

कार्यालय प्रधान मुख्य वन संरक्षक (कक्ष भू-प्रबंध), सतपुड़ा भवन, मध्यप्रदेश, भोपाल
क्रमांक/एफ-1/822/2021/10-11/3497 भोपाल, दिनांक 25/10/2021

प्रति,

वन महानिरीक्षक (एफ.सी.)

भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय

इंदिरा पर्यावरण भवन, अलीगंज, जोरबाग रोड,

नई दिल्ली-110003

विषय:—वन मंडल छतरपुर के वन परिक्षेत्र बकस्वाहा के PF-280, 281, 284, 285, 286, 287, 296 & 302 के रकबा 382.131 हे. वनभूमि बण्डर डायमण्ड ओपन कास्ट पद्धति से हीरा उत्खनन हेतु —मेसर्स ऐस्सेल माईनिंग एण्ड इण्डस्ट्रीज लि. को उपयोग पर देने बाबत

संदर्भ:—भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, दिल्ली का पत्र क्र. 8-04/2021-FC दिनांक 18/10/2021

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आपके द्वारा उपरोक्त संदर्भित पत्र से वन साधिकार समिति की बैठक दिनांक 12.07.2016 में की गई अनुशंसाओं पर मध्यप्रदेश वन विभाग का अभिमत चाहा है।


इस संबंध में विभागीय अभिमत निम्नानुसार है :-

1. प्रस्तावित वनक्षेत्र किसी भी राष्ट्रीय उद्यान या अभ्यारण्य का भाग नहीं है और न ही किसी कॉरीडोर का हिस्सा है। इसकी पुष्टि भारत सरकार द्वारा भारतीय वन सर्वेक्षण संस्थान देहरादून के माध्यम से विकसित DSS से की जा सकती है। इसके अतिरिक्त इस संबंध में आवेदक संस्था ने यह भी जानकारी प्रस्तुत की है कि भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय द्वारा दिनांक 02.12.2019 को जारी प्रेसनोट में एन.टी.सी.ए. एवं भारतीय वन्यजीव संस्थान द्वारा संयुक्त रूप से Connecting Tiger Populations for Long-term Conservation विषय पर देश में स्थापित कॉरीडोर की जो सूची प्रकाशित की है, उसमें प्रस्तावित वनक्षेत्र सम्मिलित नहीं है। भारत सरकार द्वारा जारी प्रेसनोट की प्रति परिशिष्ट-2 में संलग्न है।
2. पूर्व में जो प्रस्ताव प्रस्तुत किया गया था वह एक अन्य संस्था का था। यह प्रस्ताव 971 हेक्टेयर के लिये था। इस संस्था द्वारा वन (संरक्षण) अधिनियम, 1980 के तहत प्रस्तुत प्रस्ताव वापस लेने के कारण प्रस्ताव नस्तीबद्ध कर दिया गया था। राज्य शासन द्वारा 364 हेक्टेयर की माईनिंग लीज की स्वीकृति की कार्यवाही नये सिरे से प्रारम्भ की गई थी, जिसमें वर्तमान कम्पनी को यह माईनिंग लीज स्वीकृत की गई है।
3. अण्डर ग्राउण्ड माईनिंग के संबंध में आवेदक संस्था द्वारा अवगत कराया गया है कि इसे किया जाना सम्भव नहीं है। इस संबंध में आवेदक द्वारा अपने पत्र दिनांक 22.10.2021 से विवरण दिया गया है। आवेदक संस्था का पत्र मय सहपत्रों के संलग्न है।

पूर्व में इस वनक्षेत्र के लिये जो 971 हेक्टेयर का प्रस्ताव वन (संरक्षण) अधिनियम, 1980 के तहत प्रस्तुत किया गया था, वर्तमान में प्रस्ताव में प्रस्तावित 382 हेक्टेयर उसी का एक भाग है।

राज्य शासन द्वारा इस प्रस्ताव को स्वीकृत करने की अनुशंसा की गई है। तदनुसार प्रस्ताव आवश्यक कार्यवाही हेतु प्रस्तुत है।

संलग्न:- उपरोक्तानुसार


25/10/2021
(सुनील अग्रवाल)

प्रधान मुख्य वन संरक्षक (भू-प्रबन्ध)
मध्यप्रदेश, भोपाल


भोपाल, दिनांक 25/10/2021

पृ. क्रमांक/एफ-1/822/2021/10-11/3498

प्रतिलिपि:

1. उप वन महानिदेशक (केन्द्रीय) भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, क्षेत्रीय कार्यालय पश्चिम क्षेत्र केन्द्रीय पर्यावरण भवन, निक रोड नं.-3, ई-5 रविशंकर नगर, मध्य प्रदेश भोपाल।
2. मेसर्स ऐस्सेल मार्किनिंग एण्ड इण्डस्ट्रीज लिमिटेड, आदित्य बिड़ला ग्रुप एस.के. अहीर मार्ग, मुम्बई (महाराष्ट्र)

की ओर सूचनार्थ प्रेषित।


25/10/2021
प्रधान मुख्य वन संरक्षक (भू-प्रबन्ध)
मध्यप्रदेश, भोपाल



EMIL/Bunder/HO/2021/27

22 Oct 2021

The PCCF (Land Management) & Nodal Officer
Forest Department, Government of Madhya Pradesh
Satpuda Bhawan,
Bhopal, Madhya Pradesh

Subject: Proposal of Forest diversion of 382.131 Ha of forest land for Bunder Diamond Mining Project in favour of M/s Essel Mining & Industries Limited, District Chhatarpur, State of Madhya Pradesh (Online Proposal No: FP/MP/MIN/45288/2020) – regarding

**Reference: 1) Letter from your office bearing no F-1/822/2021/10-11/3483 dated 22 Oct 2021
2) EDS from MoEF&CC, New Delhi bearing no FC-8-04/2021-FC dated 18 Oct 2021**

Dear Sir,

With reference to your letter number F-1/822/2021/10-11/3483 dated 22 Oct 2021, seeking response to the EDS queries sought by MoEF&CC, New Delhi vide its letter number FC-8-04/2021-FC dated 18 Oct 2021, we wish to submit as under;-

Prelude

Bunder Diamond is one of the most important and significant discoveries in last 25 years across the globe, and the first diamond discovery in India for over 40 years. It is one of the few advanced stage project in last 15 years likely to become functional globally in immediate future. Finding economic diamond deposit is difficult, over the last 140 years, almost 7000 kimberlite pipes have been sampled by geologists, about 1000 of which have been diamondiferous. However only about 60 were sufficiently rich in diamonds to be economically viable (0.86% only) & just 7 could be referred as “Tier 1” deposit with more than US\$20 Billion worth of reserves (0.1%) or 1 in 1000.

Block allocation Background

The Bunder Diamond Block is allocated to Essel Mining & Industries (EMIL) as auctioned mine under the provisions of MMDR Amendment Act 2015 and Mineral Auction Rule 2015.

The Directorate of Geology & Mining, Government of Madhya Pradesh on 5 July 2019 have issued Notice Inviting Tender (NIT) for grant of Mining Lease through auction over an area of 364 Ha in Bunder Diamond Block.

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Page 1



EMIL have participated in the auction process and submitted the highest bid of revenue share of 30.05% in the competitive auction process. In addition to this revenue share EMIL shall also pay 12.88% as Royalty, DMF & NMET and applicable taxes to the government exchequer.

The project will contribute about INR 28,000 Crores to the exchequer based on the value of estimated resources. The project shall create employment for locals in the range of 1000 to 1500 (direct + indirect) and contribute in big way for socio economic development of industrially deprived district of Chhatarpur.

EMIL was declared as Preferred Bidder after depositing Rs 27.52 Crores towards first tranche of upfront payment as mandated under the provisions of MMDR Amendment Act 2015 and Mineral Auction Rules 2015 and thereafter LOI for grant of Mining lease was issued on 19 Dec 2019.

The LoI mandates EMIL to obtain all statutory clearances required for grant of Mining lease within 3 years from grant of LoI which can be extended by 2 years. EMIL is currently in the process of obtaining statutory clearance including forest clearance under the provisions of Section 2 of the Forest Act 1980.

Point 1: Response to disruption of landscape etc.

- The State Government vide letter No F-1/822/2021/10-11/577 dated 5 February 2021 to MOEF&CC, New Delhi (enclosed as Annexure 1) have confirmed the following:-
 - The location of forest diversion area of Bunder Diamond Block is located at distance of,
 - ✓ 19.03 Km from the Buffer zone of Panna Tiger Reserves.
 - ✓ 41 Km from the Biosphere reserve & Core Zone of Panna Tiger Reserves.
 - ✓ 90 Km from the Ken Ghariyal Wildlife Sanctuary.
 - The forest diversion area in Bunder Diamond Block does not form part of any national park, wildlife sanctuary, biosphere reserve, tiger reserve, elephant corridor, wildlife migration corridor etc.
 - The forest diversion area in Bunder Diamond Block is not located within eco-sensitive zone (ESZ) of the Protected Area notified under Wildlife (Protection) Act, 1972.
 - The forest diversion area in Bunder Diamond Block is not located within 10 Kms area any Protected area or Eco Sensitive Zone.
 - The forest diversion area do not form part of any tiger reserves nor any tiger corridor, copy of the existing tiger corridor published in the report titled "Connecting Tiger Population for Long term Conservation" prepared by National Tiger Conservation Authority is enclosed in Annexure 2.

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- Above all the Project Proponent has been mandated by the CWLW of MP to prepare a Site Specific Wildlife Conservation & Management Plan. The plan will be prepared and implemented at the cost of Project Proponent after approval of the Chief Wildlife Warden of MP. The proponent is in the process of preparing the draft Wildlife Conservation and Management Plan which shall then be submitted to the CWLW for approval.

Point 2: Response to loss of forest

- Utmost care have been taken to minimize the impact on the forest, the Reconnaissance work started over an area of **2450 Sq. Km** in Chhatarpur, Sagar, Tikamgarh & Damoh culminating to identification of Prospecting License of **70 Sq. Km** which got converted into mining lease of 9.54 Sq. Km (954 Ha).
- In order to further reduce the footprint, the Government of Madhya Pradesh have drastically reduced the mining lease area by more than 60% from 954 Ha (proposed to Rio Tinto) to 364 Ha while auctioning the block under the new legislative regime of **MMDR Amendment Act 2015 and Mineral Auction Rule 2015**.
- **The area requested by the present project proponent (EMIL) for diversion under the Forest Act 1980 is 382.131 Ha only and is about 39% of 971.595 Ha applied by the erstwhile lessee Rio Tinto.**
- The number of trees getting impacted by the forest diversion proposal submitted by Rio Tinto was “694689” while the present proposal submitted by EMIL involves merely “215875” trees which is 72% less than the previous application. It is important to mention that the above number of trees will be impacted over a period of 10 – 12 years, whereas the plantation is proposed much ahead of tree felling ensuring the total forest is compensated / developed / grown in advance.
- The Project Proponent shall take all necessary measures to optimize the number of trees under impact and have already confirmed in response to the letter no FC-8-04/2021-DC dated 1 July 2021 of MoEF&CC, New Delhi that, EMIL will optimize the number of trees by 15000-16000 trees thereby reducing the total trees under impact to less than 2 Lacs. The copy of the previous response is enclosed as Annexure 3
- In order to compensate loss of forest a Compensatory Afforestation (CA) Scheme is prepared by DFO, Chhatarpur and approved by CCF. The scheme warrants planting “383000” trees thus compensating about 1.8 times of the trees proposed for diversions. The plantation will be undertaken in the same forest division which shall help to restore the ecology of the local area. To further state that deforestation activity will be phased over a period of 10 -12 years.
- The Mine Plan approved by Indian Bureau of Mines mandates EMIL to plant another “425000” trees within the mine lease area as part of reclamation and rehabilitation. The reference for the approved mine plan is enclosed as reference in Annexure 4.
- The aforementioned plantation of “425,000” trees within mining lease area as part of reclamation plan has also been reported in the Site Inspection Report by **DDG Forest, Regional Office,**

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MoEF&CC, Bhopal, extracts of select page of the report is enclosed as Annexure 5 for your ready reference.

- **Thus the Project Proponent shall plant 808000 trees which is 400% or 4 times of 200000 trees likely to be impacted.**
- As per the approved mine plan the project proponent will progressively rehabilitate and restore the project area by undertaking progressive plantation within the mine lease area. At the end of mine life, the complete ML area will be rehabilitated, restored and handed over back to the Forest department. **Apart of planting 425,000 trees within mining lease area about 112 Ha area will be developed as water body to promote aquatic life and support migratory birds thus adding to the diversity of wildlife in the area. This large waterbody will also improve ground water recharge and serve as a water hole for wild animals in the surrounding area particularly in the dry summer months.**
- The Hon'ble Chief Minister of MP in the development project review meeting on 7 June 2021 has directed that within state wherever deforestation activities are proposed for project development there we should plant multiple time of deforested trees so that there is no harm to environment. He further stated that in Chhatarpur district where one development project is proposed may lead to deforestation of 2 Lacs trees should be backed by afforestation of 10 Lacs trees. The Hon'ble Chief Minister of MP emphasised that CAMPA fund can be used for additional plantation, maintenance of forest etc.
- **The Bunder Diamond project will be one of the largest efforts in India to compensate phased loss of about 2,00,000 trees with planting in over 18,00,000 trees, thus compensating not only in terms of numbers but also the loss of Ecosystem services.**
- The project is also mandated to pay prescribed NPV that will compensate the loss of forest.
- Proposed 364 hectares of forest land is much lesser than the area proposed to the erstwhile lessee Rio Tinto and comprises of about 0.25% of the total forest cover of Chattarpur, in other words only 1 tree in every 400 trees will be impacted.

Point 3: Response to explore options of Underground Mining

Natural diamonds are formed under high pressure and temperature at depths extending few hundred kilometres in the Earth's mantle. Diamond or carbon crystals so formed are carried to the surface through volcanic eruptions and deposited in igneous rocks known as kimberlites or Lamprite, its because of the geometrical shape these type of orebodies are called pipes. The morphology of kimberlite pipes (or eruption) and their classical carrot shape / Inverted cone is the result of explosive diatreme volcanism from very deep mantle-derived sources. Schematic of Kimberlite Pipe is provided in Figure 1

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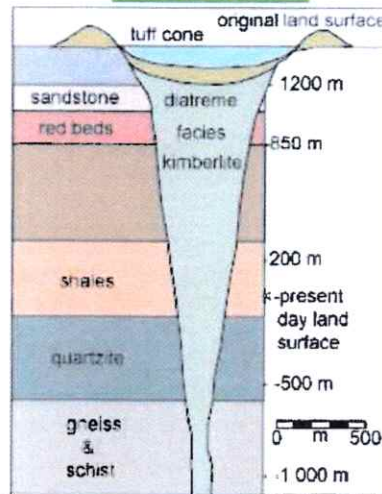


Figure 1: Schematic of Kimberlite Pipe

The proposed lease area in Bunder Diamond Block contains only one Kimberlite pipe known as Atri Pipe which is exposed right upto the surface and is amicable to surface / opencast mining only.

Directorate of Geology & Mining, Government of Madhya Pradesh prepared the Geological report for Bunder Diamond Block in compliance to Minerals (Evidence of Mineral Contents) Rules, 2015) and reported mineral reserves of 53.7 Mt with incidence rate of 0.63 Carat/ton upto depth of 350 meters from the surface. The report clearly mentions that the Bunder Diamond block is amenable to opencast method of mining and thus the government have reported the mining type and reserves based on adopting opencast mining. Relevant extracts of Geological report published along with Tender of Bunder Diamond Block is enclosed as Annexure 6

It is important to mention that the Bunder Diamond Block forms the part of Vindhyan Sedimentary Basin. The Kimberlites pipes is exposed right upto the surface and is divided in two domains namely North Atri and South Atri.

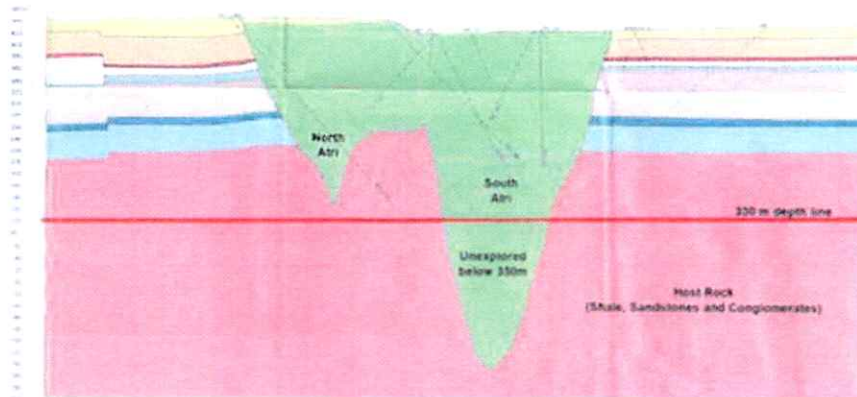


Figure II: Longitudinal Section of Ore Body (Source: IBM Approved Mine Plan)

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The Atri pipe in the proposed mining lease area being conical in shape thus contains higher tonnages (more than 55% of total tonnages) in upper sections which reduces with depth. Importantly diamond incidence is also higher near surface and reduces in the deeper sections of ore body.

- a) Adoption of underground mining in the present case will block major volumes and quantity as part of Crown Pillar required for supporting underground mine workings and surface structures reducing the available tonnages drastically from the auctioned mineral resource base of 53.7 Million Tonnes.
- b) Further the underground mining methods have limited extractability of the ore and in the best case it enables extraction in the range of 70 – 75 % of the available ore.
- c) Underground mining projects have long gestation period for developing the project, the smaller scale of operations will seriously impact the techno-commercial viability of the project making it unviable.

Thus in the event underground mining is adopted majority of ore will be blocked as pillar (not available for mining) reducing the scale of operation and seriously impact the techno commercial viability of the project making it unviable.

Adoption of underground mining methods in the case Bunder Diamond project will not only be an unviable proposition but will also compromise the principles of mineral conservation and optimum extractions of mineral resources be compromised. It is paramount importance to mention that the Govt of Madhya Pradesh have already reduced the mining lease area by more than 62% considering minimal footprint, scientific extraction of the mineral resource kimberlite in this case.

Point 4: Status of the earlier proposal

With regard to the earlier proposal bearing number F. No. 8-22/2015-FC submitted by Rio Tinto for diversion of 971.595 Ha. Rio Tinto intimated Government of Madhya Pradesh that Rio Tinto has decided not to proceed with the development of the Bunder Diamond Project for commercial reasons and will accordingly close the project and withdraw the application of Mining Lease and as a consequence, other relevant applications and approvals connected with this mining lease application also stand relinquished.

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Submitted for your kind perusal and look forward for your earliest action in this regard for propelling the proposal forward.

Thanking you

For Essel Mining & Industries Limited

K.K.S.



Krishan Kant Sinha

Enclosed

1. Annexure 1: The State Government letter No F-1/822/2021/10-11/577 of 5 Feb 2021
2. Annexure 2: Tiger Corridor published by NTCA
3. Annexure 3: Response to letter no FC-8-04/2021-DC dated 1 July 2021
4. Annexure 4: Extracts from Approved Mine Plan
5. Annexure 5: Extracts from Site Inspection Report by DDG Forest, MoEF&CC, Bhopal
6. Annexure 6: Extracts from Geological report of Bunder Diamond Block

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Annexure 2 - Tiger corridors in Country
Press Information Bureau
Government of India
Ministry of Environment, Forest and Climate Change
02 DEC 2019 4:11PM by PIB Delhi

The National Tiger Conservation Authority in collaboration with the Wildlife Institute of India has published a document titled “**Connecting Tiger Populations for Long-term Conservation**”, which has mapped out 32 major corridors across the country, management interventions for which are operationalised through a Tiger Conservation Plan, mandated under section 38V of the Wildlife (Protection) Act, 1972. The list of macro/landscape level tiger corridors are as under:

Sl. No.	Landscape	Corridor	States/ Country
1.	Shivalik Hills & Gangetic Plains	Rajaji-Corbett	Uttarakhand
		(ii) Corbett-Dudhwa	Uttarakhand, Uttar Pradesh, Nepal
		(iii) Dudhwa-Kishanpur-Katerniaghat	Uttar Pradesh, Nepal
2.	Central India & Eastern Ghats	(i) Ranthambhore-Kuno-Madhav	Madhya Pradesh, Rajasthan
		(ii) Bandhavgarh-Achanakmar	Madhya Pradesh, Chhattisgarh
		(iii) Bandhavgarh-Sanjay Dubri-Guru Ghasidas	Madhya Pradesh
		(iv) Guru Ghasidas-Palamau-Lawalong	Chhattisgarh & Jharkhand
		(v) Kanha-Achanakmar	Madhya Pradesh, Chhattisgarh
		(vi) Kanha-Pench	Madhya Pradesh, Maharashtra
		(vii) Pench-Satpura-Melghat	Madhya Pradesh, Maharashtra
		(viii) Kanha-Navegaon Nagzira-Tadoba-Indravati	Madhya Pradesh, Maharashtra, Chhattisgarh, Andhra Pradesh
		(ix) Indravati-Udanti Sitanadi-Sunabeda	Chhattisgarh, Odisha
		(x) Similipal-Satkosia	Odisha
		(xi) Nagarjunasagar-Sri Venkateshwara National Park	Andhra Pradesh
3.	Western Ghats	(i) Sahyadri-Radhanagari-Goa	Maharashtra, Goa
		(ii) Dandeli Anshi-Shravathi Valley	Karnataka
		(iii) Kudremukh-Bhadra	Karnataka
		(iv) Nagarahole-Pusphagiri-Talakavery	Karnataka
		(v) Nagarahole-Bandipur-Mudumalai-Wayanad	Karnataka, Kerala, Tamil Nadu
		(vi) Nagarahole-Mudumalai-Wayanad	Karnataka, Kerala, Tamil Nadu
		(vii) Parambikulam-Eranikulam-Indira Gandhi	Kerala, Tamil Nadu
		(viii) Kalakad Mundanthurai-Periyar	Kerala, Tamil Nadu
4.	North East	(i) Kaziranga-Itanagar WLS	Assam, Arunachal Pradesh
		(ii) Kaziranga-Karbi Anglong	Assam

	(iii) Kaziranga-Nameri	Assam
	(iv) Kaziranga-Orang	Assam
	(v) Kaziranga-Papum Pane	Assam
	(vi) Manas-Buxa	Assam, West Bengal, Bhutan
	(vii) Pakke-Nameri-Sonai Rupai-Manas	Arunachal Pradesh, Assam
	(viii) Dibru Saikhowa-D'Ering-Mehaong	Assam, Arunachal Pradesh
	(ix) Kamlang-Kane-Tale Valley	Arunachal Pradesh
	(x) Buxa-Jaldapara	West Bengal



EMIL/Bunder/HO/2021/14

9 July 2021

The APCCF (Land Management) & Nodal Officer
 Forest Department, Government of Madhya Pradesh
 Satpuda Bhawan
 Bhopal, Madhya Pradesh

Subject: Proposal for diversion of 382.131 Ha forest land for Bunder Diamond Project in favour of M/s Essel Mining & Industries Limited District, Chhatarpur State of MP (Online Proposal No FP/MP/MIN/45288/2020)-regarding.

Reference:

1. Your letter no F-1/622/2021/10-11/2155 dated 2 July 2021
2. Letter from MoEF&CC, New Delhi bearing letter no FC-8-04/2021-DC dated 1 July 2021

Dear Sir,

With reference to the above stated letters dated 1st & 2nd July 2021, seeking response on the EDS queries sought by MoEF&CC, New Delhi, we are herewith stating the response on the requested points below,

Point 1: Part II of the Forest diversion proposal contains details of the no of trees enumerated but the details of the actual tree felling required for the project is not provided. In this regard, it is requested to provide the complete details of actual number of trees to be felled against the figure submitted and type of mining.

Response:

- The number of trees enumerated by the state forest department within the applied forest diversion area of 382.131 Ha is 215,875 trees. It is pertinent to mention that 179,839 trees (~83.3% of total trees) are with girth size of 0 – 60 cm and balance 36,036 trees are with girth size more than 60 cm.
- The mine plan for the project is approved by the Indian Bureau of Mines, which provides mining to be undertaken in phases ensuring optimal utilization of land, therefore the tree felling will be phased over a period of 10 -12 years.
- The Project Proponent while undertaking mining will ensure optimal utilization of land thereby minimizing the trees felling. No tree felling will be required in the 7.5m wide safety zone along lease boundary, while tree felling will be optimised in others also. It is envisaged that about 15000 – 16000 trees will not come under felling during the operation of the project. Thus the total trees under impact will be less than 2 lacs. It is pertinent to mention that the Project Proponent shall be paying NPV upfront to offset the immediate loss to the ecosystem as per Hon Supreme Court directives although the tree felling is phased over the years.

Essel Mining & Industries Ltd.

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- The Project Proponent as part of Compensatory Afforestation shall be planting 383,000 trees in the Compensatory Afforestation land. The plantation of 383,000 trees will be undertaken much ahead of start of mining operations and both the CA and NPV payments are done before actual start of mining.
- Additionally 425,000 trees will be planted within the lease area as part of reclamation and rehabilitation as per approved Mine plan over the life of the project.
- On 7th June 2021, the Chief Minister's Office announced multi-fold plantation to negate the impact by tree cutting due to developmental projects in the State. The announcement mentions that in Chhatarpur district, estimated 2 lakh trees will be cut for the developmental project but 10 lakh trees will be planted in the district. The announcement reiterated the Government's commitment to use Compensatory Afforestation Fund Management and Planning Authority (CAMPA) funds for additional plantation.

Point 2: Detailed note on methodology adopted on Diamond Mining

- The Project Proponent will undertake mining by adopting mechanized Opencast Method using shovel dumper combination. The unit operation for mining are site preparation, drilling, blasting, excavation, loading and transport of ore and waste. The major equipment used in mining will be drilling machines, shovels, dump trucks dozers etc.
- The mine will be designed systematically by opening up benches for excavation of ore and waste. The ore mined will be transported to wet mineral processing plant while the waste will be stacked in the waste dumps within the lease area.
- The ore transported to the mineral processing plant will be crushed, screened and processed for recovery of rough diamonds. The tailings generated after recovery of diamonds will be dry disposed and stacked separately in designed tailings dumps within the lease area.
- Progressive and final reclamation of mine will be undertaken as per approved mine plan and the lease will be handed over back to the forest department on mine closure.
- The mining operation will be undertaken as per the Approved mine plan and international best practice in mining operation.

Our responses may be suitably incorporated in your consolidated response to the MoEF&CC in this regard. We look forward for your earliest response on the matter to propel the project forward.

Thanking you

For Essel Mining & Industries Limited

Krishan Kant Sinha
General Manager



Essel Mining & Industries Ltd.

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Mining Plan for Bunder Diamond Block

Village Sagoria, Tehsil Buxwaha, District Chhatarpur, Madhya Pradesh
Project Area: 364 Ha; Peak Production Capacity: 5 MTPA (ROM)



Abandoned Pits as Water Reservoirs

It is unlikely that Atri pit will be used as a water reservoir until exploration of deeper Kimberlites is completed and the viability of working the deposit at depth is investigated. If mining below the open pit in an underground mining operation is deemed viable and is approved by authorities, the Atri pit would be kept dry to reduce the risk of inundation of a potential underground operation.

Once open pit and any underground mining is complete, the Atri pit will be recontoured at surface to create a pit lake which could potentially act as a water reservoir, if the Atri pit is converted to a water reservoir.

The proposed lease being surrounded by forest area, the water from reservoir may only be used by the forest department or with their consent.

Programme for Afforestation

As stated earlier, during the first five years, plantation can be carried out over several planned green belts in the mining lease area: namely along lease boundary (7.5m), around processing plant, around infrastructure area, around magazine, etc. The total area to be planted during first five years will be approximately 12.73 ha within which an estimated 25,460 trees can be planted. During the conceptual period, plantation will be carried out over 224.5 Ha within which, about 4, 00,000 trees will be planted. Details of the proposed plantation program is given in Table 8.8.

Table 8.8: Proposed Green belt Development/ Plantation Programme

Year	Dumps		Worked out Benches		Backfilled area		Green Belt*		Total	
	Area Ha	Trees	Area Ha	Trees	Area Ha	Trees	Area Ha	Trees	Area Ha	Trees
1	0	0	0	0	0	0	2.88	5,760	2.88	5,760
2	0.27	540	0	0	0	0	2.80	5,600	3.07	6,140
3	0.23	460	0	0	0	0	2.40	4,800	2.63	5,260
4	0.95	1,900	0	0	0	0	0	0	0.95	1,900
5	3.20	6400	0	0	0	0	0	0	3.20	6,400
Sub total	4.65	9,300	0	0	0	0	8.08	16,160	12.73	25,460
6 to life	200.0	4,00,000	24.5#	-	0	0	0	0	224.5	4,00,000
Total	204.65	4,09,300	24.5	--	0	0	8.08	16,160	237.23	4,25,460

* Green belt includes plantation in 7.5 m safety barrier zone, plantation around infrastructure area, around Processing Plant and around Magazine area.

310 – 320	1701762	0.744	121	463098	0.13	122	3741
300 – 310	1650933	0.743	121	379000	0.13	122	3355
290 – 300	1596146	0.751	121	318026	0.13	122	2991
280 – 290	1535923	0.741	121	250287	0.13	122	2639
270 – 280	1448249	0.777	121	180114	0.13	122	2371
260 – 270	1413667	0.76	121	122391	0.13	122	2078
250 – 260	1355448	0.778	121	64653	0.13	122	1813
240 – 250	1303005	0.784	121	38890	0.13	122	1520
230 – 240	1227659	0.814	121	15037	0.13	122	1281
220 -230	1166269	0.817	121	3782	0.13	122	1023
210 -220	1096215	0.804	121	-	-	-	810
200 – 210	1052728	0.818	122	-	-	-	589
190 – 200	997969	0.834	122	-	-	-	389
180 – 190	937181	0.879	122	-	-	-	227
170 – 180	865332	0.885	122	-	-	-	93
160 – 170	727412	0.854	122	-	-	-	35
150 – 160	572212	0.847	122	-	-	-	10
140 – 150	417229	0.855	122	-	-	-	-
130 – 140	285160	0.812	122	-	-	-	-
120 – 130	186655	0.813	122	-	-	-	-
110 – 120	98976	0.842	122	-	-	-	-
100 – 110	16861	0.842	122	-	-	-	-
Total Tonnage	41561775			12137536			118756.179

An open pit mine with a projected diameter of 920 m and a depth of 345 m, with overall slope angles of 38° - 40° would contain 41.56 million tonne of ore in the south domain and 12.14 million tonnes in the north domain. The average incidence of diamonds of the ore will be 0.78 carat of diamond per tonne of ore reserves in the south and 0.13 carat/t in the north. The estimated recovered Diamond from 53.70 million tonne ore material will be approximately 34.20 million carats.

The confidence levels in the tonnage and incidence of diamonds estimations are sufficient to classify the Resources as economically mineable reserves under the UNFC classification system.

5.1 United Nations Framework Classification (UNFC)

5.1.1 Overview

The UNFC is a universally applicable scheme for classifying / evaluating mineral reserves/resources . The classification consists of three dimensional axial systems which include geological assessment, feasibility assessment and economic viability, expressed as a three digit code based system. The economic viability of project presents the first digit, the feasibility axis the second digit and the geology axis the third digit. Three main category are used to describe the economic viability, three to describe feasibility and four to describe the level of geological knowledge.

5.1.4.3 Geophysical survey:

Ground geophysical surveys and downhole geophysical surveys have been conducted over the Bunder mine area. A total of 1095 line km of ground magnetic surveys, 7.2 line km of orientation Nemo TEM surveys were completed on 8 grids within the kimberlite anomalous catchments, which identified a number of magnetic anomalies in the project area which include the Arti orebody. Down hole Gamma, resistivity, seismic and acoustic televiwer surveys were subsequently conducted on selected drill holes over the Atri Resources.

5.2 Reserves Summary

Total reserves up to depth of 345 / 350 m (100 m RL) is 53.70 Mt as under:

South Atri 41.56 Mt @ 0.78 ct / t

North Atri 12.14 Mt @ 0.13 ct / t

These are classified as under:

Proved – upto 200 mRL – 36.46 Mt UNFC Classification 111

Probable from 200 mRL to 100 mRL –17.24 Mt. UNFC Classification 122

*UNFC Classification of estimated reserves is given in ~~Annexure 8~~.

6. CONCLUSIONS AND RECOMMENDATIONS

RTEI has explored its Bunder PL area with maximum speed, safety and efficiency in a technical competent manner. As a result of these diligent efforts it has been able to delineate a definitive area that is prospective for economically minable diamondiferous kimberlites.

The Bunder kimberlite are being evaluated for their diamond potential based on their results from the samples processed in the Bunder DMC Plant.

Additional work is required to obtain more confidence in the reserves below 200 mRL and to increase the reserve.