volume 11: Land and Natural resource use, Section 3: Water sources; Section 4: Land Use; Section 5: Resource Use; Section 8: Impacts of mining on Natural Resources
Meeting with the water board in charge of the irrigation canal (22 April 2013)	Toliara Sands meets with the presidents of the Fokotany only and not with the entire community.	Coastal and Environmental Services have had meetings with the local communities in all affected communes in April 2012 and again in April 2013. All residents within the various villages were invited to these meetings to raise their various concerns.	Volume 21: Stakeholder engagement
Meeting with the water board in charge of the irrigation canal (22 April 2013)	We have started a woman's association in the area. However, there has been no progress due to the lack of funds and materials.	Noted. As part of Toliara Sands business plan submitted to the Ministry of Mines the company intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ankilimalinike (22 April 2013)	We have heard that access will be restricted to the mining area. What is the reason for this?	This is due to safety hazards, such as large vehicles and equipment and a potential increase in radiation levels at the MSP. It should be noted that even though the area to be mined is 455 ha in size, only small portions of between 10 and 35 ha will be mined at any one time. Access will only be restricted in the areas that are actively being mined and therefore the communities will still be allow access in the larger area.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report
Public Meeting in Ankilimalinike (22 April 2013)	The mine will have to pay taxes and royalties. How will this work?	The mining legislation for Madagascar specifies that 1.4% (which is expected to amount to 70 billion MGA (US$35million) over the 21 year life of the mine) of the total 2% royalties paid by the mine to the government must be given to the Autonomous Provinces, Regions and Communes. This indicates that if the local governance structures exist and function efficiently and transparently, that a portion of these funds will accrue to the Toliara town authorities. This has the potential to increase their capacity to deliver the required services.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ankilimalinike (22 April 2013)	Toliara Sands has already started production, yet we have not been compensated as promised.	Toliara Sands has not yet started mining, they are currently in the exploration phase for which they have the required permits. Toliara Sands will export a relatively small amount of product (± 6 tons) for testing. Mining will be at a much larger scale with an estimated 400 000 tons of product being exported annually.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities
Public Meeting in Ankilimalinike (22 April 2013)	When will mining start.	Mining cannot start until all relevant authorisations and permits have been acquired. It is anticipated that construction will start early next year, but this has not yet been confirmed.	Volume 1: General Framework, Section 3: Context: Summary presentation of the project Volume 2: EIE mine Site, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ankilimalinike (22 April 2013)	How many jobs will be available for the local residents in the area?	The project is expected to create jobs for approximately 500 people during construction and 250-400 during the operational phase. Preliminary Human Resources studies undertaken by the proponent indicate that it will be possible for the company to source a sufficient number of skilled Malagasy people who have tertiary qualifications and two years of technical work experience. However, most of these may not come from the Toliara District, but will have to be sourced from other parts of Madagascar. These studies do however indicate that at least 30 capable mechanics can be sourced from the south-west region. It is assumed therefore that at least 30 skilled employees can be sourced from the south-west region whereas the remainder (46) will have to be sourced from elsewhere. All unskilled labour will be sourced locally.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ankilimalinike (22 April 2013)	There are some people here who have tombs in the area. What will happen to them?	Existing tombs within the area will have to be relocated. The owners of these tombs will be compensated for this and no tombs will be damaged or moved without the prior consent of the owners.	Volume 2: EIE mine site, Section 2: Description of the project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ankilimalinike (22 April 2013)	There were 70 people employed for the pilot plant project. They were all from outside of the area. Therefore why should we believe you when you say that you will employ mostly local residents?	This is untrue. The majority of the staff that were employed at the pilot plant was local residents. Only people employed for the skilled positions, such as engineers and geologists were sourced from outside of the region.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ankilimalinike (22 April 2013)	The recruitment process has to be very clear so that everyone here can understand.	All recruitment criteria will be clarified in the HR policy for Toliara Sands and during job specific advertising and notifications.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ankilimalinike (22 April 2013)	We need compensation for the area where the pilot plant is, since the land belongs to us.	This issue needs to be raised with Toliara Sands via the existing grievance mechanism.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities
Public Meeting in Ankilimalinike (22 April 2013)	The irrigation canal was destroyed during the cyclone. It needs to be repaired can you assist with this?	The weir on the Manombo River has been damaged as a result of the cyclone. Toliara Sands have temporarily fixed this problem by placing sandbags in the area where the weir has been damaged so that there is still water available in the irrigation canal for crop cultivation. No other commitments can be made at this time other than the fact that this request will be relayed to Toliara Sands for consideration. Toliara Sands' social and corporate responsibilities will only come into effect once the project has been authorised.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ankilimalinike (22 April 2013)	The top portion of the Toliara Track that will be upgraded for the haul road is utilised by the local residents. Will you construct another road for us if you use it?	There are numerous tracks already located in the Ranobe Forest close to this section of the Toliara Track. It could be possible to slightly upgrade one of these tracks to be used by the local residents.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Public Meeting in Ranobe (23 April 2013)	Even though you will not use surface water for processing, the abstraction of groundwater will affect surface water levels and would ultimately result in all the wells drying up in the region.	Modelling of groundwater levels indicates that abstracting water from the limestone aquifer beneath the mining area will not have significant effects on the water levels in the shallow wells near the Ranobe Lakes and the coastal marshes and wetlands, which are some distance from the mining area. Nevertheless, water levels in monitoring boreholes and shallow wells will be monitored before mining commences and for the duration of mining operations. Abstraction of water for mining will be optimised to minimise impacts on the water table.	Volume 20: Water Assessment - Section 3; sub-section 3.1 Volume 11: Land and Natural Resource Use - Section 3

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ranobe (23 April 2013)	Even with continuous monitoring taking place, and no abstraction of surface water occurring, the area will dry up. If you pour a bucket of water on the soil all of that water does not seep back into the groundwater system.	If declining water levels are confirmed in shallow wells as a result of mining activities, water supplies to affected water users will be supplemented, or water will be provided from alternative sources until abstraction ceases and water levels recover.	Volume 20: Water Assessment - Section 3; sub-section 3.1 Volume 11: Land and Natural Resource Use Section 3
Public Meeting in Ranobe (23 April 2013)	Even if you are only utilising groundwater from the limestone aquifer, the wells in the area will dry up and there will be no more water for the local people.	See above responses.	Volume 20: Water Assessment - Section 3; sub-section 3.1 Volume 11: Land and Natural Resource Use - Section 3
Public Meeting in Ranobe (23 April 2013)	If there is no more water in the region, crop cultivation will be impossible and therefore the only means of survival will be the harvesting of natural resources, which in turn will result in the destruction of the forest.	See above responses.	Volume 20: Water Assessment - Section 3; sub-section 3.1 Volume 11: Land and Natural Resource Use - Section 3
Public Meeting in Ranobe (23 April 2013)	The weir on the Manombo River has been destroyed by the cyclone and therefore the existing problems with the irrigation canal have been exacerbated. Is it possible for Toliara Sands to assist with this issue?	The weir on the Manombo River has been damaged as a result of the cyclone. Toliara Sands have temporarily fixed this problem by placing sandbags in the area where the weir has been damaged so that there is still water available in the irrigation canal for crop cultivation. No other commitments can be made at this time other than the fact that this request will be relayed to Toliara Sands for consideration. Toliara Sands' social and corporate responsibilities will only come into effect once the project has been authorised.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ranobe (23 April 2013)	There is a lack of job opportunities for local people within the region. People should not have to pay money when applying for work and all vacant positions should be filled by local residents in the affected areas.	No payment will be required when applying for a job. The project is expected to create jobs for approximately 500 people during construction and 250-400 during the operational phase. Preliminary Human Resources studies undertaken by the proponent indicate that it will be possible for the company to source a sufficient number of skilled Malagasy people who have tertiary qualifications and two years of technical work experience. However, most of these may not come from the Toliara District, but will have to be sourced from other parts of Madagascar. These studies do however indicate that at least 30 capable mechanics can be sourced from the south-west region. It is assumed therefore that at least 30 skilled employees can be sourced from the south-west region whereas the remainder (46) will have to be sourced from elsewhere. All unskilled labour will be sourced locally.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ranobe (23 April 2013)	Toliara Sands always employ the same people. There is no variation in staffing.	This issue needs to be raised with Toliara Sands via the existing grievance mechanism.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ranobe (23 April 2013)	There is no representative from Ranobe Village on the sub-committee that has been established for recruitment purposes.	The Major from the commune of Ankilimalinike represents the residents from Ranobe Village on the sub-committee.	Volume 1: General Framework, Section 1: Introduction, Subsection 1.4; Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ranobe (23 April 2013)	What plants will be utilised for rehabilitation?	At this stage it is difficult to say with certainty what species will be used as this will depend on the results from the rehabilitation trials. Indigenous trees will be used to restore the ecological corridors. Where feasible, they will also be used in the woodlots. Preliminary studies suggest that the following indigenous trees could be used *Securinega perrieri, Givotia madagascariensis, Cedrelopsis grevei, Tetrapterocarpon geayi, Louvanafia mahafaliensis, Mimosa deliculata.* Possible exotic trees include: *Azadirachta indica, Eucalyptus camaludensis, Eucalyptus cerbra, Acacia auriculiformis, Acacia mangeum and Casuarina equisetifolia.*	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.1.3 Replacement strategy
Public Meeting in Ranobe (23 April 2013)	Suitable wood for building purposes should be added to the rehabilitation plan.	Noted. The existing rehabilitation and offset strategy is conceptual. As such it is difficult to say with certainty what tree species will be used at this stage, as this will depend on the results from the rehabilitation trials. Indigenous trees will be used to restore the ecological corridors. Where feasible, they will also be used in the woodlots. Tree species used for woodlots could be species that can be used for both charcoaling and building purposes.	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.1.3 Replacement strategy

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ranobe (23 April 2013)	We require electricity in the village.	Energy generated will be utilised for mining purposes only. The proposed mining activities only require approximately 6 MW for operational purposes. In addition to this the proposed mining activities will occur relatively far from the town of Toliara and various villages thereby making distribution of power from diesel generators unfeasible. Should there be any spare capacity, this may be distributed to local communities in very close proximity to the mining area.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Public Meeting in Ranobe (23 April 2013)	Will there be work for women?	All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role. Women are encouraged to apply for all jobs and will be assessed against the specific requirements for each role. Yes, there will be some work for women.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ranobe (23 April 2013)	Toliara Sands should construct a 2nd road close to Ranobe so that the village would benefit from increased tourism in the area due to the mining project.	Noted. However, it is unlikely that the mining activities will result in an increase in tourism in the area as a result of the mine being developed.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Public Meeting in Ranobe (23 April 2013)	The construction of a hospital in the area should be the priority for Ranobe Village. We have already prepared the land for the construction of this.	Noted. This will be relayed to Toliara Sands. It should be noted that Toliara Sands intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ranobe (23 April 2013)	Malaria is a very big problem within Ranobe. An NGO has supplied residents with mosquito nets and malaria medication, however this was only once off. The nets did assist with the spread of malaria, however there are not enough mosquito nets for everybody in the village.	A recommendation could be made to include health related issues (such as medicine and supplies) into Toliara Sands' social and corporate responsibilities which will only come into effect once the project has been authorised. This will have to be undertaken in conjunction with the Department of Health in the region.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ranobe (23 April 2013)	Bilharzia is also a big problem within the area.	As above.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Ranobe (23 April 2013)	There should be training for women which should include teaching them how to grow legumes.	The project would promote and support some agricultural projects, which would in part supply the mine site with meat and vegetables. Some initiatives may be funded to support the farming production in the mining project area. The project could also support a technical program to improve farming productivity.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Ranobe (23 April 2013)	There is an NGO in the area that has send technicians to teach local residents various agricultural practices. However, these technicians do not teach us anything they only come to have a vacation. How will Toliara Sands prevent this from happening?	All social programmes undertaken by Toliara Sands will be monitored and progress reports will be required from the technicians. In addition to this Toliara Sands have a grievance mechanism in place, should something like this occur you can report it to the company to be rectified.	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Ranobe (23 April 2013)	When will we be compensated?	Residents will be compensated for agricultural land, grazing areas, dwellings, tombs etc. However, the compensation mechanism has not yet been finalised. This will be done as part of the Compensation Plan that will be undertaken for the project and will be initiated towards the end of this year. This is due to the fact that this is heavily reliant on community involvement which is yet to be undertaken. It is important to note that the actual payment of compensation will not start prior to the project being authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsianisiha (23 April 2013)	An inventory has been taken of all the land parcels affected in the area, however to date there have been no compensation for these land parcels.	Toliara Sands is currently doing an inventory only, i.e. identifying relevant land owners and current land use of the areas that will be utilised for construction and mining purposes. Once these land parcels have been identified, Toliara Sands will draft a Compensation Plan in conjunction with the local communities and other relevant stakeholders. No compensation will be paid to the local communities until such time as all authorisations for the proposed project has been received. Once these authorisations have been granted, the compensation process will start. No person/s will be required to vacate their land prior to compensation being received.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities
Public Meeting in Tsianisiha (23 April 2013)	The process is taking too long.	Noted. Unfortunately acquiring various authorizations from a number of Government Departments is a lengthy process. However, these processes ensure that negative impacts related to the proposed project are mitigated adequately and that potential positive impacts are enhanced.	Not relevant to the ESIA
Public Meeting in Tsianisiha (23 April 2013)	Security is a very big problem in the area. There have been numerous cases of murder, tomb raiding, cattle rustling, theft etc. Can Toliara Sands assist with this?	A recommendation could be made to include security related issues into Toliara Sands' social and corporate responsibilities which will only come into effect once the project has been authorised. However, the general security of the region is the responsibility of the Government and therefore cannot be the responsibility of Toliara Sands.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsianisiha (23 April 2013)	All employment positions should be filled by local people not by people from outside of Toliara.	The project is expected to create jobs for approximately 500 people during construction and 250-400 during the operational phase. Preliminary Human Resources studies undertaken by the proponent indicate that it will be possible for the company to source a sufficient number of skilled Malagasy people who have tertiary qualifications and two years of technical work experience. However, most of these may not come from the Toliara District, but will have to be sourced from other parts of Madagascar. These studies do however indicate that at least 30 capable mechanics can be sourced from the south-west region. It is assumed therefore that at least 30 skilled employees can be sourced from the south-west region whereas the remainder (46) will have to be sourced from elsewhere. All unskilled labour will be sourced locally.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Tsianisiha (23 April 2013)	Part of the rehabilitation plan should include edible plants as there are severe food shortages within the area.	The conceptual rehabilitation plan for the proposed mine site suggests that a portion of the mined area will be rehabilitated to agricultural areas.	Volume 14: Rehabilitation and offset strategy
Public Meeting in Tsianisiha (23 April 2013)	How deep will the mining void be?	Approximately 30 m.	Volume 2: EIE mine site, Section 2: Description of the project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsianisiha (23 April 2013)	The abstraction of groundwater will result in the wells in the region drying up.	Modelling of groundwater levels indicates that abstracting water from the limestone aquifer beneath the mining area will not have significant effects on the water levels in the shallow wells near the Manombo River and the coastal marshes and wetlands, which are some distance from the mining area. Nevertheless, water levels in monitoring boreholes and shallow wells will be monitored before mining commences and for the duration of mining operations. Abstraction of water for mining will be optimised to minimise impacts on the water table. If declining water levels are confirmed in shallow wells as a result of mining activities, water supplies to affected water users will be supplemented, or water will be provided from alternative sources until abstraction ceases and water levels recover.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.23 Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsianisiha (23 April 2013)	Will Toliara Sands built a road from Tsianisiha to the mine site for the transport of workers and so that residents in this area can sell their goods there?	Access will be restricted to the area where mining is actively taking place due to certain safety hazards. Therefore it is unlikely that anybody would be allowed to go there to sell their goods. Transport to the site for workers will be provided by Toliara Sands.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Public Meeting in Tsianisiha (23 April 2013)	We require electricity.	Noted. Energy generated will be utilised for mining purposes only. The proposed mining activities only require approximately 6 MW for operational purposes. In addition to this the proposed mining activities will occur relatively far from the town of Toliara and various villages thereby making distribution of power from diesel generators unfeasible. Should there be any spare capacity, this may be distributed to local communities in very close proximity to the mining area.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsianisiha (23 April 2013)	Thank you very much for the pump that Toliara Sands installed at the village. However, this is not enough. We require a bigger pump and a tap.	Noted.	Volume 16: Social Assessment Report
Public Meeting in Tsianisiha (23 April 2013)	How will the allocation of the royalties work?	The mining legislation for Madagascar specifies that 1.4% (which is expected to amount to 70 billion MGA (US$35million) over the 21 year life of the mine) of the total 2% royalties paid by the mine to the government must be given to the Autonomous Provinces, Regions and Communes. This indicates that if the local governance structures exist and function efficiently and transparently, that a portion of these funds will accrue to the Toliara town authorities. This has the potential to increase their capacity to deliver the required services.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.1, 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy, Subsection 7.4.1
Public Meeting in Tsianisiha (23 April 2013)	The royalties are not enough we should get more.	Royalties will be paid in accordance with Madagascar Legislation. The division of these funds are, however, the responsibility of and at the discretion of the Government of Madagascar.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.1, 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy, Subsection 7.4.1
Public Meeting in Tsianisiha (23 April 2013)	The well at the school has been destroyed by the cyclone we need it to be repaired and we also need a pump to be installed.	Noted, the weir on the Manombo River has been damaged as a result of the cyclone. Toliara Sands have temporarily fixed this problem by placing sandbags in the area where the weir has been damaged so that there is still water available in the irrigation canal for crop cultivation. No other commitments can be made at this time other than the fact that this request will be relayed to Toliara Sands for consideration. Toliara Sands' social and corporate responsibilities will only come into effect once the project has been authorised.	Volume 11: Land and natural resource use assessment - Section 3: Water resources - Section 8: Impacts of mining on natural resources; Subsection 8.1: Existing impacts on natural resource - Section 9: Conclusion and recommendations

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Tsianisiha (23 April 2013)	We would like a football and/or basketball field constructed within the village.	There is currently a proposal to commence a project to establish a youth football training program and Toliara Sands youth football league. This project would be undertaken with the assistance of a FIFA representative and the local communities.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Public Meeting in Maromiandra (24 April 2013)	We require a school to be constructed in the area. We also require funding for teachers as the teachers in the area is not well paid.	Noted. Education is critical for the continual development of a country. To date it has been proposed that WTR consider sponsoring the improvement and development of schools in the communes near the Ranobe deposit. This sponsorship could include: • Promoting the training of teachers; • Purchase equipment; and • Develop scholarship opportunities.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Maromiandra (24 April 2013)	We require a hospital in the area that can treat various ailments such as malaria, chest pain, back pain and various diseases that affect children. The mortality rate of children within the area is very high.	A recommendation could be made to include health related issues (such as medicine and supplies) into Toliara Sands' social and corporate responsibilities which will only come into effect once the project has been authorised. This will have to be undertaken in conjunction with the Department of Health in the region. Have you received any assistance with Malaria to date?	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Maromiandra (24 April 2013)	An NGO has supplied residents with mosquito nets and malaria medication, however this has occurred only twice over several years. The nets did assist with the spread of malaria, however there are not enough mosquito nets for everybody in the village.	Noted.	Volume 16: Social Assessment Report
Public Meeting in Maromiandra (24 April 2013)	We used water from wells in the region, however the water in these wells are dirty and infested with mosquitoes. Can Toliara Sands assist with this issue?	Noted. This will be relayed to Toliara Sands. It should be noted that Toliara Sands intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5
Public Meeting in Maromiandra (24 April 2013)	The forest is very important, however so is agriculture. Could Toliara Sands construct an irrigation canal from the Fiherenana River to Maromiandra so that agriculture in the area could be expanded?	Noted. This request will be relayed to Toliara Sands and a recommendation will be made that they inform the Minister of Water of this request. Is there enough available land for agricultural purposes, or would you have to clear the forest?	Volume 11: Land and Natural resource use, Section 3: Water sources; Section 4: Land Use; Section 5: Resource Use; Section 8: Impacts of mining on Natural Resources
Public Meeting in Maromiandra (24 April 2013)	There is enough land available in the area for the purpose of agriculture. The forest would not have to be cleared for this purpose.	Noted.	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.2 Biodiversity offsets

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Maromiandra (24 April 2013)	We have a problem with the forest. It has been proclaimed as a protected area and therefore we are not allowed to harvest from it. However, due to the fact that agriculture is limited (since it is rain-fed agriculture only) we rely on the forest for our livelihoods.	Do you think that it is good that the forest is now a temporary protected area?	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.2 Biodiversity offsets
Public Meeting in Maromiandra (24 April 2013)	We think it is good that the forest is protected, however we rely on it for our livelihoods. If we can expand our agricultural practises we would not utilise the forest as a resource.	Noted.	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.2 Biodiversity offsets
Public Meeting in Maromiandra (24 April 2013)	The water in our wells is decreasing. Sometimes they are completely dry.	Noted.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.23 Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Maromiandra (24 April 2013)	Rain has been coming later in the season and for shorter periods.	Noted.	Not relevant to ESIA
Public Meeting in Maromiandra (24 April 2013)	Will there be jobs for young people between the ages of 15 and 35? This will prevent cattle rustling.	Anybody will be able to apply for work as long as they are over the age of 18. No child labour will be allowed.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Maromiandra (24 April 2013)	Will there be compensation for land, tombs, etc?	Yes, residents will be compensated for agricultural land, grazing areas, dwellings, tombs etc. However, the compensation mechanism has not yet been finalised. This will be done as part of the Compensation Plan that will be undertaken for the project and will be initiated towards the end of this year. This is due to the fact that this is heavily reliant on community involvement which is yet to be undertaken. It is important to note that the actual payment of compensation will not start prior to the project being authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities
Public Meeting in Maromiandra (24 April 2013)	The office in Maromiandra was destroyed by the cyclone. Would Toliara Sands be able to rebuild it?	Yes, Toliara Sands will assist with this.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Maromiandra (24 April 2013)	The communes should also be compensated via taxes and royalties, not only the Government of Madagascar.	Royalties will be paid in accordance with Madagascar Legislation. The division of these funds are, however, the responsibility of and at the discretion of the Government of Madagascar.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.2 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy
Public Meeting in Maromiandra (24 April 2013)	We would like assistance to start a women's association in the villages. We require sewing machines, zebu drawn ploughs for agriculture, insecticides and funding to start small businesses.	Noted. This will be relayed to Toliara Sands. It should be noted that Toliara Sands intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5
Public Meeting in Maromiandra (24 April 2013)	Would the construction of the new haul road result in the destruction of the environment and security within the area?	The position of the preferred haul road option has been adjusted to ensure that minimum damage occurs to areas of high sensitivity in the Ranobe Forest. Therefore only a small portion of indigenous vegetation will have to be removed for the construction of the road. It is unlikely that the construction of the haul road will result in any additional security issues in the area.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan
Public Meeting in Maromiandra (24 April 2013)	There should be training for women which should include teaching them how to grow legumes.	The project would promote and support some agricultural projects, which would in part supply the mine site with meat and vegetables. Some initiatives may be funded to support the farming production in the mining project area. The project could also support a technical program to improve farming productivity.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Maromiandra (24 April 2013)	We require houses for single women.	Noted. This will be relayed to Toliara Sands. It should be noted that Toliara Sands intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5
Public Meeting in Maromiandra (24 April 2013)	Is there a contract in place to ensure that rehabilitation in the area will be undertaken?	According to IFC Guidance Note 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources) the costs associated with reclamation and/or with post-decommissioning activities should be included in business feasibility analyses during the planning and design stages. Minimum considerations should include the availability of all necessary funds, by appropriate financial instruments, to cover the cost of reclamation and project closure at any stage in the project's lifetime, including provision for early or temporary reclamation or closure. Reclamation funding mechanisms are well-established in the mining industry and are described in Section 1.4 of the Environmental, Health and Safety Guidelines for Mining. These guidelines states that for short life mines, a fully detailed Mine Reclamation and Closure Plan (with guaranteed funding) as should be prepared prior to the start of operations.	Refer to biodiversity offset strategy should be something on ps6
Public Meeting in Maromiandra (24 April 2013)	Toliara Sands must supply the area with security during the construction of the new haul road.	It is unlikely that the construction of the haul road will result in any security issues within the area.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan
Public Meeting in Maromiandra (24 April 2013)	There are many old people within the commune that have muscular problems. We require a doctor.	A recommendation could be made to include health related issues (such as medicine and supplies) into Toliara Sands' social and corporate responsibilities which will only come into effect once the project has been authorised. This will have to be undertaken in conjunction with the Department of Health in the region.	Volume 16: Social Assessment Report

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Belalanda (24 April 2013)	The office in Belalanda was destroyed by the cyclone. Would Toliara Sands be able to rebuild it?	The following activities have been sponsored by Toliara Sands to support the collective regional efforts in supporting the restoration of sustainable lifestyles of people affected by the passage of cyclone Haruna in late February 2013, focusing on five towns covered by the Area of Social Influence of the Ranobe Project: 1. The weir on the Manombo River has been damaged as a result of the cyclone. Toliara Sands have donated 2 000 bags for sand filling so that the weir can be temporarily fixed by placing sandbags in the area where the weir has been damaged so that there is still water available in the irrigation canal for crop cultivation. In addition to this, Toliara Sands has donated rice and beans to feed workers during the construction. 2. Toliara Sands has donated fuel to Fokontany Anketraka to assist with the evacuation of stagnant waters, a vector for diseases such as malaria. 3. The rehabilitation of the office in the Commune of Ankilimalinike. 4. The rehabilitation of the office in the Commune of Belalanda. 5. The rehabilitation of the public high school in Mangily. 6. The construction of a causeway in the Commune of Tsianisiha. 7. The rehabilitation of two primary schools in Tsianisiha. 8. The rehabilitation of the office in the Commune of Mariomiandra. No other commitments can be made at this time other than the fact that this request will be relayed to Toliara Sands for consideration. Toliara Sands' social and corporate responsibilities will only come into effect once the project has been authorised.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Belalanda (24 April 2013)	The school in Mangily was destroyed by the cyclone. Would Toliara Sands be able to rebuild it?	Noted. According to members of Toliara Sands funds will be made available for repairs to the school in Mangily.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Public Meeting in Belalanda (24 April 2013)	Toliara Sands have made copies of our ID cards. We also had to sign. Therefore our land now belongs to Toliara Sands. We have not and will not be compensated for our land.	Toliara Sands is currently doing an inventory only, i.e. identifying relevant land owners and current land use of the areas that will be utilised for construction and mining purposes. Once these land parcels have been identified, Toliara Sands will draft a Compensation Plan in conjunction with the local communities and other relevant stakeholders. No compensation will be paid to the local communities until such time as all authorisations for the proposed project has been received. Once these authorisations have been granted, the compensation process will start. No person/s will be required to vacate their land prior to compensation being received.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Belalanda (24 April 2013)	The process is taking too long.	Noted. Acquiring various authorizations from a number of Government Departments is a lengthy process. However, these processes ensure that negative impacts related to the proposed project are mitigated adequately and that potential positive impacts are enhanced.	Not relevant to the ESIA
Public Meeting in Belalanda (24 April 2013)	If the new haul road is fenced our livestock will not be able to cross the road to grazing areas and watering points.	It is not anticipated that the new haul road will be fenced. However, should the proponent decide that fencing will be required there will be designated areas along the haul road where zebu will be able to cross the proposed road.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Public Meeting in Belalanda (24 April 2013)	The women in the commune require sewing machine.	Noted. This will be relayed to Toliara Sands. It should be noted that Toliara Sands intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Belalanda (24 April 2013)	Could Toliara Sands construct an irrigation canal from the Fiherenana River to Belalanda so that agriculture in the area could be expanded?	Noted. This request will be relayed to Toliara Sands and a recommendation will be made that they inform the Minister of Water of this request.	Volume 11: Land and Natural resource use, Section 3: Water sources; Section 4: Land Use; Section 5: Resource Use; Section 8: Impacts of mining on Natural Resources
Public Meeting in Mangily (24 April 2013)	The proposed project will destroy the Ranobe Forest. There is currently an agreement in place with WWF to protect that forest.	We are aware of the fact that the area is considered to be a temporary protected area and that this area was delineated at the request of WWF. A section on the PK32 area was included in the ESIA. However, satellite imagery indicates that in 2006 18% (approximately 29 100 ha) of the PK32 area had been cleared. In 2012 the imagery indicated that this had increased to 31% (approximately 47 500 ha). Over a period of six years, an estimated 18 400 ha or (13%) of the forest in the PK32 area had been cleared and is continuing to be cleared at an alarming rate. Large areas within the proposed mining area as well as along the preferred haul road option have been completely transformed. As a result only a small portion of intact indigenous forest will have to be removed for the proposed project. In addition to this, the mine site will be rehabilitated once mining is complete.	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.2 Biodiversity offsets

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Mangily (24 April 2013)	Will people be compensated for their land?	Yes, residents will be compensated for agricultural land, grazing areas, dwellings, tombs etc. However, the compensation mechanism has not yet been finalised. This will be done as part of the Compensation Plan that will be undertaken for the project and will be initiated towards the end of this year. This is due to the fact that this is heavily reliant on community involvement which is yet to be undertaken. It is important to note that the actual payment of compensation will not start prior to the project being authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Volume 16: Social Assessment Report, Section 7: Mine site Impacts, Section 9: Transfer station and jetty impacts, Section 10: Port site impacts Volume 8: Economic Assessment Report, Section 6: Estimated Economic Impacts on the National Economy, Section 7: Impacts on the Regional Economy, Section 8: Impacts on the Local communities
Public Meeting in Mangily (24 April 2013)	Will there be jobs for young people?	Yes, anybody over the age of 18 will be eligible to apply for work.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Mangily (24 April 2013)	All job vacancies should be filled by local residents.	The project is expected to create jobs for approximately 500 people during construction and 250-400 during the operational phase. Preliminary Human Resources studies undertaken by the proponent indicate that it will be possible for the company to source a sufficient number of skilled Malagasy people who have tertiary qualifications and two years of technical work experience. However, most of these may not come from the Toliara District, but will have to be sourced from other parts of Madagascar. These studies do however indicate that at least 30 capable mechanics can be sourced from the south-west region. It is assumed therefore that at least 30 skilled employees can be sourced from the south-west region whereas the remainder (46) will have to be sourced from elsewhere. All unskilled labour will be sourced locally.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts
Public Meeting in Mangily (24 April 2013)	We require a free hospital in the area. Currently we have to pay for a consultation with a doctor and for medicine.	A recommendation could be made to include health related issues (such as medicine and supplies) into Toliara Sands' social and corporate responsibilities which will only come into effect once the project has been authorised. This will have to be undertaken in conjunction with the Department of Health in the region.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5
Public Meeting in Mangily (24 April 2013)	We think it is good that you will not be utilising the RN9 for transport of the product.	Noted and agreed. Utilisation of the existing RN9 by road trains and large construction vehicles will result in a severe safety hazard to local residents and tourists currently utilising this road.	Volume 3: EIE road and quarry, Section 2: Description of the Project, Subsection 2.3.1
Public Meeting in Mangily (24 April 2013)	There is currently no radio station in Mangily. Can Toliara Sands assist with this?	It is unlikely that Toliara Sands will assist with this, as there are more severe issues within the various communities such as the lack of infrastructure for schools, hospitals, wells, etc.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Mangily (24 April 2013)	There are currently no public toilets in Mangily. Can Toliara Sands assist with this?	Noted. This will be relayed to Toliara Sands. It should be noted that Toliara Sands intends to invest between 1,000,000,000 and 2,000,000,000 MGA per annum in community initiatives. The exact amount will be determined based upon the number of suitable proposals received and the decision on which initiatives are funded will be made in consultation with the community. However, these projects will not start until the project is authorised.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, 3.2.4 Volume 5: Resettlement and compensation action plan, Section 2: Resettlement and compensation action plan, Subsection 2.6.5
Public Meeting in Mangily (24 April 2013)	Could Toliara Sands support our local football team?	There is currently a proposal to commence a project to establish a youth football training program and Toliara Sands youth football league. This project would be undertaken with the assistance of a FIFA representative and the local communities. What support would you require for the local team in Mangily?	Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.8 Volume 3: EIE road and quarry, Section 6: Description of the Social Environment , Subsection 6.1.7 Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Public Meeting in Mangily (24 April 2013)	They require food (i.e. lunch packs) when they go to Toliara for a game, as well as uniforms and football shoes.	Noted.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project
Public Meeting in Mangily (24 April 2013)	Would it be possible to upgrade the RN9?	There is currently a proposal by the Department of Public Works to upgrade and surface the RN9 from Toliara to Mangily. This will not be undertaken by Toliara Sands.	Volume 3: EIE road and quarry, Section 2: Description of the Project, Subsection 2.3.1

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Mangily (24 April 2013)	We need electricity in the villages. The lack of power results in an increase in crime in the area.	Noted. Energy generated will be utilised for mining purposes only. The proposed mining activities only require approximately 6 MW for operational purposes. In addition to this the proposed mining activities will occur relatively far from the town of Toliara and various villages thereby making distribution of power from diesel generators unfeasible. Should there be any spare capacity, this may be distributed to local communities in very close proximity to the mining area.	Volume 2: EIE mine Site, Section 6 Description of the Social Environment Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.11
Public Meeting in Mangily (24 April 2013)	The school in Mangily is too small and needs to be enlarged. We need a minimum of 8 rooms to house all the students.	Noted. Education is critical for the continual development of a country. To date it has been proposed that WTR consider sponsoring the improvement and development of schools in the communes near the Ranobe deposit. This sponsorship could include: • Promoting the training of teachers; • Purchase equipment; and • Develop scholarship opportunities.	Volume 5: Resettlement and compensation action plan Volume 8: Economic Assessment Report Volume 16: Social Assessment Report
Public Meeting in Mangily (24 April 2013)	The proposed project will result in the destruction of the Ranobe Forest.	Satellite imagery indicates that in 2006 18% (approximately 29 100 ha) of the PK32 area had been cleared. In 2012 the imagery indicated that this had increased to 31% (approximately 47 500 ha). Over a period of six years, an estimated 18 400 ha or (13%) of the forest in the PK32 area had been cleared and is continuing to be cleared at an alarming rate. Large areas within the proposed mining area as well as along the preferred haul road option have been completely transformed. As a result only a small portion of intact indigenous forest will have to be removed for the proposed project. In addition to this, the mine site will be rehabilitated once mining is complete.	Volume 14: Rehabilitation and offset strategy - Section 5: Rehabilitation and offset strategy; Sub section 5.2 Biodiversity offsets

	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Mangily (24 April 2013)	Farafatse should be planted as part of the rehabilitation plan.	The importance of *Givotia madagascariensis* (Farafatse) to the various fishing communities for the construction of dug-out boats is outlined in the Land and Natural Resource Use Assessment. It is important to note that the existing rehabilitation and offset strategy is conceptual. As such it is difficult to say with certainty what tree species will be used at this stage, as this will depend on the results from the rehabilitation trials. Indigenous trees will be used to restore the ecological corridors. Where feasible, they will also be used in the woodlots. Tree species used for woodlots could be species that can be used for both charcoaling and building purposes. A stand of *Givortia* could potentially also be included.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
Public Meeting in Mangily (24 April 2013)	Will there be jobs for women?	All positions will be advertised locally and all applicants will be assessed against the specific requirements for each role. Women are encouraged to apply for all jobs and will be assessed against the specific requirements for each role. Yes, there will be some work for women.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.3 Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

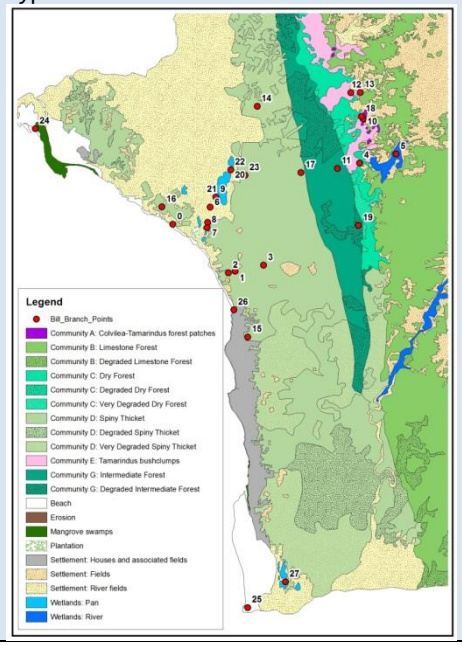
	Questions	Response	CROSS REFERENCE TO RELEVANT SECTION IN ESIA
Public Meeting in Mangily (24 April 2013)	Toliara Sands are going to abstract water from 60-80 m deep. Our wells are only 4 m deep. Therefore the mining process will result in our wells going dry.	Modelling of groundwater levels indicates that abstracting water from the limestone aquifer beneath the mining area will not have significant effects on the water levels in the shallow wells near the Manombo River and the coastal marshes and wetlands, which are some distance from the mining area. Nevertheless, water levels in monitoring boreholes and shallow wells will be monitored before mining commences and for the duration of mining operations. Abstraction of water for mining will be optimised to minimise impacts on the water table. If declining water levels are confirmed in shallow wells as a result of mining activities, water supplies to affected water users will be supplemented, or water will be provided from alternative sources until abstraction ceases and water levels recover.	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, subsection 5.23 Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

Table 1.4: Comments and Response Trail (Post ESIA Disclosure)

Stakeholder	Questions	Response	Cross reference to relevant section in ESIA

Charlie Gardner (WWF)	The specialist reports and ESIA show a very poor understanding of the national and regional conservation context, and in particular the Ranobe PK32 protected area and the GELOSE at Ranobe. The protected area is never correctly named, and the ESIA and several specialist reports (Botanical, Fauna, Land and natural resource use, Social impact) consistently refer to Madagascar National Parks (MNP) as the protected area managers, thus displaying a worrying lack of understanding of the national conservation context – since 2003, organisations other than MNP have been permitted to manage protected areas. The information provided on the Ranobe GELOSE and the Ranobe PK32 protected area appear to date from the original (2006) social impact assessment and a 2009 publication about lemurs, with no attempt apparently made to include current information about either initiative. The various reports also state that the area "is not managed for conservation in any way", which is false. CES's lack of effort in sourcing up-to-date information about existing conservation initiatives run counter to World Titanium Resources' stated company policy (ESIA p.7): "To liaise with government bodies, statutory authorities, local communities and environmental management groups to maintain a proactive stance on environmental issues". This policy is equally applicable to all consultants	An article on the WWF website posted on 20 August 2010 refers to the PK 32 protected area as "*Now threatened is an area of threatened natural spiny forest which received temporary protection status only in December 2008. PK-32 Ranobe, an hour north of regional capital Toliara is co-managed by WWF and an inter-communal association.*" The first time the Ranobe PK32 protected area is mentioned in the ESIA it states: "*The temporarily protected area of PK32-Ranobe (PK32) is one such project.*" Firstly, this is the same terminology used as in the WWF article and secondly it is followed by PK32 in brackets. As with any other acronym this suggests that the PK32-Ranobe protected area will henceforth be referred to as PK32. The ESIA states the following on pg 146: *"…since 2003 the Government of Madagascar has partnered with international organisations such as WWF…"* In addition to this the ESIA also states: "*The area is co-managed by WWF and an inter-communal association, which includes eight rural communes that are organised in a co-management structure (ibid) based on the Gestion Locale Sécurisée (GELOSE), which translated, means 'protecting local management"*. The reports mentioned do not state that MNP is the protected area managers. The reports do however state under the various recommendation sections that: "*These priority areas, especially the Ranobe forest area (as identified within the PK32 area) should be actively managed as a conservation area in partnership with Madagascar National Parks (MNP formerly known as ANGAP = Association Nationale pour la Gestion des Aires Protégées). Additional funding and training would allow for the improved and active management of the area and thus facilitate biodiversity conservation*". It is not unreasonable for the proponent to suggest that any additional funding for the protection of the PK32-Ranobe protected area as part of the biodiversity offset initiative will be given to MNP, since it is a governmental authority within the region. It will then be up to MNP to distribute the funds. Various references were included in the section on the protected area, including: WWF. 2012. In light of the above, the commentator's statement about the "*lack of effort in sourcing up to date information*" is inaccurate. Furthermore, in terms of the WTR initiative, all relevant stakeholders have been informed about the project and all comments have been responded to and/or incorporated into the reports as suggested changes. The ESIA also states: "*It is important to note that the current rehabilitation plan (Figure 15.2) is only a preliminary plan. This will be further refined after disclosure, once input from key stakeholders such as the World Wildlife Foundation (WWF) and Madagascar National Parks (MNP) has been obtained*". All documents have been submitted to key stakeholders on CD to ensure that they are informed and able to comment.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment; Section 6: Description of the Social Environment Volume 3: EIE road and quarry, Section 5: Description of the Biological State of the Environment; Section 6 Description of the Social Environment Volume 7: Botanical specialist report Volume 9: Faunal Baseline Report Volume 11: Land and Natural Resource Use

Charlie Gardner (WWF)	Although the quality varies, the ESIA and specialist reports are poorly compiled and written; often in such a way that it prevents comprehension by the reader (this applies in particular to the Social Impact Assessment and the Faunal Baseline Assessment). Place names are consistently misspelt (so that in many instances the intended locality is unclear), works cited in the text do not appear in the reference list, and inaccurate or false statements appear fairly regularly. Many paragraphs or sections are clearly the result of a 'cut-and-paste' effort from other works, as evidenced by their reference to species which don't occur in the region (e.g. otters, dugong), and sections of the Faunal baseline assessment appear to have been copied verbatim from other works and may thus constitute plagiarism. Further, in some instances the information presented is inconsistent, for example the length of the haul road (option 1 and 2) is variously cited as 35 km or 55km.	Your comments on the quality of the reports are noted. We will ensure that all references are included in the reference list. In terms of the "*inaccurate or false statements",* we are unable to comment on this unless a detailed list of these "*inaccurate or false statements"* is provided to us. If these have been incorporated into the comments provided, then these are addressed below. Various authors have shown that the dugong do indeed occur along the coast of Madagascar. Kiszka (2008) stated that: *"it is clear that several fisheries incidentally catch marine mammals in the region, most notably gillnets catching dugong (Dugong dugon) and coastal dolphins (Tursiops aduncus and Sousa chinensis) in Zanzibar and southwest Madagascar*." According to the World Heritage Convention, one of the key locations for dugong is Andavadoaka – Morombe, situated approximately 100 km north of the Manombo River. It should also be mentioned that dugong is only mentioned once in the ESIA, under subsistence fisheries where it states: "*The principle organisms sought after are finfish (reef fish, mangrove associated species, demersals and pelagics), elasmobranches (sharks, rays and sawfish), marine mammals (dolphins and dugongs), sea turtles, crustaceans (shrimp, lobster and mangrove crab), cephalopods (octopus, squid and cuttlefish), and echinoderms (sea cucumbers and edible urchins).*" In terms of otters, these are mentioned in general terms. The faunal report states that: "*Wetlands also form fragmented and specialised habitats. They are essential breeding grounds for many frogs; serve as feeding grounds for threatened water birds, otters and numerous frog-eating snakes. They are easily impacted by water abstraction, siltation from overgrazing, pollution from urban sewage and industrial waste, insecticide and herbicide run-off from agricultural lands and petroleum spillage on roads*." This is followed by a project specific statement which states: "*The wetlands and drainage lines of the project area remain relatively pristine and still harbour a diverse fauna, particularly of aquatic birds and amphibians*." Plagiarism is a serious accusation and is not taken lightly. For this reason the Faunal Assessment has been incorporated into an online plagiarism checker (www.dustball.com/cs/plagiarism.checker/). The check only found a match with three partial sentences in the faunal report and there is no evidence that whole sections have been copied verbatim. Although the report does draw on information from published sources, where applicable, the original sources have been referenced. Lastly, the ESIA does not mention the length of the haul road (neither does the Faunal or Botanical Assessment). Please clarify where these discrepancies were found so that they may be corrected in the reports.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts

Charlie Gardner (WWF)	The evaluation of haul road options is inadequate on numerous counts. No botanical or faunal fieldwork has been carried out along any of the proposed routes, and it is therefore not possible to evaluate the potential impacts of any option in terms of general biodiversity, species of concern or the maintenance of ecosystem functioning.	This is incorrect. The botanical Assessment clearly states that: "*Sample plots were taken along the proposed haul road route and the sample area was surveyed rapidly in order to determine the presence of vegetation types defined by the original analysis. Sensitivity was also noted at these points, to assist in the development of a vegetation sensitivity map*." In addition to this a random stratified sampling approach was taken, where plot surveys were undertaken in specific habitat types within potentially affected areas. In this way the time available was used much more efficiently than in random sampling and it enabled the specialist to make assumptions about the areas not covered. In terms of the Faunal Assessment please note that a faunal survey was undertaken for the previous ESIA undertaken for the larger dredge mining operation in 2006. Habitat associations of the fauna were scored for the vegetation categories identified in the survey of Ranobe Forest region (Thomas and Kidney, 2005c), i.e. Riparian Forest, Spiny Forest and Dense Dry Forest, and for a number of intermediate and degraded habitats (i.e. Spiny thicket, open, and grassland). Species linked to water were also noted. The map below shows that although no faunal survey was undertaken in the area of the haul road, faunal surveys were done within each of the identified habitat types. This enabled the specialist to make assumptions in regards to the faunal diversity within areas not surveyed. This is considered to be adequate for impact assessment, since the data is obtained from multiple sampling points within each habitat type. 	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 7: Botanical Specialist report, Section 1: Introduction; Section 4: Vegetation composition Volume 9: Faunal Baseline Report Volume 16: Social Assessment Report, Section 8: Haul Road impacts

Charlie Gardner (WWF)	Further, there is no evaluation of the long-term economic benefits of the three haul road options, despite WWF and other stakeholders suggesting that the potential contribution of the haul road to future economic development of the region should be considered an important criterion in the selection of options.	It is important to reiterate that the proposed haul road will not, and has never been intended to; cater for public or general vehicular traffic. For public health and safety risk reasons this has always been the stated case. Thus, the haul road brings no economic benefits for any of the route alternatives. As such, any economic evaluation will not add any value to the decision making process as it will be premised on the assumption that the road will be a public road which is not the case.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Charlie Gardner (WWF)	The impacts of future climate change, during and beyond the life of the project, are not taken into consideration in any of the specialist reports nor the ESIA, yet climate change can be reasonably expected to impact both the biophysical and social environment of the mine during the project timeframe. In particular, the integration of climate change impacts into the water availability assessments should be considered essential.	In its entirety, Chapter 10 of the ESIA focuses on the relevance of climate change to the project. In particular, the chapter discusses the reduced availability of water, loss of ecosystem goods and services, energy consumption, health impacts and the cumulative impact on the marine environment. The chapter was structured to comply with the climate change elements of the IFC Performance Standards, including the requirement of PS4 to "…*identify those risks and potential impacts on priority ecosystem services that may be exacerbated by climate change*".	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment; Subsection 4.1

Charlie Gardner (WWF)	The ESIA consistently misrepresents the findings of the Water Assessment (Aquaterre 2012), stating that since anticipated water consumption is about an order of magnitude lower than anticipated for the previous mining plan, then anticipated abstraction rates can be assumed to be sustainable on the basis that previous studies showed the Eocene aquifer to be capable to supplying this (larger) demand. For example, section 10.3.1 of the ESIA states that "Specialist studies determined that this abstraction is both environmentally and socially sustainable under prevailing climatic conditions (Aquaterre 2012)". In fact the Water Assessment highlights no fewer than 20 methodological weaknesses of the previous studies, suggesting that they are inadequate and do not provide sufficient information on which to reliably assess the impacts of water abstraction, even at significantly lower rates. The authors therefore recommend that further, more accurate research be carried out before impacts can be fully ascertained, particularly since the impacts of water abstraction may be felt by all water users in the landscape. The consistent misrepresentation of these findings gives reason to doubt the independence of the ESIA compilers.	Section 4.1.1 - Deep Limestone Aquifer (in section 4.1 - Water Resources) - of the Water Assessment (Aquaterre 2013) states that "*The water requirement for the new project design is 560 m^3/hr (0.156 m^3/s) which is below the most conservative renewable resource estimates associated with the mean annual rainfall. Based upon this assessment, there is high confidence that water requirement could be globally satisfied without depleting the aquifer on average*." This accords with similar statements about the adequacy of the reliable yield of the Eocene aquifer to meet the dry mining water requirements in the ESIA (sections 4.5.1 and 7.2), which were derived from the results of the previous studies. The commentator appears to have confused statements in the ESIA about the mine water requirements with Aquaterre's statement about the adequacy of the yield of the Eocene aquifer to meet the mine's water requirements: these are two very different things. ESIA section 7.2 compares the water requirements for wet mining (45 000 to 68 000 m^3/day over a 30-year period) with those for dry mining (13 500 m^3/day over a 21-year period). This is not "*about an order of magnitude*", and it is not stated as such anywhere in the ESIA. Aquaterre (2013), on the other hand, state in section 4.1.1 of the Water Assessment that "*This yield (of the Eocene aquifer) is also 10 times below the simulated abstraction over 40 years*." With regard to the "*20 methodological weaknesses of the previous studies*", it is not uncommon for there to be differences of opinion among specialists, particularly in fields of expertise such as geohydrology, where neither the resource under investigation nor its boundary conditions can be seen in their entirety. As noted previously the Water Assessment (Aquaterre 2013)) compares the results of hydrogeological modelling by SRK (2007) and Rison (2008). In developing a geohydrological model Rison (2008) also reviewed the results of SRK's study, and commented that, in their opinion " … the SRK hydrogeological model was incomplete for the following reasons: (1) The use of the surface catchment divide to the east of the mineralized area is not a definitive groundwater model boundary; (2) The use of the Manombo River may be in question as a constant head boundary; (3) The tailings losses which are anticipated to be far greater than water losses from the dredge pond were not included in the scope of work". Also as noted previously it is recommended in the ESIA, and accepted by WTR, that the impacts of water abstraction on the surface and groundwater resources of the area will be re-modelled during the detailed design of the wellfield, before mining activities commence. We therefore dispute the commentator's allegations that "*the ESIA consistently misrepresents the findings of the Water Assessment (Aquaterre 2012 (sic))".* We assume that the commentator's remarks about CES's lack of independence are intended to mean that we have favoured the developer in our assessment of the impacts of the project. It is clearly stated in the ESIA that the impacts of groundwater abstraction set out in the ESIA were based on the results of Rison's 2008 modelling. Aquaterre (2013), in section 3.1.2, note that the drawdowns predicted by Rison were considerably higher than those arising from SRK's 2007 modelling. Accordingly we do not understand how this very conservative approach to impact assessment, in which the most pessimistic predictions of the mine's impacts on water resources were used as the basis of assessing the impacts, can be interpreted as arising from a lack of independence on CES's part. If the commentator has reason to doubt CES's credentials as an independent environmental consultant, and can substantiate his implied assertion that we	Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section 4: Description of the physical state of the environment; Subsection 4.3 Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 20: Water Assessment, Section 3: Review of Previous work and Implications for Scale of Current Project; Section 4: Implications for the current project scale

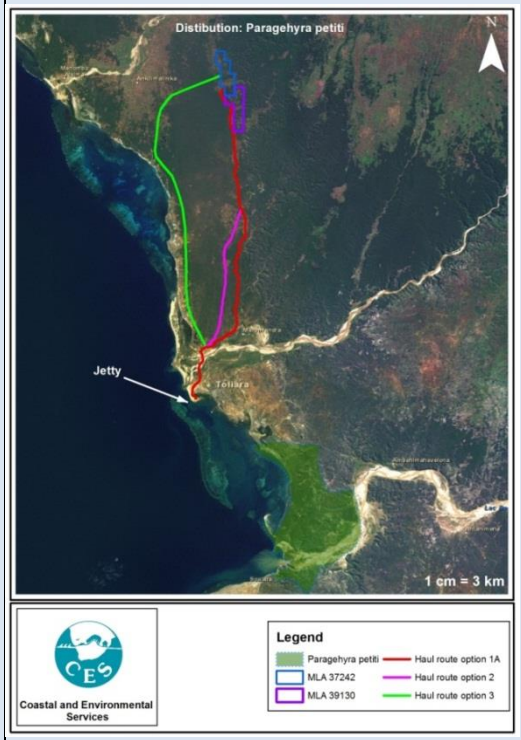
Charlie Gardner (WWF)	The impact assessment methodology does not appear to have been reliably and consistently applied. For example, in section 7.2.3 of the Social Impact Assessment an impact score of 12 is presented as a 'moderate' impact, when the methodology used clearly states that a score of 12 constitutes a 'high' impact. Other impact assessments in this same document contain errors of basic addition, i.e. the total scores reported do not equal the sum of the constituent scores. Unfortunately the full impact scores are not made available in the majority of the specialist reports, and it is therefore not possible to assess how widespread such errors may be: nevertheless, we have reason to doubt the accuracy of all impact assessments included in the specialist reports and ESIA.	This was an administrative error. Unfortunately a previous draft of the report had been uploaded. This has been amended and the correct version has been uploaded to the CES website for review. (www.cesnet.co.za – public documents) As a result all other assessments have been checked and are deemed to be correct.	Volume 16: Social Assessment Report, Section 7: Mine site impacts, Section 8: Haul Road impacts, Section 9: Transfer station and Jetty impacts, Section 10: Port site impacts

Charlie Gardner (WWF)	No specialist study has been carried out on the historical and archaeological importance of the project area. During public consultations related to the scoping process in 2012, CES asked stakeholders for their opinion on the necessity of additional specialist studies, and a request was made for a specialist study on historical and archaeological features. This study has not been conducted, and no satisfactory explanation is provided for its absence.	Two additional studies have been undertaken since disclosure in April of 2013: 1. The Mikea People 2. Archaeology of the area These two reports have been summarised and included in Section 6.16 Cultural Assists and Customs of the ESIR.	Volume 2: EIE mine Site, Section 6: Description of the Social Environment Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report

Charlie Gardner (WWF)	The Faunal Baseline Assessment is poorly researched and is missing much relevant material, and as a result fails to sufficiently account for many of the most important faunal elements occurring in the project area. More worryingly, the authors appear confused by the material that they do cite and consistently present the same information multiple times as if it represents different studies. The cited studies Gardner et al 2009a (on birds) and Gardner et al 2009b (on lemurs) are peer-reviewed publications derived from the unpublished report Frontier-Madagascar 2006, and thus contain the same data, yet are presented as representing different research. The author's confusion results in a lack of clarity for the reader, and results in the misleading impression that much research has been carried out, which is not the case. Further, no fieldwork was carried out in the development of the report, which is thus inadequate for conducting impact assessments on many of the issues contained within	It is assumed that the section referred to by the commentator is: "*Previously, few detailed regional faunal surveys had been published for the region, and much of that was reviewed in the inventory of the southern Mikea region (Frontier–Madagascar 2006) and in Branch (2007). Additional information is now available following recent avifaunal (Gardner 2009; Gardner et al. 2012), herpetofaunal (Toliara, Gardner & Jasper 2009; lower Onilahy River valley, d'Cruze et al. 2009), and lemur (Gardner & Jasper, 2009; Gardner et al. 2009) surveys in the region*". As can be seen from the above, another paper on birds (Gardner et al. 2012) is also referred to. In addition to this various other sources are named in the section on birds, including the following: Nicoll and Langrand 1989; Goodman *et al.* 1997; Hawkins *et al.* 1998; Stattersfield *et al.* 1998; Seddon *et al.*, 2000; Branch 2002; Goodman *et al.*, 2002; Sinclair and Langrand 2003; Kidney and Thomas 2005; Branch 2007 and Birdlife 2011. Furthermore, Gardner *et al.,* 2009 is only referenced once in the section on birds and Frontier-Madagascar not at all. Lastly even though the paper produced by Gardner *et al.,* 2009 is derived from the unpublished report Frontier-Madagascar 2006, it does indeed contain additional information. The Frontier-Madagascar Report provides a short, general discussion on the findings of the data (1.5 pages), however the paper by Gardner has a more detailed discussion double its length (i.e. 3 pages). The same can be said for the section on lemurs and discussed for the birds above. Please note that a faunal survey was undertaken for the previous ESIA undertaken for the larger dredge mining operation in 2006. Habitat associations of the fauna were scored for the vegetation categories identified in the survey of Ranobe Forest region (Thomas and Kidney, 2005c), i.e. Riparian Forest, Spiny Forest and Dense Dry Forest, and for a number of intermediate and degraded habitats (i.e. Spiny thicket, open, and grassland). Species linked to water were also noted. Although no faunal survey was undertaken in the area of the haul road, faunal surveys were done within each of the identified habitat types. This enables the specialist to make assumptions in regards to the faunal diversity within areas not surveyed. This is considered to be adequate for impact assessment, since the data is obtained from multiple sampling points within each habitat type.	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity

Charlie Gardner (WWF)	P. 5 (3.2) of the Faunal Baseline Assessment: The analysis of regional biodiversity is poor and inaccurate, for example there are at least 10 species of lemur in the region, not six as stated. This section also uses taxonomy that is at least 10 years out of date (*Propithecus v. verreauxi*).	Nowhere in the section on lemurs is it stated that only six species of lemurs occur in the region. The faunal assessment states that: "*Gardner et al. (2009) conducted the first comprehensive lemur survey of the Fiherenana - Manombo Complex (Atsimo - Andrefana Region), site of PK32-Ranobe Protected Area. The survey revealed the presence of eight lemur species (seven genera and four families), of which three were diurnal and five nocturnal. Six species were only recorded in the riparian and transitional forests of the Fiherenana and Manombo river valleys, while the spiny thicket at Ranobe contained only two mouse lemur (Microcebus species). All larger species had been extirpated by hunting in recent years, and the rarity and probable loss of Ring-tailed lemurs in the region was noted. Two records, Mirza coquereli and Cheirogaleus sp., represent new range extensions*." In addition to this, the information contained in this section is based on published literature. Verreaux's sifaka is referred to in the faunal assessment as *Propithecus verreauxi*. There has been no evidence that this species has undergone a name change and it is used on the ICUN database and in the species list of Gardner *et al.* 2009.	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity

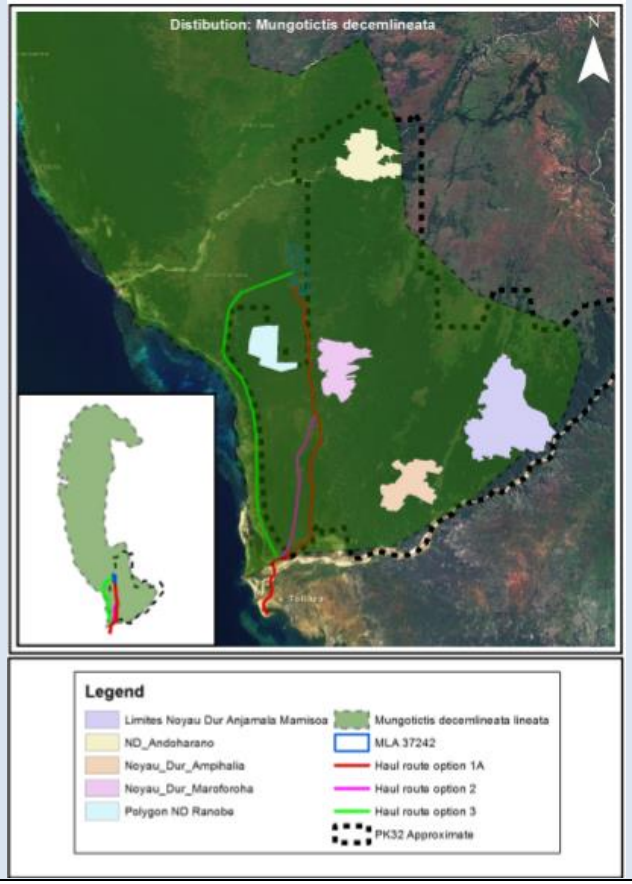
Charlie Gardner (WWF)	P. 6 (3.3.3) of the Faunal Baseline Assessment: By its own admission, the fieldwork on which the assessment of frogs on the project site was based was carried out at the wrong time of year for surveying frogs, which had ceased reproduction and dispersed when it was carried out. It is therefore inappropriate for ascertaining the frog diversity of the mine site.	The study was conducted at the end of the wet season, when faunal activity is good, allowing visual surveys to be undertaken onsite and in adjacent regions. Despite the sampling only finding 2 species, numerous scientific papers and other information are available for amphibians in the region. In addition to this the amphibian diversity within the region is limited as shown by the Faunal Assessment: "*The Spiny Forest ecosystem falls in a semi-arid region with consequent low amphibian diversity. Only six amphibian species were discovered during an intensive herpetological survey in the northern Mikea Forest, including Ptychadena mascareniensis, Laliostoma labrosum, Boophis tephraeomystax, Scaphiophryne brevis, S. calcarata, and Heterixalus luteostriatus (Raselimanana, 2004). All of these, except Heterixalus luteostriatus and Boophis albilabris occidentalis (Manombo), Mantella expectata and Mantidactylus curtus (Fiherenana), were recorded during the herpetofaunal survey of the Ranobe Forest region (Thomas and Kidney, 2005a). The richest local amphibian fauna (7 species) occurred in association with patches of riparian forest in the Fiherenana River, with only four species (Ptychadena mascareniensis, Laliostoma labrosum, Boophis tephraeomystax and Scaphiophryne brevis) recorded from the Ranobe Lake region. A detailed herpetofaunal survey of wetland habitats associated with the lower Onilahy River valley, D'Cruze et al. (2009) over five 10-week periods again recorded only six amphibians."* In addition to this the faunal report also states: *"Most amphibians in the Mikea region are wide-ranging species, some adapting well to human disturbance. Of the eight species recorded in the study region none are strictly endemic, and only one is considered threatened*." Lastly, no infrastructure will be constructed on any wetland areas and there are no wetlands within the proposed mine path, thus no direct impact on frog habitat and breeding grounds is anticipated. Thus based on the above it is believed that the site visit in conjunction with available information on the area was sufficient to assess the potential impact on amphibians diversity within the overall project area.	Volume 9: Faunal Baseline Assessment, Section 2: Methodology; Section 3: Faunal Diversity

Charlie Gardner (WWF)	P. 7 (3.4.3) of the Faunal Baseline Assessment: The list of threatened reptiles within the region is far from complete: IUCN Red List species recorded from the region but not mentioned in the report include *Matoatoa brevipes* (VU), *Paragehyra petiti* (VU), *Paroedura androyensis* (VU), *Trachylepis dumasi* (VU), *Voeltzkowia petiti* (NT), *Tracheloptychus petersi* (VU), *Zonosaurus quadrilineatus* (VU), *Furcifer antimena* (VU), and *Lycodryas inornatus* (VU).	According to the IUCN website, the distribution of *Paragehyra petiti* (VU) and *Paroedura androyensis* (VU), does not transect the proposed study area but occur south of Toliara (see maps included below). The remainder of the species have been incorporated into the faunal assessment, and the author thanks Mr Gardner for providing this data.  	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity

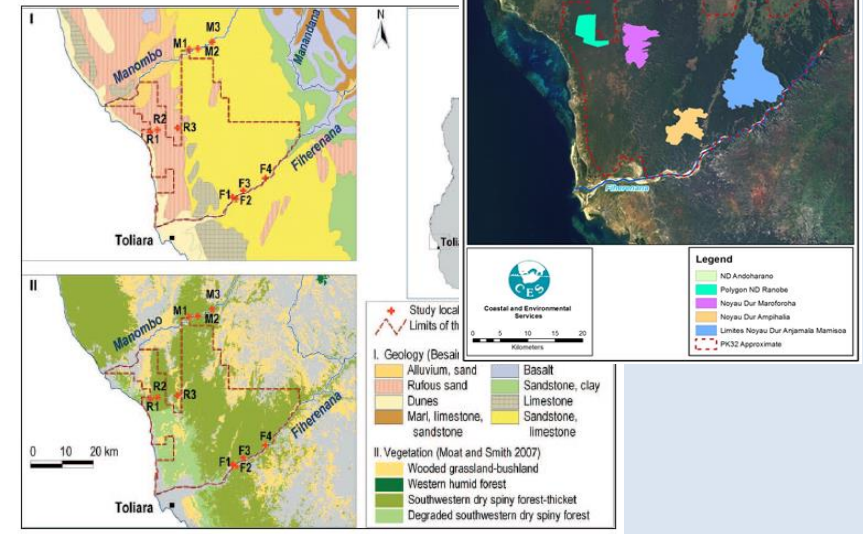
Charlie Gardner (WWF)	Although topsoil will be removed and stored as part of the mining process, the Faunal Baseline Assessment makes no mention of the suite of fossorial reptile species, many of which are locally endemic, that inhabit this topsoil (including the skink and snake genera *Voeltzkowia*, *Pygomeles*, *Androngo*, *Madascincus*, *Liophidium* and *Typhlops*), and does not provide an impact assessment for these species.	The report accounts for burrowing species in the regional surveys section. The specialist also describes the species which were found on the ground. A number of the species mentioned by the commentator were found on site during the field surveys undertaken in 2002 and 2006. These include but are not limited to: *Voeltzkowia petiti* (Ranobe Forest) *Voeltzkowia rubrocaudata* (Ranobe Lake) *Pygomeles branconnieri* (Ifaty), *Typhlops arenarius* (Ranobe Lake and Ranobe Forest). A species list has been incorporated into the faunal assessment. The faunal impact assessment addresses the impact of the loss of reptile species, this account for ALL species of reptiles. The specialist cannot assess each individual species, as this would have to be expanded across all the taxa, thereby amounting to an over assessment of impacts, and the value of the work would be lost in detail. The EIA is designed to guide decision makers with expert opinion, and if the impacts are unpacked too much, the specialist report will become incomprehensible.	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity; Appendix 2

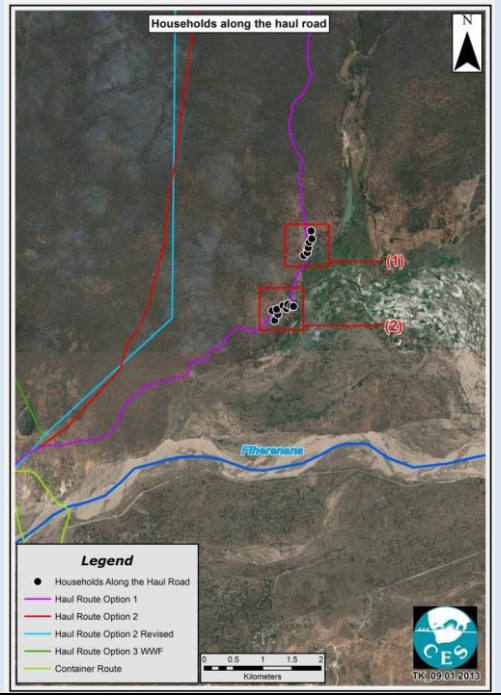
Charlie Gardner (WWF)	P. 12 (3.5.4) of the Faunal Baseline Assessment: The section on threatened birds does not sufficiently highlight the importance of the long-tailed ground-roller (*Uratelornis chimaera*) and subdesert mesite (*Monias benschi*), two bird species known to occur in the project area that are A) classed as Vulnerable to extinction by the IUCN, B) only occur in two protected areas (Mikea and Ranobe PK32), and C) are globally unique, both being the only member of their genus and representing families (the Brachypteraciidae and Mesitornithidae, respectively) that are entirely endemic to Madagascar. The existence of these species has led to the Mikea subregion (of which the project area forms part) being labelled as the supreme priority for Africa in terms of conserving the genetic diversity of birds (ZICOMA 1999). Given the global importance of these species, the potential impacts of the Ranobe mine on these species should be specifically investigated and assessed.	These two species inhabit and are restricted to the deciduous spiny forest (an IUCN priority ecoregion) and coastal scrub found in this part of Madagascar. However, this area has been subjected to land use practices such as slash and burn agriculture and natural resource harvesting, particularly of forest products such as wood (for construction and charcoal production. This exploitation has led to negative consequences for ecosystem functioning and biodiversity in the region. It has been estimated that the primary spiny forest cover has declined by 15.6% between 1962 and 1999, although in the eastern part of this species' range, it has declined by c.28% (Seddon et al. 2000; Tobias and Seddon 2002) and this trend has increased in recent years with the increase in the human population in the area. As part of a WWF initiative to afford this area, and the endemic birds species present, some protection the PK 32 Ranobe Protected Area (PA) was established. The aim of the project was to attempt to minimize these threats by strengthening forest law enforcement, while supporting the development of alternative activities for the people who depend most on these natural resources for their livelihoods. However, it was observed during the baseline vegetation assessment (CES 2013) that the human impacts have continued unabated resulting in the loss of large numbers of both hard and softwood trees throughout the entire project area. This degradation is occurring at an extremely rapid pace. The original study done in 2007 indicated the presence of areas of intact vegetation both within and surrounding the Ranobe Exploration Area, in 2012 however, this is no longer the case. The majority of the vegetation is degraded leaving only very few isolated patches of relatively intact vegetation. Estimates from recent satellite imagery show that over a period of 6 years 18 400 ha of vegetation has been cleared. In 2006, 18% of the PK32 area had been cleared compared to 2012 where 31% of the area had been cleared. It is clear that degradation has occurred during this time period and it will continue at an accelerated rate in the coming years. The populations of the subdesert mesite (*Monias benschi*) and long-tailed ground roller (*Uratelornis chimaera*) are at most risk from habitat destruction and while the PK 32 protected area has been established it does not appear to have been successful at protecting the remaining habitat of the subdesert mesite and long-tailed ground roller numbers. The construction of the proposed heavy minerals mining project will see the destruction of a small proportion of the sensitive vegetation inhabited by both the subdesert mesite and the long-tailed ground roller and these potential impacts have been recognised and highlighted in the faunal report (Branch 2013). In recognition of the importance of these species and the sensitivity of the local habitat, it is proposed that prior to any mine development and construction baseline monitoring of birds within the project area is undertaken. The results of this assessment may help illustrate the potential impact of the development on these bird species but also aid in designing and establishing biodiversity offsets which, in the long term, may act to preserve some of the habitat occupied by these species.	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity; Section 5: Protected areas network; Section 6: Impact Assessment

Charlie Gardner (WWF)	P. 14 (3.6.2) of the Faunal Baseline Assessment: This section falsely states that Verreaux's sifaka is a member of the family Lemuridae, when it is in fact Indriidae. There are also three, not two, diurnal lemurs in the region – *Eulemur rufifrons* has also been recorded (in literature that has been cited in the same paragraph).	The section referred to in the faunal assessment is as follows: "*Only two large true lemurs (Lemuridae) occur in the Toliara Region, and nowhere are they now abundant*." This statement is correct as both *Lemur catta* and *Eulemur rufifrons* are true lemur species. The section then goes on to say: "*Both the Ring-tailed lemur (Lemur catta) and Verreaux's sifaka (Propithecus verreauxi) are recorded from the Mikea forest (Seddon et al., 2000) and Parc National de Tsimanampetsotsa (Goodman et al., 2002), but in neither locality were they common*." Nowhere in the report does it specifically state that Verreaux's sifaka is a member of the Lemuridae family. However, it is noted that this section may be read to infer this and has therefore been reworded. In terms of the statement from the commentator that: "*There are also three, not two, diurnal lemurs in the region – Eulemur rufifrons has also been recorded (in literature that has been cited in the same paragraph)*." Please note that nowhere in the report does it state that there are only 2 diurnal species in the region. In fact the report states: "*The survey revealed the presence of eight lemur species (seven genera and four families), of which three were diurnal and five nocturnal*."	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity

Charlie Gardner (WWF)	P. 16 (3.6.4) of the Faunal Baseline Assessment: Insufficient attention is paid to *Mungotictis decemlineata lineata*, which is in the course of being described as a full species (S. Goodman pers. comm.). There is no evidence that the species occurs outside of the Fiherenana-Manombo landscape, and it probably therefore occurs in no protected areas other than Ranobe PK32. Its small extent of occurrence almost certainly qualify it for 'Endangered' status or higher on the IUCN Red List. Anecdotal evidence (villager interviews) suggests that this species may occur in the mine site, and this should therefore be considered a focal species during analysis of potential faunal impacts. The impacts of the mine on this species should be specifically investigated and assessed.	This species has a distribution area of 732,331 ha according to the shapefile obtained from IUCN. The size of the mine project area which will impact on the distribution of this species is 531 ha (455 ha = mine site and 76 ha = haul road). This equates to <1 % of the total distribution of the species. Considering the high impacts of the no-go option, it is likely that this species will be extirpated through habitat loss from local deforestation. While the mine area only equates to <1 % of the distribution, it is intended that as an offset programme, the mine will assist financially in the management of one or more of the WWF priority areas (which are larger than 455 ha) within the PK32 informal protected area (which has a total area of approximately 150,000 ha), thereby not only securing the precious habitat of this species, but also assisting other species which rely on the habitats found within the priority areas. In light of this, the mine will be contributing to the long term survival of the (sub) species *Mungotictis decemlineata lineata.* The associated figure visually represents the above.  	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity

Charlie Gardner (WWF)	P. 17 (4.) of the Faunal Baseline Assessment: Much of the text of this chapter on sensitive habitats is almost entirely irrelevant, being focused on the degradation tolerance of carnivores in the rainforests of eastern Madagascar and bat roosts outside of the study area. The chapter contains no useful information about, or analysis of, the sensitivity of habitats or species of the project area, even though some literature about the sensitivity of these habitats and species exists.	This Chapter also states that: "*The Spiny Forest Ecoregion in southwestern Madagascar, one of the World Wide Fund for Nature (WWF) priority ecoregions, includes some of the biologically richest drylands on Earth. The dominant landform features of the Ranobe Forest region are the bands of different habitats that lie roughly parallel between the coastline in the west and the calcareous plateau in the east. A dry deciduous forest, dominated by tall Adansonia za, lies on this escarpment, with Spiny forest occurring on the sandy plains towards the coast. There is also a rich variety of wetland habitats, and narrow strips of riparian forest along both the Manombo and Fiherenana rivers. These are considered areas of high biodiversity and function as important wildlife corridors*." This Chapter is a short one page description of the spiny forest, rainforests and bat roosts. A detailed description of the area (including sensitivity and endemicity of species therein) is included in the Chapter preceding the one mentioned by the commentator.	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity; Section 4: Sensitive habitats; Section 5: Protected areas network

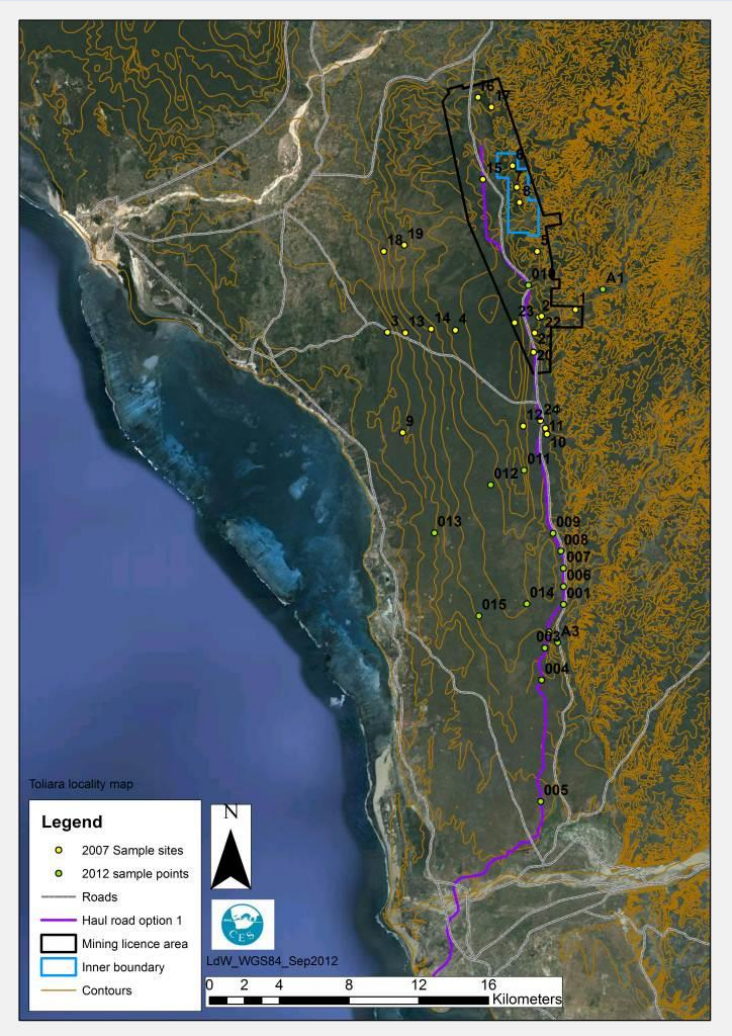
Charlie Gardner (WWF)	P. 18-20 of the Faunal Baseline Assessment: This chapter displays a worrying lack of understanding about the Ranobe PK32 protected area and the wider conservation context, as detailed above (general comments). It states that the PA is created by Arrêté Interministériel N° 21482-2008 rather than the more recent Arrêté Interministériel N° 52005-2010, and that it has a surface area of 77, 851 ha rather than the proposed 148, 553 ha.	The PK32 protected area has been digitised directly from maps, since we have been unable to source a shapefile for the PK32 protected area. As a result our mapping is approximate and therefore we did not use our calculations in the ESIA but rather relied on available scientific research to provide the area of PK32. This information was sourced from a paper written by the commentator and quoted in the Faunal Assessment as follows: Gardner et al. (2009) note: *"Since 2005 the site has been the focus of a WWF – promoted initiative to establish an IUCN Category V protected area within the Système des Aires Protégées de Madagascar (SAPM, Madagascar Protected Area System). A co–management model was proposed for the future Protected Area (PA), and the inter-communal association MITOIMAFI created to regroup the eight rural communes that would be implicated in the proposed PA into a community co-management structure. A Demande de Protection Temporaire (request for temporary protection) for a protected area of 287,350 ha was submitted by WWF in 2007, but due to conflicts with three mining concessions or exploration areas, an Arrêté de Protection Temporaire (n° 21482-2008 / MEFT / MAEP / MEM / MRFDAT) was not granted until 2 December 2008. This decree granted temporary protected status to an area of 77,851 ha centred on the Mikoboka Plateau, composed almost entirely of spiny thicket on limestone habitat. As of January 2009 WWF are seeking to extend the limits of this protected area to include additional habitats not included within the Arrêté de Protection Temporaire (Anitry N. Ratsifandrihamanana, pers. com.)."* If any additional areas have been incorporated into the PK32 protected area since 2009, please be so kind as to let us know and we will then incorporate this information into the ESIA. However, based on the images below (from Gardner *et al.,* 2009 (left) and our own mapping (right). This does not seem to be the case. 	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity; Section 4: Sensitive habitats; Section 5: Protected areas network

Charlie Gardner (WWF)	P. 37 (6.4.1) of the Faunal Baseline Assessment: The report states that haul road option 1 will limit disturbance to the forest because the 'Toliara track' already exists and already constitutes a barrier to migration for animals. In reality the 'Toliara track' is an unsurfaced ox-cart track that is rarely if ever used by motorised vehicles other than those of Toliara Sands, and barely exceeds 3m in width at its widest – as such, it presents no more of a barrier than several other tracks that traverse this block of forest. No evidence is presented to support the view that it already constitutes a barrier to migration, and it is worrying that the authors of this assessment are prepared to make such statements without any evidence to support them. To suggest that a 15m wide road carrying frequent road trains does not constitute a greater barrier than the existing track is false.	The Toliara Track is an area of high human activity. This includes but is not limited to utilisation by ox carts and pedestrians, settlements alongside the road, burning of wood for charcoaling purposes, harvesting of natural resources. Proof of this has been provided below (map on the left shows the households identified a long haul road option 1 i.e. the existing Toliara Track, the photographs on the right shows various stages of charcoaling occurring along the Toliara track (GPS co-ordinates are available if required). It is true that a track that is unsurfaced and relatively narrow may not provide a barrier to migration: however, when associated with high levels of human activity this does become a barrier to migration, since animals will be deterred by high levels of activity. The faunal report does not "*suggest that a 15 m wide road carrying frequent road trains does not constitute a greater barrier than the existing track*". In fact it states in the Executive Summary, as well as on pg 41: "*Options 1 and 2 use (in part) existing tracks that already form a barrier to animal migration. However, upgrading of these tracks would create a more significant barrier through the middle of the spiny forest, with significant loss and increased fragmentation of habitat. It would also allow the possibility of greater access to the forest for local people that would likely lead to greater natural resource extraction*." In addition to this, the section quoted by the commentator is directly followed by: "*Options 1 and 2 both traverse significant regions of spiny forest, albeit that areas are already degraded. They would allow greater access to the forest for local people to continue the existing unsustainable natural resource extraction (see discussion of existing impacts, Branch 2007).*"  	Volume 9: Faunal Baseline Assessment, Section 6: Impact Assessment, Section 7: Conclusions

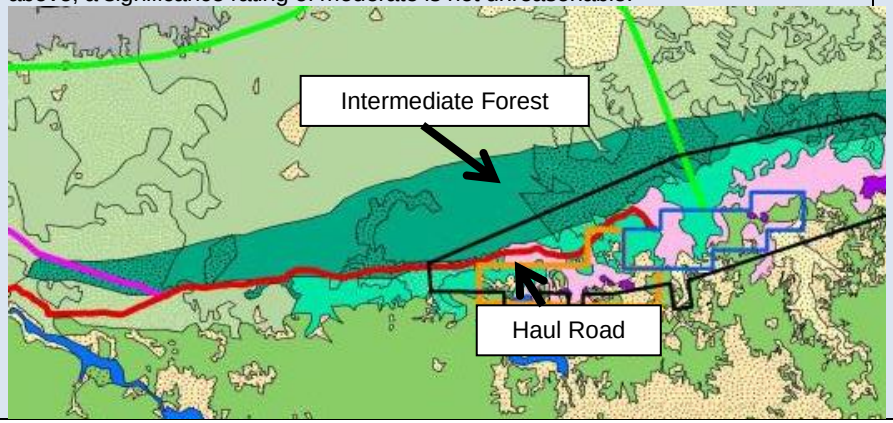
Charlie Gardner (WWF)	p. 39 (6.4.3 Pipeline options) of the Faunal Baseline Assessment: The analysis of pipeline options makes no mention of the possible impacts of option 3 on coastal birds, for which Toliara harbour is an important feeding area. The majority of these species are migratory, which may be significant given that Madagascar is a signatory to the Convention on the Conservation of Migratory Species of Wild Animals. We suggest that the potential impact of pipeline option 3 on migratory birds be investigated and assessed.	Since the preferred option is to construct the MSP at the mine site and not at the Port of Toliara (which invalidates the need for the pipeline), the importance of this comment is reduced. In addition to this, should the pipeline be constructed it would be buried and thus will have no impact on coastal birds during the operational phase of the project. This is stated in the faunal assessment: "*As the pipeline is either buried or passes underwater across the lagoon it will have little effect on the terrestrial fauna in the operational phase.*" Furthermore the faunal assessment also states that: "*Impacts relating to the construction phase will occur mainly in existing badly degraded areas and will have little additional negative impact on the depauperate faunal diversity remaining in the area.*" In addition to this, the baseline monitoring data for birds will highlight breeding periods for various species, and it is possible to ensure that construction of the short section of pipeline that is anticipated to cross the dune area be limited to time periods when breeding does not occur.	Volume 9: Faunal Baseline Assessment, Section 6: Impact Assessment
Charlie Gardner (WWF)	6.4.5 (Impact 1 and Impact 2) of the Faunal Baseline Assessment: The assessment of haul road options is oversimplified and inadequate. No field research was undertaken and thus no data are available with which to evaluate the relative importance of the three haul road options for either general biodiversity or species of conservation concern.	Please note that a faunal survey was undertaken for the previous ESIA undertaken for the larger dredge mining operation in 2006. Habitat associations of the fauna were scored for the vegetation categories identified in the survey of Ranobe Forest region (Thomas and Kidney, 2005c), i.e. Riparian Forest, Spiny Forest and Dense Dry Forest, and for a number of intermediate and degraded habitats (i.e. Spiny thicket, open, and grassland). Species linked to water were also noted. Although no faunal surveys were undertaken in the area of the haul road, faunal surveys were done within each of the identified habitat types. This enables the specialist to make assumptions in regards to the faunal diversity within areas not surveyed. This is considered to be adequate for impact assessment, since the data is obtained from multiple sampling points within each habitat type.	Volume 9: Faunal Baseline Assessment, Section 6: Impact Assessment

Charlie Gardner (WWF)	P. 45 of the Faunal Baseline Assessment: The recommendation to ensure conservation of the bat roost at Sept Lacs as part of an offset strategy is bizarre, given that a) the project is not expected to have a major impact on bats, and b) the roost in question is a huge distance from the project site (to which many other important conservation targets are directly adjacent).	Firstly, it is stated in this section that: "*Mitigation of the impact is similar to that documented in 6.3.1.1….*", which in turn states: "*Mitigation of the impact entails protection and where necessary, rehabilitation of adjacent habitats as an environmental offset, particularly wetland and forest habitats.*" Hence it does not omit important conservation targets directly adjacent to the mine site. The recommendation of protecting the bat roost is in addition to the recommendation made above. It should not be considered "*bizarre"* for a faunal specialist to suggest additional offsets and conservation to that required by the project, regardless of the distance from the project site. In addition to this the report also states that: "*Bats are the poorest known of Madagascan mammals*" and that "*Bats are eaten by people throughout Madagascar and although the larger species like Pteropus rufus, Eidolon dupreanum, Rousettus madagascariensis and Hipposideros commersoni are preferred, small insectivorous bats are also eaten. As Jenkins & Racey (2008) have noted, bat bushmeat may be an important source of protein for Malagasy people during periods of food shortage but in general there is little data on the socio-economic and cultural importance of bats or on their sustainable exploitation. The issue is further complicated by the threat of pathogen transfer from bats to people, which is of growing concern as more bat species are identified as vectors of emergent viral diseases (Jenkins & Racey 2008)*." Perhaps including the bat roost at Sept Lac as part of the biodiversity offsets could provide valuable information in regards to the aspects listed above.	Volume 9: Faunal Baseline Assessment, Section 4: Sensitive habitats; Section 6: Impact Assessment

Charlie Gardner (WWF)	The faunal baseline assessment provides no information about the faunal importance of regional wetlands, particularly Ranobe Lake and ephemeral coastal wetlands, yet these habitats are likely to be affected by drawdown of the water table as a result of mining activities (see Water Assessment). It should be noted that these wetlands are regionally important for bird conservation, and harbour important breeding populations of the Vulnerable Madagascar plover (*Charadrius thoracicus*). Both ecological and social impact assessments should be carried out to evaluate the impact of wetland drying as a result of mining activities, but have not been carried out to date.	The sampling that was undertaken in 2006 included various sites within wet areas e.g. Ranobe Lake region (23˚02'08.8"S; 43˚35'43.2"E), Ranobe Lake region, small drainage vlei (23˚02'45.6"S; 43˚35'37.1"E); Ranobe Lake region (23˚01'44.4"S; 43˚35'56.6"E); Ranobe wetlands, Ifaty region (23˚01'44.4"S; 43˚35'56.6"E); Fiherenana River mouth, MCP sites (23˚18'16.0"S; 43˚37'13.7"E); Lake Belalanda, Toliara District (23˚17'13.8"S; 43˚38'44.4"E). As stated before, no infrastructure will be constructed on any wetland areas and there are no wetlands within the proposed mine path, thus no direct impact on faunal habitat and breeding grounds is anticipated within wetlands. In terms of the potential indirect impact of drawdown, the Water Assessment to which the commentator refers (Aquaterre, January 2013) is a summary of several previous geo-hydrological studies conducted for the project since 2004 (Hydromad, 2004; SRK, 2007; and Rison, 2008). Aquaterre's report includes some of the numerical data presented in the previous studies, but it does not include the detailed results of groundwater modelling from any of the previous reports. The data presented in section 7.2 of the ESIA is drawn from Rison's 2008 groundwater modelling, and this is clearly indicated in paragraph 2 of that section. It is, however, important to note that all the previous studies were undertaken for the previously-proposed and significantly larger wet mining operation, for which the estimated water requirements ranged from 45 000 m^3/day (years 1-11) to 68 000 m^3/day (years 12-30) over the 30-year life of the mine, compared with 13 500 m^3/day for the proposed 21-year period for dry mining. It is also important to note that the Rison (2008) model predicted significantly higher drawdowns than the SRK (2007) study and, since the Rison results are more conservative, the Rison results were used as the basis of assessing the impacts of mining on surface and groundwater resources in the ESIA (section 7.2). It is, however, noted in this section that "*Although neither the magnitude of the drawdown of the water table in and around the mining area nor the effects of mining on groundwater flows through the aquifer can legitimately be extrapolated from the previously modelled results for dredge mining, it can reasonably be supposed that the reduced scale of dry mining - in terms of the area of mining, its duration and especially the significantly lower water requirements - will be reflected in reduced magnitudes of the impacts at all locations*." This accords with Aquaterre's (2013) qualitative observations in this regard. However, it is also noted in this section that the drawdowns modelled by Rison (2008) at the point of abstraction in the mining area (±70m), at Andrevo Haut (±1.3m) and Ranobe Marsh (±3.1m) on the coastal plain, for the full wet-mining abstraction rates noted above, would be reduced to approximately 45m, 0.8m and 1m respectively if abstraction rates were reduced by 50% by recycling water back into the groundwater resource. These reduced (by recycling) abstraction rates are around 66% higher than the proposed dry mining abstraction rate and, as observed above, it is not unreasonable to expect that drawdowns at these and other points in the project's area of influence would be further reduced under the dry mining scenario. Nevertheless, the impacts on groundwater levels are assessed in the ESIA as being Moderate, which can be reduced by implementing effective mitigation measures to Low.	Volume 9: Faunal Baseline Assessment, Section 3: Faunal Diversity; Section 6: Impact Assessment Volume 2: EIE mine Site, Section 2 Description of the Project, Subsection 2.3.4.1; Section 3: Analysis and choice of alternatives; Section4: Description of the physical state of the environment Volume 5: Resettlement and compensation action plan, Section 3: Environmental management plan Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

Charlie Gardner (WWF)	In general the Botanical Impact Assessment is much stronger than the Faunal baseline assessment, because it is based on data collected in the field for the assessment. However, as with the faunal study, there has been no data collection along the three proposed haul road routes and the report therefore provides no data with which to ascertain the relative impacts of the three options on general biodiversity, species of concern and so on. Although assessments of these impacts have been made, they appear to be based on assumptions rather than data.	This is incorrect. The botanical Assessment clearly states that: "*Sample plots were taken along the proposed haul road route and the sample area was surveyed rapidly in order to determine the presence of vegetation types defined by the original analysis. Sensitivity was also noted at these points, to assist in the development of a vegetation sensitivity map*." A map of sampling sites has been included below.  	Volume 7: Botanical Specialist Report, Section 3: Approach and methods: Section 4: Vegetation composition

Charlie Gardner (WWF)	The Botanical Impact Assessment contains the following errors which reduce its utility to the reader: Fig 2.6: This vegetation map does not show the existence of any wetlands at Ranobe, and is therefore of questionable reliability.	The map referred to is the vegetation map produced by the Critical Ecosystem Partnership Fund (CEPF) Madagascar Vegetation Mapping Project (2003-2006). The CEPF map was utilised to determine what the dominant vegetation type within the study area are, which is correctly identified as Spiny Thicket. Available spatial documents and/or programmes are utilised in conjunction with data obtained from on-site sampling to produce an accurate representation of the vegetation present on site. As the CES map indicates the presence of wetlands, there was no need to draw attention to this limitation in the CEPF map. It should be noted that no infrastructure is proposed to transect any wetland areas and the only potential impacts on wetland areas within the proposed study area may stem from groundwater abstraction.	Volume 7: Botanical Specialist Report, Section 2: The project Area in context; Section 4: Vegetation composition
Charlie Gardner (WWF)	Fig 4.1: This map does not show the study sample sites as it reports to – as a result, this information does not appear anywhere in the report.	Thank you for bringing this to our attention. The correct map has been inserted into the Botanical Impact Assessment and is included above for your convenience.	Volume 7: Botanical Specialist Report, Section 4: Vegetation composition
Charlie Gardner (WWF)	Plate 4.5: This photo reports to show *Adansonia rubrostipa*, but in fact shows *Givotia madagascariensis*. Although the report was compiled by expert botanists, mistakes such as this give reason to doubt its credibility.	Thank you for pointing out this error. It should be noted that only the main image shown in the plate was *Givotia madagascariensis.* The images of the fruit and flowers are those of *Adansonia rubrostipa* as stated. This has subsequently been corrected in the Botanical Assessment. This single mistake does not justify the commentator stating that the entire assessment's credibility is in doubt.	Volume 7: Botanical Specialist Report, Section 4: Vegetation composition
Charlie Gardner (WWF)	P.51: The text states that 36 plant species were recorded in the inventory, which is clearly a typographical error, but the true figure is not given.	Thank you for bringing this to our attention, this is indeed a topographical error and should read 365 rather than 36. This has subsequently been rectified in the report. Please be advised that the true figure is indeed given in the report in Appendix 2, which states: "Including 365 species found during the study and 5 species obtained from databases and literature."	Volume 7: Botanical Specialist Report, Section 6: Floristic study; Appendix 2 and 3

Charlie Gardner (WWF)	P. 62 Impact 6 (intermediate forest): The impact of haul road 1 and 2 on this community are assessed as moderate, yet the text (P. 39) stresses the importance of this community and states that it may be unique. Given that the haul roads will traverse 12 km of this vegetation type, which doesn't exist elsewhere, the severity of this impact may be higher than assessed.	The term "unique transitional zone" included in section 4.3.1 refers to community C, i.e. Dry Forest. Intermediate Forest (community G) is described in the vegetation assessment as: "*This vegetation type includes elements of both the dry forest and spiny thicket and it forms an important transition zone. There is species overlap between those recorded in both the dry forest and spiny thicket. All these areas are degraded and two different levels of degradation have been recorded: Intermediate Forest and Degraded Intermediate Forest, but it is clear that all of this vegetation type is degraded".* In addition to this, the area covered by intermediate forest is approximately 5795 ha, as determined by the Botanical Impact Assessment. Therefore, using the dimensions of a 12 km stretch of road 12 m wide, the maximum amount of this vegetation type that will need to be cleared is approximately 14.5 ha. This equates to 0.25% of the total coverage. However, since the proposed haul road will not traverse this vegetation type but only skirts it (see figure included below), it is reasonable to conclude that mostly other vegetation type will be cleared for this stretch of the proposed haul road. Furthermore, this vegetation type will not be fragmented by the proposed haul road (see map below). Therefore, in light of the above, a significance rating of moderate is not unreasonable.  	Volume 7: Botanical Specialist Report, Section 4: Vegetation composition; Section 7: Impacts Identified and assessed

Charlie Gardner (WWF)	The Botanical Assessment identifies 43 confirmed species of concern and a further 42 possible species of concern. These include at least 16 undescribed species and others that are not known to occur anywhere else. The report, however, does not provide any quantitative or qualitative data on the impacts of the project on any of these species. Given that some of these species may be highly localised endemics, it is possible that the project will lead to significant reductions in population size or even the complete extinction of some of these species. The potential impacts on species of concern should therefore be fully investigated, and quantitative assessments produced.	Firstly, it can be argued that even without the mine going ahead in the area, these species are likely to be lost through the unsustainable land use practices that are currently occurring in the region. Satellite imagery clearly shows that huge tracts of land are being cleared at a rapid rate. 18 400 hectares were cleared between 2006 and 2012. Secondly, various mitigation measures have been incorporated to reduce the impacts on these species. These include the following: • Establish a Biodiversity Offset Strategy with input and support from local agencies. One option would be to assist with the protection of high value areas remaining in the PK32 protected area (see Rehabilitation and Offset Specialist Report) which could include working with local agencies to assist with the management of the PK32 protected area and setting aside key representative portions of the different vegetation types (or communities) within the priority areas within the PK32 conservation area and/or rehabilitating these areas. • Propagating species for reintroduction to suitably restored areas; • Restoring portions of the mined area to natural vegetation • Reintroducing propagated individuals to ensure the conservation of populations of these species outside the Ranobe Exploration Area.	Volume 7: Botanical Specialist Report, Section 4: Vegetation composition; Section 6: Floristic study; Section 7: Impacts Identified and assessed; Section 8: Conclusions and recommendations

Charlie Gardner (WWF)	No new data were collected for the water assessment, which instead provides an excellent, critical review of existing studies. According to the assessment, the potential impacts of water abstraction for the mine include: major drawdown of the water table, the formation of sinkholes, the intrusion of saltwater into aquifers, reductions in the availability of surface water for other users (local communities, tourism operators etc), and destruction of important coastal wetlands. The report shows that current information and impact assessments are entirely inadequate for evaluating these potential impacts, and stresses that further research will need to be carried out.	Differences of opinion among specialist are not uncommon, especially in fields of expertise such as geohydrology, where neither the resource under investigation nor its boundary conditions can be seen in their entirety. The report discussed by the commentator (Aquaterre 2013) compares the results of hydrogeological modelling by SRK (2007) and Rison (2008). In developing a geohydrological model Rison (2008) also reviewed the results of SRK's study, and commented that, in their opinion *" … the SRK hydrogeological model was incomplete for the following reasons:* • *The use of the surface catchment divide to the east of the mineralized area is not a definitive groundwater model boundary;* • *The use of the Manombo River may be in question as a constant head boundary;* • *The tailings losses which are anticipated to be far greater than water losses from the dredge pond were not included in the scope of work".* It is, however, important to note that both the above studies - SRK (2007) and Rison (2008) - were undertaken for the previously-proposed and significantly larger wet mining operation, for which the estimated water requirements ranged from 45 000 m^3/day (years 1-11) to 68 000 m^3/day (years 12-30) over the 30-year life of the mine, compared with 13 500 m^3/day for the proposed 21-year period for dry mining.	Volume 2: EIE mine Site, Section 2 Description of the Project; Section 3: Analysis and choice of alternatives; Section 4: Description of the physical state of the environment Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

Charlie Gardner (WWF)	P. 12 (3.2.1) of the water assessment: The predicted drawdown of the water table by the two existing studies differs by as much as an order of magnitude. This is an unacceptable level of variation and highlights the inadequacies of the research. Even a slight drawdown would have an impact on the fragile balance between groundwater and surface water, including the Manombo river baseflow, springs and wetlands, yet the models predict a drawdown of up to 80m. Even if the project uses ten times less water than anticipated, the drawdown may remain significant.	The Rison (2008) model predicted significantly higher drawdowns than the SRK (2007) study and, since they are more conservative, the Rison results were used as the basis of assessing the impacts of mining on surface and groundwater resources in the ESIAR (section 7.2). It is, however, noted in this section that *"Although neither the magnitude of the drawdown of the water table in and around the mining area nor the effects of mining on groundwater flows through the aquifer can legitimately be extrapolated from the previously modelled results for dredge mining, it can reasonably be supposed that the reduced scale of dry mining - in terms of the area of mining, its duration and especially the significantly lower water requirements - will be reflected in reduced magnitudes of the impacts at all locations*." This accords with Aquaterre's (2013) observations in this regard. However, it is also noted in this section that, although modelled drawdown at the point of abstraction in the mining area (±70m), at Andrevo Haut (±1.3m) and Ranobe Marsh (±3.1m) on the coastal plain for the full wet-mining abstraction rates noted above, would be reduced to approximately 45m, 0.8m and 1m respectively if abstraction rates were reduced by 50% by recycling water back into the groundwater resource. These reduced abstraction rates are around 66% higher than the proposed dry mining abstraction rate and, as observed above, it is not unreasonable to expect that drawdowns at these and other points would be further reduced under the dry mining scenario.	Volume 2: EIE mine Site, Section 2 Description of the Project; Section 3: Analysis and choice of alternatives; Section 4: Description of the physical state of the environment; Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale
Charlie Gardner (WWF)	P 14 of the water assessment: The author's state "It is not possible at this stage (based upon a desk-top review of existing reports) to quantify the drawdown generated by this reduced abstraction, as this would require remobilising the simulation model with the new proposed water abstraction"... "In addition, it has to be noted that it is not possible, at this stage, to predict the effect of losses from the tailings to groundwater, which would partially compensate for water abstractions. This would also require the remobilising of the simulation model incorporating the new mine design".	It is recommended in the ESIAR that the dry mining scenario is modelled, preferably using the same model as used by Rison (2008), to confirm that the impact assessment is a reliable reflection of the effects of mining on the ground and surface water resources in the project's area of influence. This recommendation has been accepted by the project proponent, and Aquaterre's recommendations will be given due consideration when the study is initiated. Additional recommendations include taking steps to optimise water use (by, *inter alia*, recycling water), monitoring the impacts of abstraction on groundwater levels throughout the project's area of influence and, if adverse impacts are detected, taking appropriate steps to mitigate the impacts.	Volume 20: Water Assessment, Section 2: Project description and main changes; Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

Charlie Gardner (WWF)	P16 – 17: The authors highlight no less than 20 methodological problems with the two existing studies, including: (1) The assessments were based on limited existing data; (2) No observation/production wells were drilled into the Eocene limestone aquifer, which constitutes most of the recharge area for the project zone. This is "a major gap in the studies"; (3) The existence of the Toliara Fault was not included in modelling; (4) The aquifer recharge rate is uncertain, and could be within a significant range of values (3% – 32%); (5) Further isotope and macro-chemistry data are required; (6) The mean annual rainfall used to estimate aquifer recharge rates was significantly overestimated; (7) Pump tests were not performed at the required rates; (8) Observations from pump tests render any interpretation of aquifer parameters as ambiguous; (9) Availability of renewable resources and sustainable yields for water supplies at the mine site are uncertain due to uncertainties about groundwater recharge; (10) Existing studies used "various and different assumptions" and thus give contradictory results about the drawdown of water levels; (11) Climate change is not taken into consideration, but could significantly affect water resources; (12) Abstraction by local communities and hotels was not included in the models; (13) Assessments were based on average annual data, but should use monthly data due to intra-annual variation; (14) Evaporation was not accurately	It is not uncommon for there to be differences of opinion among specialists, particularly in fields of expertise such as geohydrology, where neither the resource under investigation nor its boundary conditions can be seen in their entirety. As noted previously the Water Assessment (Aquaterre 2013)) compares the results of hydrogeological modelling by SRK (2007) and Rison (2008). In developing a geohydrological model Rison (2008) also reviewed the results of SRK's study, and commented that, in their opinion " … the SRK hydrogeological model was incomplete for the following reasons: (1) The use of the surface catchment divide to the east of the mineralized area is not a definitive groundwater model boundary; (2) The use of the Manombo River may be in question as a constant head boundary; (3) The tailings losses which are anticipated to be far greater than water losses from the dredge pond were not included in the scope of work". Also as noted previously it is recommended in the ESIA, and accepted by WTR, that the impacts of water abstraction on the surface and groundwater resources of the area will be re-modelled during the detailed design of the wellfield, before mining activities commence.	Volume 20: Water Assessment, Section 5: Information Gaps and Limits associated with Previous Studies

Charlie Gardner (WWF)	Many of the economic calculations in the economic assessment are very crude and of questionable accuracy. For example, it is estimated that one person in Ranobe earns 1.65 million MGA/year selling thatch and that there are 300 households in Ranobe, therefore it is estimated that the village as a whole earns up to 495 million MGA/year selling thatch. There are so many assumptions in such a calculation as to make it worthless.	The economics report does make assumptions in an attempt to estimate the incomes from various types of land based livelihoods that may be affected by the mine development. These assumptions were based on fieldwork in the area that collected information on the types of livelihoods, the numbers of households involved, quantities harvested and local prices. All of this information was used to estimate the value of the livelihoods (incomes and subsistence). In doing so, this study, while not perfect, goes much further than most economic impact assessments in estimating the effects on the livelihoods of local rural residents.	Volume 8: Economic Assessment Report, Section 5: Description of the economy; Section 8: Impacts on local communities
Charlie Gardner (WWF)	Data sources for economic production in the region date from 1999 and 2003/4. Given rates of change, there is no reason to assume that these data are reliable or accurate.	Some of the data is old and derives from when the field work for the first EIA was undertaken in 2006. Much of this data was sourced and translated from local government agencies and was not available from internet sources. Unfortunately, this review of the original 2006/7 Economic Impact Assessment did not make provision for any fieldwork and in some cases it was not possible to access more recent data. Having said this, the considerable economic and political problems experienced in Madagascar since the original EIA will have limited the extent of change and development in this poor region.	Volume 8: Economic Assessment Report, Section 5: Description of the economy
Charlie Gardner (WWF)	Table 5.8: The data provided appear not to reflect local realities. The table states that 50 units (unit not defined) of maize were produced in the study area in 2006, compared to 7830 units of rice. Given that maize is one of the two dominant crops in the region and rice production is limited to irrigated areas, these data are clearly incorrect.	This was a typographical error and has subsequently been corrected. The units are in tons. This has been added to the table.	Volume 8: Economic Assessment Report, Section 5: Description of the economy

Charlie Gardner (WWF)	None of the estimates of annual cash incomes of residents include the value of produce consumed in the household rather than sold. Since much of regional agricultural production is for subsistence rather than commerce, these estimated incomes do not reflect relative household 'wealth' and are of little value.	The values of agricultural production and natural resource harvesting include the subsistence values. As a result, the report shows that the new incomes from mining are not as significant as is often assumed for such areas, relative to the value of existing livelihoods.	Volume 8: Economic Assessment Report, Section 5: Description of the economy; Section 8: Impacts on local communities
Charlie Gardner (WWF)	It is not clear that the sampling methodology for the ichthyology and aquatic habitat assessment was sufficient for the purpose. The authors state (4.1.1) that the low diversity of fish species recorded may be the result of low sampling intensity and sampling being carried out during inappropriate seasons (i.e. winter, when there is no above-ground connection between the Fiherenana and the sea). This study should therefore be repeated with a more appropriate sampling protocol.	The statement that additional sampling in the wet season could reveal the presence of more species (particularly catadromous fish or crustacean species) is considered valid, as migration usually takes place at this time. However, additional studies would probably just re-enforce the main findings of the fish survey, namely that a) the Fiherenana River does support valuable fish (and crustacean) populations that migrate upstream from the sea and which form an important component of the local subsistence fisheries, and b) any instream structure built across the Fiherenana River should be designed to ensure that these natural migrations are not blocked.	Volume 10: Ichthyology and Aquatic Habitat Impact Assessment, Section 3: Approach and Methods; Section 4: Results and discussion

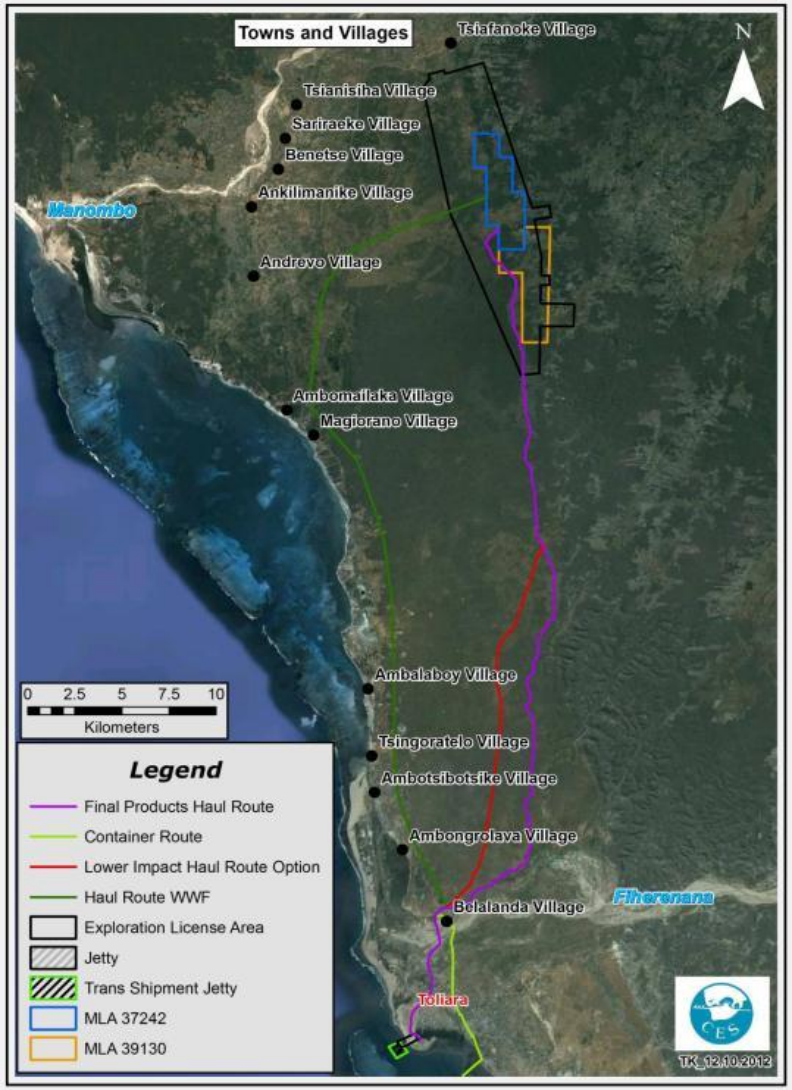
Charlie Gardner (WWF)	P. 13, impact 1.2 (HMC contamination): The ichthyology and aquatic habitat assessment states that "the environmental impact of the HMC slurry, made up of minerals occurring naturally in this region, is considered similar to that of any fine sediments from the catchment". This assumption appears false, since, even though the slurry is made up of naturally-occurring minerals, they will be at much greater concentrations in the slurry that in any naturally-occurring run-off. The "low" significance attributed to this risk is therefore questionable.	The "low" significance given for this impact after mitigation is related to a) the the relatively small volumes of the potential spillages of HMC slurry, particularly if effective rapid response and clean-up actions to any spills are put in place (as recommended) and b) the apparent non-toxic nature of the heavy minerals involved.	Volume 10: Ichthyology and Aquatic Habitat Impact Assessment, Section 5: Potential impacts recommended mitigation measures
Charlie Gardner (WWF)	5.2.2. (water quantity): The ichthyology and aquatic habitat assessment suggests major uncertainty about whether water extraction will impact the alluvial aquifer under the Fiherenana river, and suggests that ground water studies should be carried out to determine sustainable groundwater abstraction rates. Given the dependence of local communities on water extracted from the dry river bed in the winter months, the significance of this risk should perhaps be higher than "moderate".	Firstly, the ichthyology and aquatic habitat assessment does not show any uncertainty about impacts in relation to water abstraction from the alluvial aquifer. It states that: "Groundwater abstraction in this locality could impact negatively on both local people reliant on domestic water obtained by excavating shallow pits in this locality, as well as on the Fiherenana estuary by reducing the freshwater inflow". It also states that this impact is only relevant should the MSP be situated at the Port and additional water be required for the slurrying of HMC. Only in this instance will it be necessary to have boreholes situated in close proximity to the Fiheranana River. This option has been eliminated for several reasons, one of which was the additional water requirements for the project (please refer to Chapter 11 of the ESIA). In addition to this, the "moderate" significance is based on the assumption that the "zone of influence" or "cone of depression" of any water abstraction point would be limited, particularly due to the volumes of sub-surface water flow in the Fiherenana River.	Volume 10: Ichthyology and Aquatic Habitat Impact Assessment, Section 5: Potential impacts recommended mitigation measures

Charlie Gardner (WWF)	In general the land and natural resource use report displays a decent, if highly simplified, understanding of the dynamics and drivers of land use in the project area, although there are several minor mistakes throughout (not detailed here).	Noted with thanks	Volume 11: Land and Natural Resource use
Charlie Gardner (WWF)	P. 55 (land and natural resource use report): the proposed mitigation measures in section 8.2.4 include the development of an influx management plan to "deal with the issue of in-migration in its entirety". However, the final list of recommended mitigation measures proposed in chapter 9 (Conclusions and Recommendations) does not include the development of such a plan. We stress that the development of an influx management plan should be considered essential.	The need to develop and implement an influx management has been stressed throughout the SIA. An influx management plan has also been incorporated into the conclusions and recommendations section of the land and natural resource use assessment as requested.	Volume 11: Land and Natural Resource use, Section 8: Impacts of mining on natural resources; Section 9: Conclusions and recommendations Volume 16: Social Assessment report , Section 7: Mine site impacts; Section 8: Haul road impacts; Section 9: Transfer station and jetty impacts

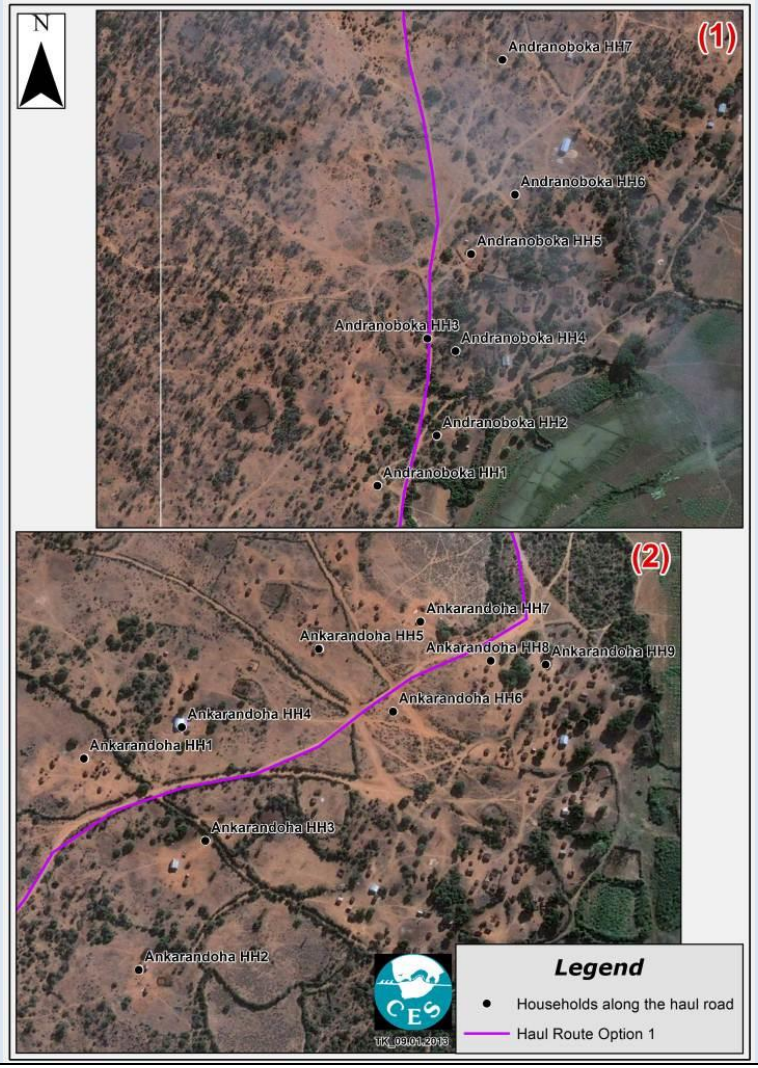
Charlie Gardner (WWF)	In general the Social Impact Assessment gives a bad impression, being poorly written in places, and displays quite a poor understanding of rural livelihood dynamics in the study area. Greater engagement with organisations or individuals with a better understanding of the region would have helped overcome these weaknesses. The report also uses South African vocabulary which is not easily understood (e.g. 'airtime', 'buck' for hunted animals (including birds)).	The SIA is based on the following data obtained during the field trip undertaken in June 2012: 1. Household surveys: 217 household surveys were conducted, focusing on collecting quantitative and qualitative data at a household level on population demographics, land, housing, health, education, water and sanitation, natural resource use, livelihood strategies, employment, skills, community dynamics, and perceptions about the project. 2. Focus group meetings: Approximately 10 focus group meeting were held within the project affected area. These focus groups were attended by both male and female participants and covered a wide range of issues including governance structures, land, development, services, infrastructure, livelihood strategies, natural resource use, gender, culture, community dynamics, and perceptions about the proposed project. 3. Key informant interviews: Key informant interviews were undertaken with representatives from the health, education, political and economic sectors. These interviews aimed at collecting qualitative data on a range of social issues and included interviews with village chiefs, as well as a number of representatives from the following organisations in Toliara: • Direction Régionale de Développement Rural du Sud Ouest (DRDR) • World Wide Fund for Nature (WWF) Toliara • Service d'Appui à la Gestion de l'Environnement (SAGE) Régional Office • Service Régional des Domaines du Ministère de l'Agriculture • Bureau de Région Sud Ouest • Sous-préfecture • Comité National de Lutte Contre le Sida. Bureau Interrégional • Ministère de l'Environnement, des Eaux et Forêts • Fikambanana Miaro ny Alan'I Mikea (FiMaMi) • MITOMAFI Accordingly, it is clear that the Social Impact Assessment was informed by a large number of local people, as well as a number of organisations in the Toliara area, who can legitimately be considered to have a sound understanding of rural livelihood dynamics in the study area. Thank you for pointing out the occasional usage of non-Madagascar terminology in the SIA: these will be corrected when the report is finalised.	Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area

Charlie Gardner (WWF)	In several places the SIA makes statements that are clearly false, for example: P. 51: "It is normal for 12 year old girls to have two children"; P. 51-52: "WWF fines people who are caught foraging for medicinal plants in the protected forest" – this is a complete fabrication, WWF has no power to enforce the payment of fines (only the State or recognised community associations have this power), and in any case the collection of medicinal plants is not controlled.	The SIA states on pg 51: "*In some villages prostitution is culturally accepted (i.e. Ifaty and Mangily), and it is normal for 12 year old girls to have two children*." This statement was made only in reference to Ifaty and Mangily where prostitution amongst young teenage girls is culturally accepted. This is clear if the sentence is read in its entirety. Following on this the SIA also states that: "*In villages neighbouring the mine lease area prostitution is not culturally accepted, and if a girl becomes a prostitute she is disowned by her family*." This sentence follows on the partial sentence quoted by the commentator. As such it was explicitly stated that prostitution is not accepted in all villages in the project area, and as such this statement (i.e. girls below the age of 12 having 2 children) is only true in communities where prostitution amongst young girls is culturally accepted. While WWFs stance on this point is noted, this statement is based on informant perception and experiences as related to the social scientist during the SIA consultation process (focus group meetings and key informant interviews). Whilst CES agrees that WWF does not have the mandate to perform these functions (i.e. impose fines), this is a perception that is prominent in the various affected communities.	Volume 16: Social Assessment report, Section 5: Socio-economic description of the study area, subsection 5.12

Charlie Gardner (WWF)	In several places the SIA notes the high expectations of local and urban communities with regards to employment opportunities and infrastructure provision, and stresses that "it is very important to instil realistic expectations with regards to benefits from the mining project". In this regard it should be noted that Toliara Sands appear to have made little effort in expectation management thus far, for example during public consultations in April 2013 Toliara Sands staff publicly suggested that the mine will stimulate massive economic investment in the region and will create a "paradise" in Toliara. Further, project literature (brochures) shows a photograph of a skyscraper-lined cityscape on the page highlighting the benefits of the mine to the region, clearly in an attempt to create a false impression among stakeholders.	CES has noted the potential social and community stresses that may result if high and unrealistic public expectations are not met by the project. That the mine will stimulate the local economy is probably an accepted and factual statement, but TS through its environmental and social management and monitoring obligations will have to demonstrate these economic and social benefits in the project area. CES cannot comment on TS' role or efforts at managing these expectations to date, nor can it comment on what impression TS is alluded to be trying to create in this regard. CES reaffirms, however, that these expectations and potential opportunities be dealt with through the on-going stakeholder engagement processes that will be required to deal with these issues should the project proceed. This will be in the form of local labour desks to inform communities of opportunities available, and the processes to be entered into for applying for these positions. Similarly, any community development efforts that deal with public service infrastructure provision will be dealt with through the appropriate community forums, and consultative and decision making structures pertinent thereto, that will be established should the project proceed.	Volume 8: Economic Assessment Report, Section 7: Impacts on Regional Economy Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area, Section 7: Mine site impacts

Charlie Gardner (WWF)	The SIA does not include villages along the RN9 road, and therefore doesn't cover the area to be potentially impacted by haul road option 3.	The purpose of the SIA was to build on information obtained during the previous assessment undertaken in 2008. During this period a survey was undertaken in villages adjacent to the RN9. In addition to this the majority of villages in the study area are situated in close proximity to the RN9, e.g. Mangily, Belalanda, etc. The map below shows the proximity of some of the villages sampled to the RN9 and haul road option 3 proposed by WWF (green line). As can be seen from the map below the commentator is incorrect in stating that the SIA does not cover the area potentially impacted by haul road option 3.  	Volume 16: Social Assessment report, Section 8: Haul road impacts

Charlie Gardner (WWF)	P. 48 of the SIA: The report states that Toliara Sands employees from Benetse have used their increased income to purchase rifles to shoot birds. As stated elsewhere, Toliara Sands has a responsibility to ensure that its employees do not exacerbate environmental problems in and around the project site, but this responsibility is clearly not taken seriously.	This has been conveyed to Toliara Sands and they are currently in the process of addressing this issue.	Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area
Charlie Gardner (WWF)	The SIA makes sweeping generalisations about the whole study area, but which are only applicable to small parts of it. For example P. 60 provides a list of species that are "culturally unacceptable to eat", but many of these species are in fact widely consumed, and are only taboo in very localised areas.	Table 5.9 (Section 5.17.3) shows the religious, cultural resources and traditional customs for each *fokontany* (village) surveyed. The table clearly indicates the various species (plant and animal) that are considered taboo for consumption or use within each village. This information was obtained through various focus group meetings and the information therefore comes from the residents within the area themselves. The information is therefore village / area-specific, and cannot be considered to be "*sweeping generalisations"*.	Volume 16: Social Assessment Report, Section 5: Socio-economic description of the study area
Charlie Gardner (WWF)	P. 71 of the SIA recommends the development of a 'Labour, Recruitment and Influx Management Plan'. We stress that this plan should specifically deal with the impacts of migrants (both employees and non-employees of the project) on the natural environment, particularly as the project site is surrounded by a protected area that will bear the brunt of their impacts. This plan should also seek to minimise in-migration by launching a communication programme to reduce expectations in the likely regions of origin of migrants.	These recommendations and mitigation measures are considered to be reasonable and therefore should be incorporated into the Labour, Recruitment and Influx Management Plan to be compiled by Toliara Sands.	Volume 16: Social Assessment Report, Section 7: Mine site impacts; Section 8: Haul road impacts; Section 9: Transfer station and jetty impacts

Charlie Gardner (WWF)	P 73 of the SIA states that "The development of the haul road, albeit not intended for third party use, as well as improvements to the local road network, will significantly improve access to social services and mobility between *fokontany*, which may in turn have positive social, economic, and health benefits". Note that these potential benefits will only occur in the case of Haul road option 3, because options 1 and 2 do not connect any inhabited areas. In any case, such benefits will only become apparent after the mine is closed, if public access to the haul road is permitted.	As noted previously and in the SIA referred to, third party use of the road is not intended. Even if this was the case options 1 and 2 would in fact serve communities that are in close proximity to these routes. The figure below shows that there are communities residing adjacent to the existing Toliara Track.  	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6: Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts

Charlie Gardner (WWF)	8.2.3 of the SIA: This analysis deals only with haul road options 1 and 2 – option 3 appears not to have been investigated or assessed.	As stated haul road option 3 is unfeasible from a social perspective. This was determined after an investigation of all option presented. (Further detail on option analysis is available in Chapter 11 of the ESIA). According to the IFC Standards Guidance Note 1 "*The ESIA includes an examination of technically and financially feasible alternatives to the source of such impacts*…" and "*The purpose of the alternatives analysis is to improve decisions on project design, construction and operation based on feasible alternatives*…"	Volume 16: Social Assessment report, Section 1: Introduction; Section 8: Haul road impacts
Charlie Gardner (WWF)	9.3.2 of the SIA: The mitigation measures proposed do not adequately replace the recreational opportunities lost – La Batterie is Toliara's only swimming beach, the loss of which cannot be compensated for by the creation of a sports centre or rehabilitation of football pitches.	The proposed area for the construction of the jetty and associated infrastructure at La Batterie beach is relatively small compared to the overall size of the area (see figure included below). The construction and operation of the jetty will result in access to a small section in the immediate vicinity of the jetty being restricted and/or controlled. However, people will still be able to utilise the majority of Le Batterie beach and will still be able to fish and/or swim in the area. 	Volume 16: Social Assessment report, Section 9: Transfer station and jetty impacts

Charlie Gardner (WWF)	10.3.1 of the SIA: the post-mitigation impacts of increased road traffic to the port appear to be severely underestimated. The provision of 'bus shelters' and high-visibility vests to rickshaw drivers, and the insistence that lorry drivers have a valid drivers' licence, are not sufficient to reduce the impacts to 'moderate'. For the communities living along the affected road, the impacts will remain high or very high. In addition, the analysis deals only with risk of accident or injury, but does not evaluate the impacts of increased noise and dust, or impacts on quality of life, property values etc.	It should be noted that this section is specific to the option of the MSP being located at the Port of Toliara and the section of the RN9 referred to is the section south of the bridge through Toliara to the Port. These recommendations are entirely focused on this relatively small section of the RN9. In addition to this, "*the provision of 'bus shelters' and high-visibility vests to rickshaw drivers, and the insistence that lorry drivers have a valid drivers' licence"* are not the only recommendation made in this section. The entire section reads as follows: "*Develop a Transport Management Plan that outlines the procedures for maintaining road safety measures amongst drivers that might include:* o *Ensuring all drivers have valid drivers' licenses and are provided with appropriate training in road safety; and* o *Instituting a zero tolerance policy on driving under the influence of drugs or alcohol and implement random breathalyser testing and regular spot checks.* • *Establish partnerships with local government, and other major corporate road users to jointly implement on-going road safety education and awareness programmes in the affected and local communities particularly at schools and churches;* • *In partnership with local government and other major corporate road users provide road safety education and awareness. Awareness campaigns could entail distributing luminous safety vests to motorcyclists and rickshaw drivers aimed at improving visibility especially at night. These vests could be sewn by a community cooperative.* • *Assist local government and the Municipal Council with developing a five year Road Safety Strategy that details plans to:* o *Improve road safety signs; and* o *Build bus shelters at intervals along the RN9 Highway and access road to prevent pedestrians congregating close to the road. These shelters could also be used to market Toliara Sands and to provide an area to display awareness raising and educational posters.*" Furthermore, impacts associated with dust have been included in the air quality assessment; impacts from noise have been incorporated into the noise impact assessment.	Volume 16: Social Assessment report, Section 10: Port site impacts
Charlie Gardner (WWF)	The majority of weaknesses in the specialist reports are repeated in the ESIA. Only additional points raised by the ESIA will be commented upon below.	Noted.	See most recent volumes (Volume 1 – Volume 21)

Charlie Gardner (WWF)	P. 20 of the ESIA: The report states that "the composition of the sand tailings from the PCP, which amounts to >90% of the mined material, will be unchanged by the process and will be returned to the mining void as backfill". The statement that sand tailings will be unchanged is manifestly false, since a) the heavy mineral sands have been removed, and b) radioactive materials will occur at higher concentration in the tailings, since they are not removed.	The intention of this statement was to inform the reader that the sand tailings will not be altered chemically i.e. through the addition of chemicals during the removal of heavy minerals. Regarding radioactivity, as the process tailings from the MSP will be blended with the sand tailings from the PCP prior to deposition within the mine void, and that a certain quantity of radionuclides will be retained within the product stream, the radiation specialist study predicts that the resulting radioactivity levels within the blended tailings will be the same or lower than that of the original ore body.	Volume 2: EIE mine Site, Section 2: Description of the Project; Section 3: Analysis and choice of alternatives; Section 4: Description of the physical state of the environment; Section 7: Study of the Closure Plan
Charlie Gardner (WWF)	P. 322 of the ESIA (and elsewhere): As a mitigation measure to reduce dust pollution along the haul roads, it is recommended that the road should be permanently watered. However the source of this water is not suggested, no quantity estimate is provided, and these additional water needs are not included in any assessments of water availability. If this mitigation measure is to be adopted, the impacts of this additional water use and associated infrastructure will need to be fully assessed.	A review of the ESIA reveals that it does not state that the haul road should be "permanently watered". The commentator's statement is his own interpretation of the proposed mitigation measures for dust abatement. The ESIA states on page 321 that: "*As unpaved roads are predicted to be a major source of emissions it is suggested that the proposed mitigation measure of the application of water to the roads is implemented.*" The ESIA also states: "*There are three types of measures that can be taken to reduce emissions from unpaved roads: (a) measures aimed at reducing the extent of unpaved roads, e.g. paving, (b) traffic control measures aimed at reducing the entrainment of material by restricting traffic volumes and reducing vehicle speeds, and (c) measures aimed at binding the surface material or enhancing moisture retention, such as wet suppression and chemical stabilization"* As a rule the watering of unpaved surfaces are not required on a permanent basis (i.e. definitely not required during the rainy season) and is usually only required during periods of high winds. As a result only small quantities of water will be required for the watering of surfaces during construction and operation of the haul road. Lastly, the assessment of the impacts of the abstraction of water was based on 70% more water than required by dry mining. This should be adequate to factor in the impact of dust abatement on water. The volumes of water required for occasional spraying for dust suppression are anticipated to be a very small proportion of the total water requirements for the mining operation as a whole.	Volume 2: EIE mine site, Section 5: Description of the Biological state of the environment Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment

Charlie Gardner (WWF)	2.5.4 of the ESIA: The report mentions the creation of a "Ranobe forest environmental eco tourist park", yet such an initiative is not mentioned elsewhere, including the Rehabilitation and Offset Strategy, thus highlighting a lack of coherence in CES's strategy. The project would involve "fencing off up to 1000 ha of Ranobe forest between the Baobab and Ranobe tracks", and thus would overlap with both the Ranobe GELOSE and the Ranobe PK32 protected area, but the initiative does not appear to have been discussed with the managers of either of these pre-existing, legally-recognised structures.	This is a conceptual idea and the identification of such as area will be undertaken only once environmental authorization has been granted, and as mentioned in various sections of the ESIA and specialist assessment, in conjunction with stakeholders including NGOs. If the idea is regarded as having merit the area will have to be delineated and it is probable that further work (and possible another environmental assessment) will need to be undertaken to assess the benefits of this suggestion.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.
Charlie Gardner (WWF)	P. 47 (comments table): the risk of people establishing housing along the road is presented as an argument against haul road option 3, but in fact the road will be privately managed by Toliara Sands, which has an obligation to prevent public access and settlement for security reasons. In any case, the same argument is equally applicable to all haul road options.	Irrespective of whether Toliara finances the required haul road, and remains responsible for the management thereof, the company cannot dictate where people can settle outside of what will become a legally proclaimed road reserve. If residents choose to settle in close proximity to the haul route (outside of the road reserve) Toliara Sands has no legal recourse to prevent this. Haul road option 3 will cut villages off from the adjoining Ranobe Forest area. Residents of these communes utilise the forest for their livelihoods, and these communities are more densely populated in the Ifaty and Mangily areas in comparison to the inland haul route options under assessment. It is reasonable to assume that additional housing establishment on the landward side of haul route option 3 will result if existing free access is impinged upon by this option. Regardless of the security measures implemented by Toliara Sands this dependency on the forest resource would result in residents finding a way to cross the haul road – either on a daily basis or by more permanent settlement on the landward side. In addition to this it is also more likely that residents will attempt to establish houses along a route that is close to a densely populated area than establishing houses next to a road traversing a relatively unpopulated area (a greater distance from markets). Managing general health and safety risks along the less densely populated haul route options will be easier than a more populated coastal route.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts

Charlie Gardner (WWF)	4.5.3 of the ESIA: Limestone for haul road construction will be provided by "existing limestone quarries in the area", but no details are provided about these quarries.	This section has been revised in the updated ESIA, which states: "*Stone quarrying is a multistage process where rock is extracted from the ground or rocky outcrops and crushed to produce aggregate. The first step in the process is the blasting of the rock followed by the excavation of the material. The quarry is then cleared of the blasted rock material by loading dumper trucks that take the material to the rock crusher. The output from the primary crushers is fed into a secondary crusher and then into a series of cone crushers until the aggregate is the suitable size for use. The establishment of quarries is required to provide aggregate for the construction of the proposed haul road. As discussed in Chapter 11 of this report three options (alternative routes) have been proposed for the construction of the haul road. Even though this report details the preferred option and the reasons for this the ultimate decision for the position of the new haul road still lies with ONE and the location of the quarry sites can only be determined once the preferred haul route has been agreed with ONE*." The general impact of quarries are assessed in the ESIA, however it is made clear that these quarries will need to be subject to a separate assessment, since the specific locations are not know at this stage.	Volume 3: EIE road and quarry, Section 2: Description of the Project

Charlie Gardner (WWF)	5.3.3 of the ESIA: The background to the regional freshwater environment provides information about the Onilahy, Fiherenana and Manombo rivers, but no information about the wetlands at Ranobe and Belalanda, nor the ephemeral wetlands on the coastal plain along the RN9. Given that these wetlands are much more likely to be affected by the project than the three rivers (see Water Assessment), the relevant information about these wetlands should be provided.	Wetlands are not omitted from this section. Section 5.3.3 includes the following: "*In addition to the rivers there are surface water features such as wetlands and lakes in areas where the shallow water table intersects with the surface. The most significant water body near the permit area is Lake Ranobe.* *Surface water is a key natural resource in this sub-arid region. Along with groundwater extracted through wells and boreholes surface water is used primarily for potable, domestic, agricultural and livestock purposes.* *Below is a summary of the surface water profiles in and around the Ranobe Permit Area:* *The Ranobe Permit Area: No rivers drain through the Ranobe Permit Area. The unconsolidated quartz sand in this area leads to rapid infiltration and little opportunity for saturation and related runoff. Along the eastern margin of the Ranobe Permit Area, running north-south below the limestone cliff, is a shallow "valley", which may represent the remains of an ancient drainage system, and which links with more well-marked dry valleys that have been cut into the limestone plateau to the east. Soils in these valleys are siltier than elsewhere on the proposed mining site (Peter Woods, pers. Comm.).* *The East-West Corridor (Will's Line): This corridor runs east-west on the crest of a sand lens which has good infiltration and no natural surface water features. However, towards the western end of the corridor, where the corridor meets with agricultural areas there is a system of water canals to irrigate the fields with water sourced from the Manombo River in the north. The canal system has recently been rehabilitated with the Andoharano Dam reconstructed to serve an estimated 40 km^2 of the irrigation system, which may have a total coverage potential of around 90 km^2.* *The Coastal Corridor: This corridor comprises a 3 km coastal strip from Toliara to the Manombo River mouth. It is a very flat low lying coastal area, and has substantial surface water interaction. Three major rivers cross the corridor from east to west, and the area is mottled with a series of wetlands. The rivers fluctuate between flowing hyporheically in their sandy watercourses to raging torrents which expand substantially in width during significant storm and rainfall events. The wetlands are particularly briny, and salt works have been set up on a small scale. The high salinities of many of the wetlands and near-surface groundwater have made large portions of the coastal strip of poor quality from an agriculture and livestock grazing perspective."*	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological state of the environment Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment; Section 5: Description of the Biological state of the environment

Charlie Gardner (WWF)	5.7 of the ESIA: The report states that "this diversity is manifested in the over 200,000 plant and animal species, three-quarters of which are claimed by some academics to be endemic". This statement is presented as if there is some element of uncertainty, when in fact it is a statement of scientific fact and is not disputed.	It is a fact that some academics claim this, but it is not an undisputed fact that exactly three quarters of all species are endemic. As stated by Callmander *et al.,* 2011, "despite more than two centuries of botanical exploration, the inventory, description, and documentation of the Malagasy flora are still far from complete." New species are continuously being discovered as is evident by the 8 new species discovered during the botanical assessment. The importance of biodiversity within Madagascar is stressed throughout the Botanical Assessment, which states: "*Madagascar has an extraordinarily rich flora, in terms of both total number of taxa and the high number of endemic taxa. Modern estimates of the size and the level of species endemism of the flora of Madagascar have been made by Phillipson et al. (2010), who considered that the native flora consists of approximately 11,000 species of vascular plants currently known to science, with an estimated total of 13,500 species (based on an analysis of the rate of discovery of new species and the level of taxonomic effort already exerted on a group by group basis). More than 85%* (which equates to more than three quarters) *of the indigenous species are endemic, and endemicity may reach its highest levels in the sub-arid southwest of Madagascar*". This is reaffirmed in the ESIA.	Volume 7: Botanical Specialist Report, Section 2: The project Area in context Volume 2: EIE mine Site, Section 5: Description of the Biological state of the environment

Charlie Gardner (WWF)	7.2 of the ESIA: This section presents data that are not presented in the Water Assessment. These data suggest a possible maximum drawdown of 3.1 m at "Ranobe Marsh" which, given the depth of this wetland, would be sufficient to dry it completely, with enormous ecological and social repercussions. Although much further research is needed, it should be noted that such impacts would be of very high severity and should not be considered as acceptable.	The Water Assessment to which the commentator refers (Aquaterre, January 2013) is a summary of several previous geo-hydrological studies conducted for the project since 2004 (Hydromad, 2004; SRK, 2007; and Rison, 2008). Aquaterre's report includes some of the numerical data presented in the previous studies, but it does not include the detailed results of groundwater modelling from any of the previous reports. The data presented in section 7.2 of the ESIA is drawn from Rison's 2008 groundwater modelling, and this is clearly indicated in paragraph 2 of that section. It is, however, important to note that all the previous studies were undertaken for the previously-proposed and significantly larger wet mining operation, for which the estimated water requirements ranged from 45 000 m^3/day (years 1-11) to 68 000 m^3/day (years 12-30) over the 30-year life of the mine, compared with 13 500 m^3/day for the proposed 21-year period for dry mining. It is also important to note that the Rison (2008) model predicted significantly higher drawdowns than the SRK (2007) study and, since the Rison results are more conservative, the Rison results were used as the basis of assessing the impacts of mining on surface and groundwater resources in the ESIA (section 7.2). It is, however, noted in this section that "*Although neither the magnitude of the drawdown of the water table in and around the mining area nor the effects of mining on groundwater flows through the aquifer can legitimately be extrapolated from the previously modelled results for dredge mining, it can reasonably be supposed that the reduced scale of dry mining - in terms of the area of mining, its duration and especially the significantly lower water requirements - will be reflected in reduced magnitudes of the impacts at all locations*." This accords with Aquaterre's (2013) qualitative observations in this regard. However, it is also noted in this section that the drawdowns modelled by Rison (2008) at the point of abstraction in the mining area (±70m), at Andrevo Haut (±1.3m) and Ranobe Marsh (±3.1m) on the coastal plain, for the full wet-mining abstraction rates noted above, would be reduced to approximately 45m, 0.8m and 1m respectively if abstraction rates were reduced by 50% by recycling water back into the groundwater resource. These reduced (by recycling) abstraction rates are around 66% higher than the proposed dry mining abstraction rate and, as observed above, it is not unreasonable to expect that drawdowns at these and other points in the project's area of influence would be further reduced under the dry mining scenario. Nevertheless, the impacts on groundwater levels are assessed in the ESIA as being Moderate, which can be reduced by implementing effective mitigation measures to Low. It is also recommended that the impacts of water abstraction for mining are re-modelled, during the detailed design of the wellfield, before mining activities commence, preferably using the same model as used by Rison (2008), to confirm that the impact assessment is a reliable reflection of the effects of mining on the ground and surface water resources in the project's area of influence. This recommendation has been accepted by WTR, and Aquaterre's recommendations will be given due consideration when the study is initiated. Additional recommendations include taking steps to optimise water use (by, *inter alia*, recycling water), monitoring the impacts of abstraction on groundwater levels throughout the project's area of influence and, if adverse impacts are detected, taking appropriate steps to mitigate the impacts.	Volume 2: EIE mine Site, Section 2 Description of the Project; Section 3: Analysis and choice of alternatives; Section 4: Description of the physical state of the environment Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

Charlie Gardner (WWF)	7.2.1, Issue 1 of the ESIA: It is difficult to understand how the loss of wells used for drinking water by rural communities can be classed as only a 'moderate' impact, given that these communities cannot survive without drinking water.	The section to which the commentator refers does not say that wells will be "lost". It does say that "*Abstraction from the wellfield could result in a lowering in the water table in hand-dug wells of downgradient users (that is, wells west of the mining areas*)" it goes on to say that "*Wells are generally less than 10 m deep, and a water table lowering of even 1 m could be significant*." Data relating to the results of Rison's groundwater modelling, reproduced from section 7.2 of the ESIA Report, is included in the response to the commentator's previous comment (above). It is not unreasonable to suppose that the drawdown in the coastal plain resulting from the reduced abstraction rates for dry mining could be about 0.5 m, which is of the same order as the 0.3 m fluctuation in water levels observed by the local people, and is relatively easily mitigated by, for instance, a minor increase of the depth of affected wells.	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment;
Charlie Gardner (WWF)	Neither Chapter 10 of the ESIA (on climate change) nor the Faunal study includes an assessment of the impact of habitat fragmentation (as a result of the haul road) on the capacity of habitats and species to migrate in response to climate change. Such an assessment should be considered essential since this is one of the major concerns regarding haul road induced fragmentation.	The manifestations of climate change are likely to be experienced on a large rather than small spatial scale, although spatial impacts on a smaller scale are possible. Considering the physical constraints to the east (limestone plateau), the west (the sea, villages and hotels) and south (town of Toliara), the most likely migration route as a result of climate change for terrestrial species will have to be to the north. Such migrations are unlikely to be negatively impacted by the haul road due to its north-south orientation. In addition, the impact of the haul road on smaller scale migration, whether for climate change or other reasons, has been covered in the faunal specialist report under habitat fragmentation.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment; Subsection 4.1 Volume 9: Faunal Baseline Assessment
Charlie Gardner (WWF)	11.4.4 of the ESIA: If the MSP is located at the port then further water will be required to pump the HMC from the transfer station to the MSP, and this water will be sourced from shallow boreholes adjacent to the Fiherenana River. The impacts of this water abstraction have not been the subject of any assessments and are not mentioned in the Water Assessment.	This option has been eliminated for several reasons, one of which was the additional water requirements for the project (please refer to Chapter 11 of the ESIA).	Volume 4: EIE Port and Jetty, Section 3: Analysis and choice of alternatives

Charlie Gardner (WWF)	11.4.5 of the ESIA: There is no evaluation of the long-term economic benefits of the three haul road options, yet one of the key advantages of option 3, in the opinion of WWF and various other stakeholders, is that it has potential to contribute to the economic development of the region beyond the life of the mine. Such a study should be considered essential before any decisions on haul road options are finalised.	The proposed haul road will not, and has never been intended to, cater for public or general vehicular traffic. For public health and safety reasons this has always been the base case. An assessment of the economic benefits of any of these route alternatives would therefore be pointless as it cannot add any value to the decision making process.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment Report, Section 8: Haul Road impacts
Charlie Gardner (WWF)	P. 373 of the ESIA: The only recommended action to reduce the risks of disruption of ecosystem function and process is “Setting aside of an ecological corridor within the project area that encompasses all of the vegetation types defined in this report”. Note that the only haul road option that would permit the establishment of such a corridor is Option 3.	Please note that this section refers to the risk assessment chapter and that various other mitigation measures are available within the impact sections of the ESIA and the relevant specialist reports. It is undisputed that haul road options 1 and 2 will result in fragmentation of the Ranobe Forest. This has been outlined in the majority of specialist reports and the ESIA. However, the statement that only haul road option 3 will provide for corridors is incorrect, since the corridors proposed within the mine site essentially links all vegetation types.	Volume 1: General Framework, Section 3: Context: Summary Presentation of the Project, Subsection 3.2.12, Section 4: Project vulnerability map Volume 2: EIE mine Site, Section 6 Description of the Social Environment, Subsection 6.1.26 Volume 3: EIE road and quarry, Section 5: Description of the Biological state of the environment, Subsection 5.1, 5.2, Section 6: Description of the Social Environment , Subsection 6.1.22, 6.1.23, 6.2 Volume 16: Social Assessment Report, Section 8: Haul Road impacts

Charlie Gardner (WWF)	14.3.8 of the ESIA: The recommendation to keep records of opportunistic sightings of reptiles, birds and mammals as part of a biodiversity monitoring strategy is of little value if the reliability of identifications cannot be guaranteed and there is no measure of observer effort.	Toliara Sands has committed to use in-country specialists to work in collaboration with external specialists in conducting all required specialist monitoring assessment. We are confident that the reliability of all monitoring plans, including the biodiversity monitoring plan, will be done to international best practice standards.	Volume 2: EIE Mine site, Section 4: Description of the physical state of the environment, Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment; Section 7: Study of the closure plan Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment, Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment; Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment Volume 7: Botanical Specialist Report

Charlie Gardner (WWF)	The monitoring plan should be expanded to include monitoring of the six vegetation communities identified in the botanical assessment, to detect potential changes as a result of lowering of the water table. Further, there will need to be monitoring of project staff to ensure they are not illegally using or procuring natural resources from within the adjacent Ranobe PK32 protected area.	It should be noted that the monitoring chapter included in the ESIA is a general programme indicating the monitoring requirements of the proposed project. As stated in the ESIA: "*Monitoring programmes usually consist of a number of individual monitoring plans covering all aspects of the project designed to address specific issues that were identified during the ESIA process. Impacts assessed during the ESIA phase make recommendations regarding what needs to be monitored during the various phases of the project. These are then put together as a monitoring plan that would constitute the overall monitoring programme for Ranobe Mine Project."* The specific monitoring plans are yet to be developed, as these will be developed by the individual specialists responsible for monitoring each of the aspects. It will be recommended that the suggested monitoring principles are included in the vegetation monitoring, and the monitoring of project staff to avoid illegal use of natural resources is a good idea that must be implemented.	Volume 2: EIE Mine site, Section 4: Description of the physical state of the environment, Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment; Section 7: Study of the closure plan Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment, Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment; Section 5: Section 5: Description of the Biological State of the Environment; Section 6: Description of the social environment Volume 7: Botanical Specialist Report
Charlie Gardner (WWF)	P. 422 of the ESIA: the target closure outcomes of the project include "As far as practical, minimise the immediate negative economic impacts to local communities associated with mine closure and maximise the likelihood of lasting benefits to local communities. This will include leaving infrastructure in place that has a post mining value to the communities". Note that haul road Option 3 appears to be of much greater benefit in this regard than Options 1 and 2, but that further research is needed to quantify these relative benefits.	The Option 3 transport corridor is already in existence due to its close proximity to the RN9, therefore any economic benefits that may stem from this road is already in place. In addition to this, it is noted that there is a government proposal to upgrade the RN9 from Toliara to Mangily. Currently the RN9 provides direct access to hotels and villages, which will not be the case for haul road option 3. It is not clear that assessing the end use economic benefits of any of the haul road options on mine closure (i.e. in 21 years) will provide adequate information to allow for informed decision making at this time.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 3: EIE road and quarry, Section 7: Study of the closure plan Volume 4: EIE Port and Jetty, Section 7: Study of the closure plan

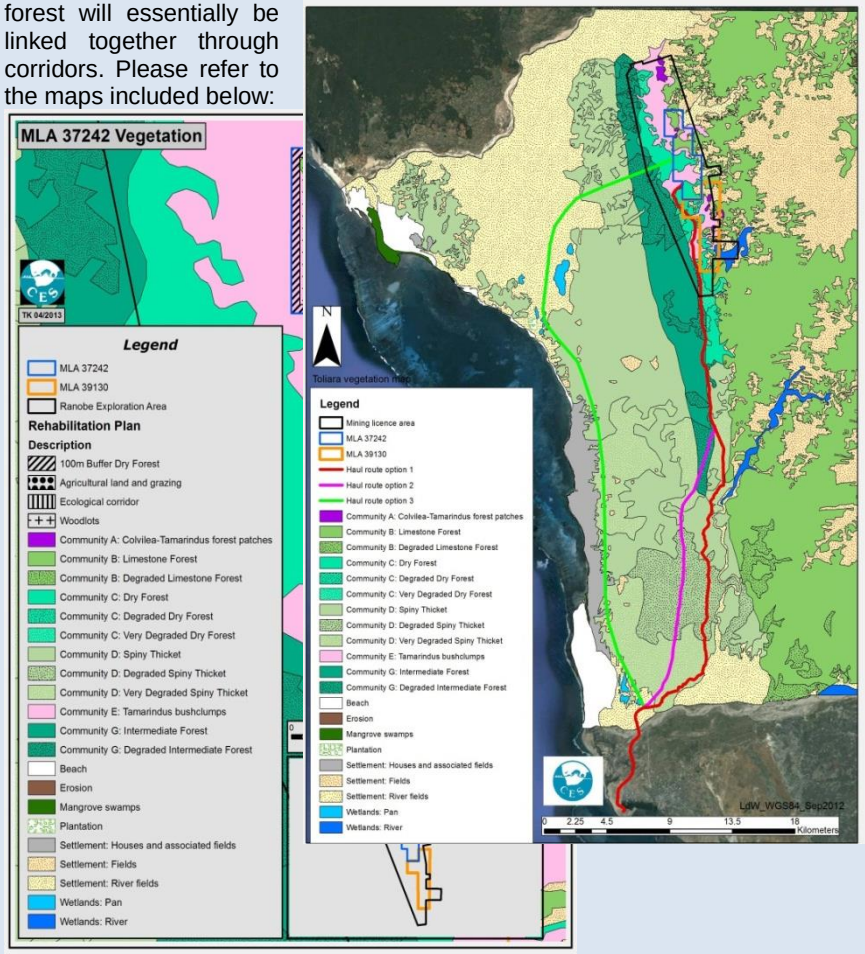
Charlie Gardner (WWF)	The report refers to two specialist studies: 1) de Wet, L. and Davenport, N. *Ranobe Mine Project - Madagascar: Botanical Specialist Report.* Coastal & Environmental Services. August 2012 CES, Grahamstown. 2) Phillipson, P. 2012. *Vegetation Assessment and Floristic Study.* Coastal & Environmental Services. October 2012 CES, Grahamstown. However the published specialist report is cited as: de Wet, L., Phillipson, P., and Davenport, N. *Ranobe Mine Project - Madagascar: Botanical Specialist Report*. Coastal & Environmental Services. January 2012 CES, Grahamstown. Therefore it is not clear which documents are being referred to in the Rehabilitation and Offset Strategy, or whether there is an additional specialist report that has not been made available.	At the time of writing the rehabilitation and offset strategy report, the floristics and vegetation reports were separate documents. These were subsequently merged. The rehabilitation and offset report has been updated to reflect this and the referencing amended.	Volume 7: Botanical Specialist report Volume 14: Rehabilitation and Offset strategy

Charlie Gardner (WWF)	The offset strategy appears not to include any offsetting of carbon emissions from fuel use and transport (nor vegetation clearance), despite the project being a significant producer of CO_2 equivalent according to IFC Performance Standard 3 (See ESIA 10.3.3).	This is incorporated into Chapter 10 of the ESIA (please refer to this Chapter) and various mitigation measures have been suggested as follows: • Quantification of GHG emissions must be conducted annually in accordance with internationally recognized methodologies and good practice; • Committing to efficient use of energy through the environmental policy; • Correctly sizing motors and pumps and use of adjustable speed drives in applications with highly variable load requirements; • Actively considering and, where practical, implementing measures to reduce energy consumption of the development. This may include the installation of solar water heaters; • Ensuring that all machinery, including vehicles, are well maintained; • An Operating procedure for carbon management, including key performance targets, should be designed and implemented. This should include the management of re-vegetated areas (as carbon sink) for carbon offsetting measures; • Development and implementation of an Energy Management Plan for the facility; and • Consideration of carbon sequestration potential when developing the rehabilitation strategy for the facility. Also please note that the focus of the offset strategy is biodiversity offsets.	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment; Subsection 4.1

Charlie Gardner (WWF)	P. 19 states that "The response of species following initial vegetation rehabilitation trials at the bulk sample site and drilling site was examined. Revegetation of both the drilling lines and the bulk site has been successful - with the bulk site being indistinguishable from the surrounding vegetation after about five years" – this is a strong statement and requires verification, but the results of these vegetation rehabilitation trials have not been made available. On the basis of our own observations during a visit to the pilot plant in December 2012, the rehabilitation trial sites are clearly NOT indistinguishable from the surrounding vegetation (C. Gardner pers. obs.). It is not acceptable for such a document to make such strong statements without any documentary evidence.	A section on the rehabilitation undertaken by Toliara Sands to date has been incorporated into the ESIA in Chapter 4 of the ESIA. Below are photographs taken of the various sections that have been rehabilitated to date. Data suggests that the rehabilitation was successful, but the amount of vegetation planted in the rehabilitation trials is at a far greater density than would be done at the scale of the mine area. Recommendations are included, but it is acknowledged that more work is required to determine the best approach to rehabilitation. The wording "indistinguishable from the surrounding vegetation after about five years" will be replaced with "but further research will be required to determine the best approaches for rehabilitation. 	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

Charlie Gardner (WWF)	4.3.2 Rehabilitation options: Cultivation of agricultural crops is not preferred due to the constraints on agricultural production noted in the land and resource use specialist report, i.e. lack of water and poor soil fertility. This option would therefore require the establishment of irrigation infrastructure to be worthwhile. Establishment of grazing lands is not a preferred option as a) forests provide as much value for grazing as open areas do, b) grazing is very extensive, and therefore a land-use of low economic value, c) animal husbandry is increasingly abandoned as a livelihood option in the area as a result of increasing cattle rustling. Creation of woodlots is the preferred option, and has the most potential to a) generate economic returns for end users, and b) reduce demand for forest resources, and therefore reduce degradation rates in adjacent forest. Note that in this option it is not necessary that the woodlots should be composed on indigenous tree species: the prime considerations should be a) suitability to conditions (particularly tolerance of unpredictable rainfall), b) speed of growth/biomass production, and c) suitability for charcoal production. It is likely that exotic tree species fulfil these functions better than indigenous species, in which case they should be selected. Rehabilitation with locally-used plants will have similar, but much smaller, impacts than option 3, and so is not preferred. Note, however, that this can be combined with	These are all valid points which will be used to inform decisions surrounding suitable offsets and rehabilitation strategies and have been included in section 5.3 of the Rehabilitation and Offset Strategy. It is recommended that local communities and stakeholders concerned with their welfare are also consulted on what they feel to be the most suitable options, particularly since agricultural areas will be lost during the mining process. The final strategy will be based on what is feasible for the project area given constraints such as soil fertility and climate as well as what are preferred by local stakeholders and the affected community.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

Charlie Gardner (WWF)	For all options, access and use rights are a key issue and will have to be carefully negotiated and explicitly stated. Management structures will also need to be established and trained to ensure that the desired end-states of the rehabilitated land are achieved.	Noted. This will be dealt with in more detail during the design of the offsets which will include engagement with key stakeholders such as WWF	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy
Charlie Gardner (WWF)	4.3.3 Offsets: The Ranobe PK32 protected area contains five strict conservation zones interspersed within a wider multiple-use landscape. An offset strategy focused on ensuring more effective conservation of the protected area would be appropriate and welcome; this strategy could focus on improving the conservation of the whole protected area, or of one or more of the strict conservation zones. In order to be 'like-for-like', the Ranobe strict conservation zone is the most appropriate as this is the only zone to contain spiny thicket vegetation type that occurs in the permit area.	Noted. This will be investigated further when designing the offset strategies with TSP and local stakeholders.	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

Charlie Gardner (WWF)	The combined approach is appropriate, but must include the re-establishment and conservation of ecological corridors between the red sand (spiny thicket) and limestone areas, preferably including all indigenous vegetation communities identified in the botanical specialist report.	This is not relevant to the mining area since no spiny thicket will need to be removed for mining purposes. However, there is spiny thicket to the west of the intermediate and dry forest. By linking this vegetation type with the Limestone forest that occurs to the east of the project site the spiny thicket and limestone forest will essentially be linked together through corridors. Please refer to the maps included below: 	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 7: Botanical Specialist report Volume 14: Rehabilitation and offset strategy

Charlie Gardner (WWF)	Appendix 1 Ranobe Species of Concern – note that this list contains only floral species of concern, with no faunal list provided.	A faunal species list has been incorporated into the Rehabilitation and Offset Strategy as requested.	Volume 14: Rehabilitation and offset strategy, Appendix 1
Martin Nicoll (WWF)	The following comments concern general observations on the draft assessment and reports using the CES/WTR presentation in Antananarivo as a reference point where this is appropriate. Some comments are specific to details in the documents and these are references below. Repetition of comments made by Charlie Gardner are not repeated here unless added detail is justified.	Noted.	Not relevant to the ESIA
Martin Nicoll (WWF)	The Rehabilitation and Offset Strategy provides a succinct overview of the BBOP process and IFC guidelines for readers that may be unfamiliar with these references. There is a tendency to overemphasize the offset part of the mitigation hierarchy compared to the avoidance and minimization options but the latter are covered.	A table summarising the hierarchy used in selecting rehabilitation and environmental offsets for the project site has been included in Chapter 2.	Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets

Martin Nicoll (WWF)	The Rehabilitation and Offset Strategy remains largely theoretical in discussing mitigation/offset options. This is partly reflected in the references list at the end of the document. The theoretical overtone in the general lack of consideration of the feasibility of a given mitigation choice. A reader unfamiliar with offsetting, whether it be like-for-like spatial offsets, rehabilitation to original habitats, revegetation or replacement would be very unlikely to understand the difficulties and limitations involved in each choice. For example, there is a reference to replacing topsoil following mining activity. The report seems to assume that all topsoil will be recovered prior to mining and that it can all be replaced in viable form at a later date. The absence of solid data means that Table 4.1 is no more than a presentation of the author's opinion: it simply cannot be assessed on the basis of the report's contents.	This document was intended to be theoretical. A Biodiversity Action Plan and further stakeholder engagement is required before the offset strategies can be defined in more detail. Offset strategies need to be site specific and it is intended that this will be developed following a site visit and with input from stakeholders such as WWF. This document is essentially meant to be the "trailer" that precedes the "movie". A section assessing the difficulties with offsets (Chapter 2) and rehabilitation and restoration (Chapter 3) has been included in the report. It is recognised that storing topsoil for long periods results in the loss nutrients and a viable seed bank. The author was unable to find this reference in the text to clarify this point. Please advise where it can be found so that this can be amended and made clearer to the reader.	Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets; Section 3: Rehabilitation offsets

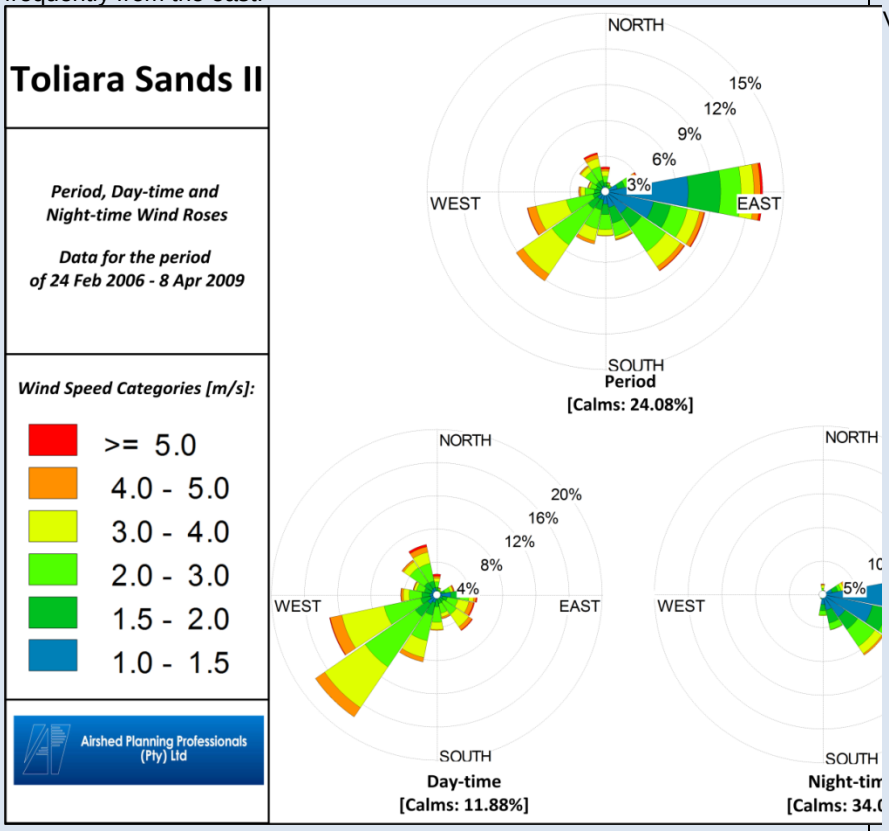
Martin Nicoll (WWF)	The impact avoidance and minimization choices are either minimally presented or absent. These are critically important components of the mitigation hierarchy and their low profile in the report gives an impression that the authors had already decided what options would be taken. Without more detail on avoidance and minimization, the arguments for offsetting or restoration are rather spurious. Note also that it is a common error to jump straight to offsets without having given a rationale for the alternative options	A table discussing how offsets and rehabilitation were decided upon has been included in Chapter 2.	Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets; Section 3: Rehabilitation offsets

Martin Nicoll (WWF)	During the public presentation and less clearly in the report, there has been a tendency to state that restoration (and perhaps offsets) plans will be developed late in the mining cycle. Restoration would therefore be concentrated in this latter period in the cycle. This proposal would immediately raise concern among people knowledgeable about BBOP and IFC, given the repeated history of some mining companies not complying with their restoration/project closure commitments. This is one risk but there are practical considerations that are more technically pertinent and derived from experiences within other mining companies in Madagascar or elsewhere. Implementing the BBOP mitigation hierarchy convincingly is a major challenge and requires many progressive steps that feed into the decision-making process. This has been well documented by both Ambatovy and QMM, albeit in different ways. There is virtually no evidence that TSP has or is going through this process in a convincing manner.	Under section 3.2 on Page 17 of the report the following is stated: *"Since the mining area moves forward with time, rehabilitation of the mined-out area can take place on a continuous basis."* The plan is not to restore and rehabilitate after the mining process but to do so during the process. This has been further emphasised and clarified by adding the section in bold to the sentence below (section 3.2) "*A management approach must be developed where, prior to any disturbance, all land use options are considered with public consultation and reference to the land capability of each specific site. A detailed planning process, including objectives, management prescription, monitoring and review all form part of the process. The strategy for sustainable land-use at mine closure can only be achieved by implementing an integrated approach which recognises the opportunities and constraints dictated by the physical, ecological and social environment throughout the life of the mine."*	Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets; Section 3: Rehabilitation offsets

Martin Nicoll (WWF)	There is reasonable discussion of the linkages between biodiversity and social offsetting. It may be noted that the mine footprint will be largely in an area that has lost much of its original biodiversity value so there is considerable room for exploring options favourable to both biodiversity and local communities. On the biodiversity side, the proposed ecological corridor shown in Figure 5.1 has two ecological corridors. The map raises several questions. For the present, there is no information on how the company will support these corridors or what these corridors will be like following mitigation. A second consideration that could be developed in more detail in the report is how TSP will select and implement offsets programmes with respect to the Ranobe new protected area. The protected area offers considerable worthy options but they are not adequately explored. Turning to social offsets, there are several publications that provide interesting information on options and consequences under various conditions. Key publications are not cited in the report. On the positive side, there is brief mention that the mitigation/ offsets programme must fit into a larger plan. However, there is little discussion on how TSP will fit into such a plan and what its role with respect to government and civil society will be.	As mentioned previously, this report aimed to set the scene for what is to come. Further stakeholder engagement is required to identify how the mitigation/offsets will fit into the larger plan. Although the report touches on possible offsets that require community involvement, it must be remembered that the report deals with biodiversity offsets rather than social offsets and therefore aims at implementing offsets that increase biodiversity in the area. Social offsets will be explored in the Resettlement and Compensation Framework Plan which will only be done once a haul road option has been decided on. To do a Resettlement and Compensation Framework Plan for all three haul roads will raise the expectations of community members that may not be affected by the proposed development.	Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets; Section 3: Rehabilitation offsets Volume 5: Resettlement and compensation action plan

Martin Nicoll (WWF)	The social and cultural background that needs to be inputted into mitigation decision-making is often rather superficial. There is a good example where a charcoal producer states that he will drop charcoal in favour of agriculture if water is made available, and this observation misses some of the critically important reasons why people are farming or producing charcoal in this region.	As above.	Volume 5: Resettlement and compensation action plan Volume 16: Social Assessment report
Martin Nicoll (WWF)	To summarize overall observations on the report, there is a clear need to have at least an outline of a mitigation strategy. As it stands at present, the report is far too theoretical, and lacks a wide range of details that would help it to be convincing.	The intention of this report was to set the scene for what is to come and is therefore by nature intended to be a highlevel, theoretical assessment. As previously mentioned, stakeholder engagement to discuss suitable mitigation and offsets for the area needs to be done in addition to developing a BAP.	Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets; Section 3: Rehabilitation offsets
Martin Nicoll (WWF)	The second paragraph of Section 5.2.1 discusses offset size relative to the loss of habitat through road development. Why is size the issue that has been raised here? Has TSP already decided what and where it will offset?	The paragraph in question states the following: “Since this region is classified as a *critical habitat* the biodiversity offset needs to result in a net gain. It is estimated that approximately 300ha of vegetation will be removed for the construction of the haul road. The value of an offset does not lie in size but in the overall amount of biodiversity gained. Therefore a smaller area, with a higher biodiversity than that which is affected is appropriate, provided this area results in a net gain of biodiversity.” This was merely an example of how the offsets could be implemented within the context of the Ranobe Mine project site. The haul route has not been finalised and therefore it is unknown how much vegetation will be lost. Toliara Sands has not decided on what and where it will introduce offsets as they are relying on guidance from stakeholders and authorities to implement suitable and meaningful offsets.	Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets; Section 3: Rehabilitation offsets; Section 4: Offsets and rehabilitation at the Proposed Ranobe Mine; Section 5: Rehabilitation and offset strategy

Martin Nicoll (WWF)	Madagascar National Parks is not involved in Ranobe. WWF is the promoter of the new protected area. This apparently minor error does raise some worrisome questions on the thoroughness of the report.	The ESIA states the following on pg 146: *"…since 2003 the Government of Madagascar has partnered with international organisations such as WWF…"* In addition to this the ESIA also states: "*The area is co-managed by WWF and an inter-communal association, which includes eight rural communes that are organised in a co-management structure (ibid) based on the Gestion Locale Sécurisée (GELOSE), which translated, means 'protecting local management".* The reports mentioned do not state that MNP is the protected area managers. The reports do however state under the various recommendation sections that: "*These priority areas, especially the Ranobe forest area (as identified within the PK32 area) should be actively managed as a conservation area in partnership with Madagascar National Parks (MNP formerly known as ANGAP = Association Nationale pour la Gestion des Aires Protégées). Additional funding and training would allow for the improved and active management of the area and thus facilitate biodiversity conservation*". It is not unreasonable for the proponent to suggest that any additional funding for the protection of the PK32-Ranobe protected area as part of the biodiversity offset initiative will be given to MNP, since it is a governmental authority within the region. It will then be up to MNP to distribute the funds.	Volume 2: EIE Mine site, Section 6: Description of the social environment Volume 14: Rehabilitation and offset strategy, Section 5: Rehabilitation and offset strategy
Martin Nicoll (WWF)	Section 5.1.2 correctly notes that WWF should inform TSP about their plans for the mining area. There is now a management and land use plan available; it was probably shared with CES/TSP in the past.	CES has received no correspondence from WWF in regards to this plan. Please be so kind as to provide us with a copy.	Volume 14: Rehabilitation and offset strategy, Section 5: Rehabilitation and offset strategy

Martin Nicoll (WWF)	Page 14. Point 4 in air quality assessment and bullet 4 below this. The covered storage facilities will certainly help to minimize dust pollution. However, there are no comments on potential dust loss as the material is transferred from these facilities to the ship. What studies have been done to evaluate the potential pollution of marine habitats and species at the port? The bullet point notes that monitoring will be done west of the mine. Note that the wind changes with season and time of day so this is likely to be inadequate.	Please note that this is a very brief summary of the findings of the Air Quality Assessment undertaken for the proposed development. The bulk loading of ships was considered as a component of "materials handling". In terms of this assessment materials handling is the smallest contributor to off-site fugitive PM_{10}, $PM_{2.5}$ and TSP emissions for both product export options. In addition to this the impact of mineral loss on marine biota was also assessed in the Marine Ecology and Fisheries Assessment. In terms of monitoring, this is based on the dominant wind direction obtained from data sourced during the period of 24 February 2006 to 8 April 2009. According to the data (shown in the figure below) the wind blows the most frequently from the east. 	Volume 2: EIE mine Site, Section 4: Description of the physical state of the environment Volume 3: EIE road and quarry, Section 4: Description of the physical state of the environment Volume 4: EIE Port and Jetty, Section 4: Description of the physical state of the environment Volume 6: Air Quality Assessment

Martin Nicoll (WWF)	Faunal assessment, page 17. There is a note that chemical controls may be used to control pests and unwanted vegetation. More details are needed here as the use of such chemicals in protected areas is not permitted in Madagascar.	The Faunal Assessment states that: "*The chemical control of unwanted vegetation with herbicides, and pest animals with insecticides should be fully controlled and be in accordance with national controls of banned substances*."	Volume 9: Faunal Baseline Assessment, Section 7: Conclusions and recommendations
Martin Nicoll (WWF)	Page 18, vegetation assessment, key recommendations. As noted earlier, there is need for a detailed mitigation plan that is backed up by cogent arguments on assessments and the resulting choices that have been made. The process of developing a mitigation plan and its implementation needs to begin before mining commences.	Noted and agreed.	Volume 7: Botanical Specialist report Volume 14: Rehabilitation and offset strategy
Martin Nicoll (WWF)	The proposed Biodiversity Action Plan is a good recommendation. When will it be ready?	It is currently not known when the Biodiversity Action Plan will be ready for review; however this will be undertaken prior to any construction occurring on site.	Volume 14: Rehabilitation and offset strategy
Martin Nicoll (WWF)	Page 21, water assessment. This section on likely impacts of water use refers consistently to the change from higher water needs to the current operational needs following the switch to dry mining. The water review report states that most of the water use is unlikely to have negative impacts on groundwater, biodiversity or local communities. However, the report does call for reassessment or deeper study in some areas. The water impact assessment needs to be strengthened to be more convincing.	Noted. It is recommended in the ESIA that the impacts of water abstraction for mining are re-modelled, during the detailed design of the wellfield, before mining activities commence, preferably using the same model as used by Rison (2008), to confirm that the impact assessment is a reliable reflection of the effects of mining on the ground and surface water resources in the project's area of influence. This recommendation has been accepted by WTR, and Aquaterre's recommendations will be given due consideration when the study is initiated. Additional recommendations include taking steps to optimise water use (by, *inter alia*, recycling water), monitoring the impacts of abstraction on groundwater levels throughout the project's area of influence and, if adverse impacts are detected, taking appropriate steps to mitigate the impacts.	Volume 20: Water Assessment, Section 3: Review of previous work and implications for scale of current project, Section 4: Implications for Current Project Scale

Martin Nicoll (WWF)	Page 23, decommissioning and closure. The reference to returning the topsoil as a natural seedbank needs to be presented in more detail.	Please note that the section referred to states: "*As far as practical, the natural seed bank within the topsoil will be encouraged to germinate. This will involve developing the operational processes in a manner that minimises the length of time that topsoil is stockpiled.*" This will be expanded upon in the detailed operational EMP that is yet to be undertaken, but will be in place prior to the operational phase of the project.	Volume 5: Resettlement and compensation action plan, Section 3: Environmental Management Plan
Derek Schuurman (author/ journalist)	There has been growing debate and concern in conservation circles about the potential impact of your operation in the area where you plan to exploit ilmenite, north of Tulear/Toliara. I watched your YouTube clip with great interest, and the strategy outlined on it is reminiscent of that used to justify activities of mining operations in coastal areas elsewhere such as near Fort Dauphin (south-east Madagascar) and on the east coast of South Africa (Richards Bay). To what extent do you anticipate it is possible to *truly* rehabilitate the unique and slow-growing 'spiny bush' (sub-arid thorn thicket/ *Euphorbia-Didieraceae* bush) which in that part of Madagascar is at its most aesthetically interesting, not to mention being home to a unique, locally endemic assemblage of plants and animals with an incredibly high rate of endemicity?	Rehabilitation trials were implemented by Toliara Sands in 2006. The objective of these trials was to rehabilitate sampling sites impacted by bulk sampling for the pilot plant. Approximately 132 species were selected. Currently the survival rate of species is approximately 22%. Further work will be required to ascertain what methods could be used to improve the rate of survival. However, the rehabilitation of the mined area will include small areas of rehabilitation to indigenous vegetation, to re-instate ecological corridors, as well as woodlots to reduce the pressure on existing hardwoods in the spiny thicket that are been cleared predominantly for charcoal. As noted in the WWF question on section 4.3.2 above, "Creation of woodlots is the preferred option, and has the most potential to a) generate economic returns for end users, and b) reduce demand for forest resources, and therefore reduce degradation rates in adjacent forest."	Volume 2: EIE Mine site, Section 7: Study of the closure plan Volume 14: Rehabilitation and offset strategy

Derek Schuurman (author/ journalist)	There are grave concerns that your operations will, for example, push two highly localised birds, the Sub-desert mesite and Long-tailed ground-roller, towards extinction, as they both exist only between the Mangoky and Fiherenana Rivers in that south-western corner of the country. Furthermore both species exist in very low densities throughout their narrow range.	These two species inhabit and are restricted to the deciduous spiny forest (an IUCN priority ecoregion) and coastal scrub found in this part of Madagascar. However, this area has been subjected to land use practices such as slash and burn agriculture and natural resource harvesting, particularly of forest products such as wood (for construction and charcoal production), which are not being conducted in a sustainable manner. This exploitation of the natural resources has led to negative consequences for ecosystem functioning and biodiversity in the region. It has been estimated that the primary spiny forest cover has declined by 15.6% between 1962 and 1999, although in the eastern part of this species' range, it has declined by c.28% (Seddon et al. 2000; Tobias and Seddon 2002) and this trend has increased in recent years with the increase in the human population in the area. As part of a WWF initiative to afford this area, and the endemic birds species present, some protection the PK 32 Ranobe Protected Area (PA) was established. The aim of the project was to attempt to minimize these threats by strengthening forest law enforcement, while supporting the development of alternative activities for the people who depend most on these natural resources for their livelihoods. However, it was observed during the baseline vegetation assessment (CES 2013) that the human impacts have continued unabated resulting in the loss of large numbers of both hard and softwood trees throughout the entire project area. This degradation is occurring at an extremely rapid pace. The original study done in 2007 indicated the presence of areas of intact vegetation both within and surrounding the Ranobe Exploration Area, in 2012 however, this is no longer the case. The majority of the vegetation is degraded leaving only very few isolated patches of relatively intact vegetation. Estimates from recent satellite imagery show that over a period of 6 years 18 400 ha of vegetation has been cleared. In 2006, 18% of the PK32 area had been cleared compared to 2012 where 31% of the area had been cleared. It is clear that an incredible amount of degradation has occurred during this time period and it will continue at an accelerated rate in the coming years. The populations of the subdesert mesite (*Monias benschi*) and long-tailed ground roller (*Uratelornis chimaera*) are at most risk from habitat destruction and while the PK 32 protected area has been established it does not appear to have had the conservation affects necessary to protect the remaining subdesert mesite and long-tailed ground roller numbers. The construction of the proposed heavy minerals mining project will see the destruction of a small proportion of the sensitive vegetation inhabited by both the subdesert mesite and the long-tailed ground roller and these potential impacts have been recognised and highlighted in the faunal report (Branch 2013). In recognition of the importance of these species and the sensitivity of the local habitat, it is proposed that prior to any mine development and construction there will be baseline monitoring of birds within the project area. The results of this assessment may help illustrate the potential impact of the development on these bird species but also aid in designing and establishing biodiversity offsets which, in the long term, may act to preserve some of the habitat occupied by this species.	Volume 2: EIE mine Site, Section 5: Description of the Biological State of the Environment Volume 7: Botanical Specialist report Volume 9: Faunal Baseline report

Derek Schuurman (author/ journalist)	What happens to people for whom employment is created while the project lasts, once the resources have been depleted?	Toliara Sands will develop comprehensive and realistic assistance programs to benefit the workers and their families, which are likely to include: • Career counselling and in-country redeployment services empowering the employees to be eligible and employable in other mines; • Required training based on employees' potentialities and the demand for various jobs in other companies or professions; • Financial counselling to workers and spouses; • Synergetic collaboration with the *Bureau régional de l'Emploi* or other private/public services related to employment; • Outsourcing—splitting non-core activities into individual business units to minimize the social impact of restructuring; • Creation of economic development programs involving facilitated access to demobilized workers (for instance, develop new forms of industrial employment in the Toliara area by enabling the development of small scale industries and initiate new forms of livelihood in the rural zones); and • Service to help migrant workers return home in an effective and socially responsible manner.	Volume 2: EIE mine Site, Section 7: Study of the Closure Plan Volume 5: Resettlement and compensation action plan
Derek Schuurman (author/ journalist)	Do you have any plans, or intentions, to try to assist with creation of safeguarding of at least some of the incredible habitat in the areas where you will be extracting ilmenite?	Yes, according to IFC Performance Standard 6 there may be no net loss of biodiversity. CES has developed a preliminary biodiversity offset strategy that is available for review on the CES website (www.cesnet.co.za – public documents).	Volume 1: General Framework, Section 5: Legal Framework, International Conventions, Standards And Code Of Good Practice Volume 14: Rehabilitation and offset strategy, Section 2: Environmental offsets; Section 3: Rehabilitation offsets; Section 4: Offsets and rehabilitation at the Proposed Ranobe Mine; Section 5: Rehabilitation and offset strategy

Lambo Wilfred	The evaluation of environmental impacts strives to assess the importance of impacts generated by the implementation of the Project, so as to determine whether the predicted changes are significant enough to justify the application of mitigation, surveillance and monitoring measures. As such assessment is partly based on value judgment. Intensity : It indicated the degree of disturbance of the environmental element considered, in relation to its integrity, its quality, its function or its internal dynamics. It can be: Strong (3); Medium (2); Weak (1) Duration : It relates to the period over which the impact is felt. It can be : - Permanent (3) - Temporary (2) - Occasional (1) Scale : It indicates the control by or the spatial extent of the effects of the considered impact. It can be : - Regional (3) - (2) - Local (1) The evaluation of the impact uses a combination of those three criteria. The more intense, lasting and widespread, the more important it is. Thus, it can be assessed as : - *major* : which means that it corresponds to a very important change, when it ranges between [9,7] - *medium* : which means that it corresponds to an important change, when it ranges between [6,5]	Thank you for your remarks.	Volume 22: Appendix: Impact Rating Methodology

Lambo Wilfred	The concern relates mainly to the restoration of native vegetation in a zone mineralized after operation (not rehabilitation). This practice feasible but it requires time. We applied a similar procedure in forests of the same type, in a semi-arid climate, within the same Atsimo-Andrefana region (extreme southern part).	Noted.	
Lambo Wilfred	Waste produced by the boats cannot be dumped on the tourism site.	Noted and agreed.	Volume 4: EIE Port and Jetty, Section 1: Legal Framework, International Conventions, Standards And Code Of Good Practice
Lambo Wilfred	Work in partnership with the national experts empowered to share their experiences, so as to avoid delays for the approval of the documents by the validating institution.	CES has relied on in country staff employed by Toliara Sands for assistance in facilitating meetings with local communities, NGO's and Government Departments. In addition to this, it is likely that international specialists will initiate a monitoring programme for the proposed development and where necessary train in-country specialists to continue monitoring throughout the various phases of the project.	Volume 20: Water Assessment, Volume 15: Sediment Transport Assessment

Lambo Wilfred	Correct the spelling mistakes. Use more accurate terms, such as « mitigated » or « eradicated » instead of «designed out » (section 13.3 Social and environmental management system, draft ESIA). There are others.	Noted. The documents have been translated from English. Currently, Toliara Sands staff is working to rectify any errors that may have been created during the translation process.	Volume 1: General Framework Volume 2: EIE mine site Volume 3: EIE road and quarry Volume 4: EIE Port and Jetty Volume 5: Resettlement and compensation action plan Volume 6: Air Quality Assessment Volume 7: Botanical Specialist report Volume 8: Economic Assessment Report Volume 9: Faunal Baseline Assessment Volume 10: Ichthyology and Aquatic Habitat Impact Assessment Volume 11: Land and Natural Recourse use Assessment Volume 12: Marine ecology and Fisheries assessment Volume 13: Radiation Assessment Volume 14: Rehabilitation and offset strategy Volume 15: Sediment Transport Assessment Volume 16: Social Assessment Report Volume 17: Specialist study on Noise Impacts Volume 18: Visual Impact Assessment Volume 19: Waste and Wastewater Assessment Volume 20: Water Assessment Volume 21: : Stakeholder engagement Volume 22: Appendix: Impact Rating Methodology

Lambo Wilfred	Suggested draft table of contents for the final report to be provided to ONE - The first part of the document deals with all other elements than the environmental and social impact studies = VOLUME I - The second part will deal with the environmental and social impact studies per se = VOLUME II - The third part contains all ANNEXES - The fourth part is a SUMMARY.	Noted.	Volume 1: General Framework Volume 2: EIE mine site Volume 3: EIE road and quarry Volume 4: EIE Port and Jetty
Lambo Wilfred	Some section of the studies were hidden (non downloadable), and thus not accessible to many. The reviewer is thus suggesting a table of contents, in light of his knowledge and experiences. It is far from perfect and should be considered a guideline only.	All documents on the CES website have been checked and are downloadable. Please let us know which documents you have been unable to download and we will ensure that you receive these.	Please see this link: http://cesnet.co.za/ranobe.html