OMC | ODISHA NEW OPPORTUNITIES

Letter No. **5927**/OMC/F&E/2022
11th April, 2022

To

The Divisional Forest Officer
Keonjhar Division

Sub: Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in favour of M/s Odisha Mining Corporation Ltd in District Keonjhar (Odisha)-reg.

Ref: (i) Letter No.8-26/2019-FC dt 06.05.2021 of MoEF & CC, Govt. of India.
(ii)Letter No. 9414/F&E dt 21.05.2021 of Spl. Secretary to Govt., F&E Department.
(iii)Letter No.3280/6F-Mining-256/2018 dt 28.05.2021 of DFO, Keonjhar.

Sir

The point wise compliance to the conditions stipulated by MoEF & CC, Govt. of India in the stage-I Forest clearance granted vide letter under reference (i), subsequent directives given by the Special Secretary to Govt., F&E Department, Govt. of Odisha, vide letter under reference (ii) and instruction given by DFO, Keonjhar vide letter under reference (iii) for non-forestry use of 1243.270 ha of forest land pertaining to Dubna-Sakradih Iron and Manganese ore mines of OMC is given as under:

A. Conditions which need to be complied prior to handing over of forest land by the State Forest Department and compliance is to be submitted prior to Stage-II approval.

1. **Compensatory Afforestation:**

I. ***The cost of compensatory afforestation at the prevailing wage rates as per compensatory afforestation scheme and the cost of survey, demarcation and erection of permanent pillars, if required on the CA land, shall be deposited in advance with the Forest Department by the user agency. The CA will be maintained for 10 years. The scheme may include afforestation of indigenous species with appropriate provision for anticipated cost increase for works scheduled for subsequent years.***

In compliance, it is submitted that DFO, Keonjhar vide letter No. 2061/Mining-98/2021 dt 21.03.2022 has raised a demand for Rs 78, 34, 38,300/- on OMC towards the cost of CA over 1243.27 ha as per the approved financial outlay communicated by CCF (Nodal) vide Memo No.5035 dt 16.03.2022 with a maintenance period of 10 years at the prevailing wage rate including the cost of survey, demarcation and erection of RCC pillars. The demand has been vetted online by CCF (Nodal) and as per the challan generated through PARIVESH portal, OMC transferred Rs 78, 34, 38,300/- online through RTGS mode vide UTR No. UBINJ 2208941715 dt 30.03.2022 in ORRISA CAMPA Account No.: 150825830349175, IFSC Code: UBIN 0903710 in Union Bank of India, Lodhi Complex Branch, Block-11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003. The approved scheme includes afforestation of indigenous species with provision for 20% escalation to meet the anticipated increase of cost for work scheduled for subsequent years. The copy of the approved CA scheme, revised technical approval of CA cost, demand letter by DFO, RTGS receipt in support of proof of deposit by OMC is enclosed as **Annexure-I Series** for reference.

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ii. *The KML files of diverted area, the CA areas, the proposed SMC treatment area and the WLMP area shall be uploaded on the e-Green watch portal with all requisite details prior to Stage II approval;*

In compliance, it is submitted that OMC vide letter No.5443/OMC/F&E/2022 dt 02.04.2022 has submitted a CD containing the KML files of total diversion area, the CA areas, the proposed SMC treatment area within ML and the WLMP area (Core and Buffer) to DFO, Keonjhar to upload the same on the e-Green watch portal. Necessary compliance to this effect may kindly be recommended.

2. ***The User Agency shall transfer the funds towards the cost of Net Present Value (NPV) of the forest land being diverted under this proposal from the User Agency as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No. 202/1995 and the guidelines issued by this Ministry vide its letter No. 5-3/2007-FC dated 05.02.2009 through online portal of CAMPA account of the State Concerned;***

In compliance, it is submitted that the entire cost towards NPV as per the demand and instruction given by DFO, Keonjhar have been deposited by OMC. The details are given as under:

Demand raised by DFO		Amount paid by OMC		
Letter No and date	Amount in Rs	Letter No and date	Amount in Rs	DD/UTR No.& date
No. 5169/ dt 26. 08. 2006 (Over 542.065 ha of virgin X Rs 7.50 lakh and 253.229 ha X Rs 5.80 lakh of broken up forest area) over 795.294 ha.	5534215 70/-	18182/OMC/F&E/06 dt 11.09.2006	Rs 146872820/- (For broken up area of 253.229 ha only)	DD No. 717200 to 717347 dt 09.09.2006 of Rs 9,90,000/- each and No.717348 dt 09.09.2006 of Rs 3,52,820/- and No.717348 dt 09.09.2006 of Rs 3,52,820/-
No. 208/Min, dt 16.06.2010 [Eco value class-I, canopy density-0.3, 902.607 ha (1155.836 ha - 253.229 ha) X Rs 7,30,000/-]	6589031 00/-	14194/OMC/F&E/10 dt 22.07.2010	Rs 658903110/- (902.607 ha)	DD No. 650829 dt 22. 07.2010
No. 838/Min, dt 03.02.2014 (interest on belated payment).	974816 /-	6103/OMC/F&E/14 dt 18.03.2014	Rs 974816/-	ANOBN 140675960006 dt 07.03.2014
Total			Rs 806750746/- (1155.836 ha)	

The demand raised during 2006 and 2010 has been deposited in shape of DD and the demand raised during 2014 has been transferred through RTGS as instructed by DFO, Keonjhar in his demand letters. A reconciled report on the deposit of funds in shape of DDs during 2006 and 2010 may kindly be attached to make it easier for CAMPA verification.

Subsequently, OMC transferred Rs 8, 21, 00,526/- towards NPV as per the demand raised by DFO, Keonjhar over balance 87.434 ha (Total Forest area: 1243.27 ha – NPV already paid over the forest area: 1155.836 ha) of forest land through RTGS vide UTR No. UBINJ 22055064629 dt 24.02.2022 in ORRISA CAMPA Account No. 150825830349999, IFSC Code: UBIN 0903710 in Union Bank of India, Lodhi Complex Branch, Block 11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003 as per the challan generated through PARIVESH portal. The copy of the demand letters by DFO, DDs, RTGS receipts in support of proof of all the deposits made by OMC is enclosed herewith as **Annexure-II Series** for reference.

3. ***Compensatory levies to be realized from the User Agency under the project shall be transferred/ deposited, through e-challan, in to the account of CAMPApertaining to the State concerned through e-portal (https://parivesh. nic .in/);***

In compliance, it is submitted that OMC has transferred/deposited all the compensatory levies through e-challan (except in the year 2006 & 2010 when amount has been deposited in shape of DD as per the instruction) in to the account of CAMPApertaining to Odisha State through e-portal (https://parivesh. nic.in/). The details of the entire deposits made by OMC for Dubna-Sakradih Mines are placed in the CAMPA format as **Annexure-III** for needful.

4. ***Encroachment over forest land in the proposed area shall be removed by the State Government prior to Stage II approval. It shall be ensured that rehabilitation of evicted persons do not encroach upon the forest land.***

In compliance, it is submitted that the rights of the dwellers in the forest land of Dubna-Sakradih ML area have already been settled under FRA, 2006. A certificate by Collector, Keonjhar have been issued in Form-II for the possessive rights within 1243.27 ha of forest land included within ML area. An undertaking by OMC to ensure that rehabilitation of evicted persons, if any, do not encroach upon the forest land is given at **Sl.No.1 of Annexure-IV (UT-A)** is enclosed herewith.

5. ***Following activities, as per approved plan/schemes, shall be undertaken in the lease area by the User Agency under the supervision of the State Forest Department. Approved scheme/plan shall be submitted to the Ministry along with compliance of Stage-I approval:***

i. ***Mitigative measures to minimize soil erosion and choking of stream shall be implemented within a period of three year with effect from the issue of Stage-IIclearance in accordance with the approved Plan in consultation with the State Forest Department.***

In compliance, it is submitted that a scheme for mitigative measures to minimize soil erosion and choking of stream have been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 44, 16,000/-. An undertaking by OMC at **Sl.No.2** of **Annexure-IV (UT-A)** is enclosed herewith to implement the scheme by OMC at the approved financial outlay in the lease area under the supervision of the State Forest Department within a period of three years with effect from the date of issue of Stage-II forest clearance. The copy of the approval and approved copy of the scheme is enclosed as **Annexure-V** for reference.

ii. ***Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme;***

In compliance, it is submitted that the area earmarked for safety zone have been considered as the appropriate area within the mining lease. In this regard, a scheme for planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion has already been considered in the scheme prepared for fencing, protection and afforestation of the safety zone area with a total financial outlay of Rs 2, 62, 15,100/- as per the condition No.8 (i) of this stage-I approval order and enclosed as Annexure-XII. Hence, no separate financial forecast has been proposed. This has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021. An undertaking by OMC at **Sl.No.3** of **Annexure-IV (UT-A)** is enclosed herewith to implement the scheme in the lease area by OMC under the supervision of the State Forest Department. The copy of the approval and approved copy of the scheme is enclosed as **Annexure-VI** for reference.

iii. ***Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour in accordance with the approved scheme;***

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In compliance, it is submitted that a scheme for construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 1,96,42,000/-. An undertaking by OMC at **Sl.No.4** of **Annexure-IV (UT-A)** is enclosed herewith to implement the scheme by OMC within the ML area at the approved financial outlay under the supervision of the State Forest Department. The copy of the approval and approved copy of the scheme is enclosed as **Annexure-VII** for reference.

iv. ***Stabilize the overburden dumps by appropriate grading/ benching, in accordance with the approved scheme, so as to ensure that angles of repose at any given place is less than 28° and***

In compliance, it is submitted that a scheme to Stabilize the overburden dumps by appropriate grading/benching, so as to ensure that angles of repose at any given place is less than 28° has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 6,04,15,000/-. An undertaking by OMC at **Sl.No.5** of **Annexure-IV (UT-A)** is enclosed herewith to implement the scheme by OMC within ML area at the approved financial outlay under the supervision of the State Forest Department. The copy of the approval and approved copy of the scheme is enclosed as **Annexure-VIII** for reference.

v. ***No damage shall be caused to the top-soil and the user agency will follow the top soil management plan.***

In compliance, it is submitted that a scheme for Top Soil management with special emphasis that no damage shall be caused to the top soil has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 91, 90,700/-. An undertaking by OMC at **Sl.No.6** of **Annexure-IV (UT-A)** is enclosed herewith to implement the scheme by OMC within ML area at the approved financial outlay under the supervision of the State Forest Department. The copy of the approval and approved copy of the scheme is enclosed as **Annexure-IX** for reference.

6. ***User agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.40), if any, located in the area within 100 meter from outer perimeter of the mining lease. The plan for plantation and SMC activities will be prepared and submitted to MoEF & CC before Stage-II Clearance;***

In compliance, it is submitted that a scheme to undertake gap planting and soil & moisture conservation activities over 84.861 ha of non-forest and open forest area and implementation of ANR without gap plantation over 77.229 ha of MDF area to restock and rejuvenate the degraded open forests having crown density less than 0.40 within 100 meter from outer perimeter of the mining lease has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 2, 59, 42,300/. Since, the 100 mtr strip is outside the ML area, it will be easier for the State Forest Department to execute the work by utilizing the funds deposited by OMC. In this regard, OMC has transferred Rs 20, 91, 08,458/- online through RTGS vide UTR No. UBINJ 22076649463 dt 17.03.2022 in ORRISA CAMPA Account No. 150825830349994, IFSC Code: UBIN 0903710 in Union Bank of India, Lodhi Complex Branch, Block 11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003 as per the challan generated through PARIVESH portal basing on the demand raised by DFO, Keonjhar vide letter No.631/Mining dt 25.01.2022 which includes the approved amount of Rs 2, 59, 42,300/-.

The copy of the approval letter by RCCF, Rourkela, demand letter by DFO, RTGS receipt in support of proof of the deposit by OMC is enclosed herewith as **Annexure-X** for reference. The copy of the approved scheme of plantation along with SMC activities and relevant location maps is enclosed as **Annexure-XI** for reference.

7. ***The User Agency shall prepare a list of existing village tanks and other water bodies with GPS co-ordinates located within five km from the mine lease boundary. This list is to be duly verified by the concerned Divisional Forest Officer. The User Agency shall regularly undertake desilting of these village tanks and other water bodies so as to mitigate the impact of siltation of such tanks/water bodies. A detailed approved plan for de-silting of identified ponds and water bodies to be prepared in consultation with forest department and shall be submitted to MoEF & CC before Stage-II approval;***

In compliance, it is submitted that a scheme for de-silting 12 nos of existing village tanks/water bodies regularly so as to mitigate the impact of siltation of such tanks/water bodies located within five km from the mine lease boundary, duly verified by DFO, Keonjhar has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 1, 34, 70,300/-. The certificate by DFO, Keonjhar that the village tanks and water bodies included in the scheme for de-silting has been verified. An undertaking by OMC at **Sl.No.7** of **Annexure-IV (UT-A)** is enclosed herewith to implement the scheme by OMC in consultation with the State Forest Department. The copy of the approved scheme along with the location of the village tanks/water bodies on Topo Sheet and Google image is enclosed as **Annexure-XII** for reference.

8. ***Safety Zone Management: Following activities, at project cost, shall be undertaken by the user agency for the management of safety zone as per relevant guidelines issued by the Ministry's guidelines:***

i. ***User agency shall ensure demarcation of safety zone (7.5 meter strip all alongthe inner boundary of the mining lease area), and its fencing, protection and regeneration by erecting adequate number of 6 feet high RCC boundary pillars inscribed with DGPS coordinates with barbed wire fencing and deploying adequate number of watchers under the supervision of the State Forest Department;***

In compliance, it is submitted that a scheme for demarcation of safety zone (7.5 meter strip all alongthe inner boundary of the mining lease area) over **21.3207 ha** and its fencing, protection and regeneration by erecting adequate number of 6 feet high RCC boundary pillars written with DGPS co-ordinates and bounded by barbed wire fencing and deploying adequate number of watchers under the supervision of the State Forest Department has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 2, 62, 15,100/-. The map showing the area earmarked for safety zone, details of co-ordinates of safety zone pillars and photographs of the RCC pillars along safety zone boundary are attached with the approved scheme. An undertaking by OMC at **Sl.No.8** of **Annexure-IV (UT-A)** is enclosed herewith to implement the scheme by OMC under the supervision of the State Forest Department. The copy of the approval and approved scheme is enclosed as **Annexure-XIII** for reference.

ii. ***Boundary of the safety zone of the mining lease, adjacent to habitation/roads, should be properly fenced by the user agency;***

In compliance, it is submitted that fencing along the safety zone boundary with barbed wire adjacent to the habitation/road shall be done by OMC as per the cost structure included in the approved scheme enclosed at **Annexure-XIII.**

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iii. ***Safety zone shall be maintained as green belt around mining lease and to ensure dense canopy in the area, regeneration shall be taken up in this area by the user agency at project cost under the supervision of the State Forest Department;***

In compliance, it is submitted that a scheme for maintenance of the safety zone as green belt around mining lease and to ensure dense canopy in the area has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 2,62,15,100/-. Adequate steps shall be taken to regenerate the vegetation under the supervision of the State Forest Department. An undertaking by OMC at **Sl.No.9** of **Annexure-IV (UT-A)** is enclosed herewith to implement the scheme by OMC under the supervision of the State Forest Department.

iv. ***Afforestation on degraded forest land to be selected elsewhere, measuring one and a half times the area under safety zone, shall also be done at the project cost under the supervisions of the State Forest Department. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape files before Stage-II approval and afforestation will be done within three years from the date of Stage-II clearance and maintained thereafter in accordance with the approved Plan in consultation with the State Forest Department; and***

In compliance, it is submitted that a scheme for afforestation over 31.981 ha (being 1.5 times the area under safety zone) of degraded forest land in Belda Reserved Forest under Sadar Range, Keonjhar has been approved by RCCF, Rourkela vide letter No.3870/3F-1033/2021 dt 23.12.2021 with a total financial outlay of Rs 1,38,53,900/-. DFO, Keonjhar vide letter No.631/Mining dt 25.01.2022 has raised a demand to transfer Rs 1, 38, 53,900/- online through RTGS mode. Accordingly, OMC transferred the said amount vide UTR No. UBINJ 22076649463 dt 17.03.2022 in ORRISA CAMPA Account No. 150825830349994, IFSC Code: UBIN 0903710 in Union Bank of India, Lodhi Complex Branch, Block 11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003 as per the challan generated through PARIVESH portal. The shape file of the degraded forest land over 31.981 ha is enclosed herewith in form of a CD. The State Forest Department shall undertake afforestation within three years from the date of issue of Stage-II forest clearance and maintained thereafter in accordance with the approved Plan. The copy of the demand letter by DFO and RTGS receipt in support of proof of the deposit by OMC is enclosed as **Annexure-XIV Series**.

v. ***The State Government and the user agency shall ensure that safety zone is maintained as per the prescribed norms;***

In compliance, an undertaking by OMC is enclosed at **Sl.No.10 of Annexure-IV (UT-A)** to ensure that safety zone is maintained as per the prescribed norms.

9. ***The cost of felling of trees shall be deposited by the User Agency with the State Forest Department;***

In compliance, an undertaking by OMC is given at **Sl.No.11 of Annexure-IV (UT-A)** to deposit the cost of tree felling with the State Forest Department on receiving the demand.

10. ***The user agency does not propose to subject the whole lease area to mining/ancillary uses in one go in the beginning of the proposed lease period. Some areas may be worked 10/20 years after the commencement of leases, and such areas could be productively used for growing short rotation forestry crops in such interim period. If so, the life cycle ecological cost of the mining project would reduce considerably, besides financial benefits to the lease holders. State Government shall, therefore, initiate a pilot study, at the cost of user agency, through an institute of national repute like ICFRE, IIFM, etc. which can explore a model of use of the degraded forests within the mining lease for***

more productive biological uses (e.g. raising short rotation forestry crops) for intermittent periods during the currency of mining lease period in a way thatthe ecological services continue to flow in an augmented manner and at the same time mining activities are not adversely affected. Such a model should enable user agency to raise additional revenue from the lease area. If successful, such models could be replicated elsewhere also for co-development of mining and ecology.

In compliance, it is submitted that the Department of Forest and Environment has awarded the work in favour of ICFRE, Jabalpur to undertake a pilot study by utilizing the funds (Rs 31.388 lakhs) to explore a model of use of the degraded forests within the mining lease for more productive biological uses (e.g. raising short rotation forestry crops) for intermittent periods during the currency of mining lease period. The team of ICFRE experts has visited the site twice and continuing the study. An undertaking by OMC at **Sl.No.12 of Annexure-IV (UT-A)** is enclosed herewith to implement the scheme by OMC within ML area as per the recommendation by ICFRE duly approved by the State Forest Department. The copy of the correspondences in this regard is enclosed as **Annexure-XV** for reference.

11. ***A site-specific Wildlife Management Plan shall be prepared by the State Government in consultation with the PCCF (Wildlife) for the protection and conservation of wildlife of the area. Comments of the Project Elephant Divisionof the MoEF & CC (copy enclosed) shall be addressed in the said Plan and a copy of approved Plan shall be submitted to the Ministry along with thecompliance of Stage-I approval. Entire cost of implementation of the provisions of the Wildlife Management Plan shall be deposited into the account of CAMPA of the State;***

In compliance, it is submitted that the Site Specific Wildlife Conservation Plan pertaining to Dubna-Sakradih mining lease area was approved by the PCCF (Wildlife) & CWW, Odisha vide Memo No. 9432/1WL-SSP-62/2016 dt 30.11.2016 with a total financial outlay of Rs 1218.423 lakhs. The above plan has been revised after incorporating the comments by the Project Elephant Division, MoEF & CC, Govt. of India and got it approved by PCCF (Wildlife) for the protection and conservation of wildlife of the area with an enhanced total financial outlay of Rs 600.867 lakh. OMC has transferred Rs 20, 91, 08,458/- online through RTGS vide UTR No. UBINJ 22076649463 dt 17.03.2022 in ORRISA CAMPA Account No. 150825830349994, IFSC Code: UBIN 0903710 in Union Bank of India, Lodhi Complex Branch, Block 11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003 as per the challan generated through PARIVESH portal which includes Rs 600.867 lakhs towards cost of implementation of the provisions approved in the Wildlife Management Plan as per the demand raised by DFO, Keonjhar vide letter No.9184/Mining-98/2011 dt 21.12.2021.

In addition to above, OMC has also transferred Rs 10, 92, 25,558/- towards implementation of Regional Wildlife Management Plan as per the demand raised by DFO, Keonjhar vide letter No. 710/6F-Mining-98/2021 dt 28.11.2022 computed over total mining lease area of 1332.019 ha @ Rs 82000/-per ha being a part of Rs 20, 91, 08,458/- transferred online through RTGS vide UTR No. UBINJ 22076649463 dt 17.03.2022 in ORRISA CAMPA Account No. 150825830349994, IFSC Code: UBIN 0903710 in Union Bank of India, Lodhi Complex Branch, Block 11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003 as per the challan generated through PARIVESH portal.

The copy of the approved and approval of SSWLC plan, demand letters by DFO and the RTGS receipts in support of proof of the deposit by OMC towards SSWLCP and RWLMP is enclosed herewith as **Annexure-XVI Series** for reference.

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12. ***State Government shall complete settlement of rights, in term of the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the documentary evidence, along with compliance of Stage-I approval, as prescribed by this Ministry's letter No. 11-9/1998-FC (Pt.) dated 03.08.2009 read with 05.07.2013, in support thereof; and***

In compliance, it is submitted that the Gram Sabha was conducted during December, 2016 in villages: Dubuna, Handibhanga, Jampani, Pedipokhari, Purunadih, Naibuga and Bsantapur including Pedipokhari and Naibuga Reserved Forest. The resolution of Gram sabha was discussed in SDLC and DLC meeting on dt 28.01.2017 and dt 10.02.2017 respectively. Accordingly, the Collector, Keonjhar has issued the certificate in Form-II under the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 over the total forest land of 1243.27 ha included within the ML area. The copy of the certificate along with the copy of the resolutions of the SDLC and DLC meetings in Odia and its translation in English is enclosed as **Annexure-XVII Series**.

13. ***The compliance report shall be uploaded on e-portal (https://parivesh.nic.in/).***

In compliance, it is submitted that the compliance report of the stage-I stipulations shall be uploaded by OMC in the e-portal (https://parivesh.nic.in/) on getting the CA land verified by CCF (Nodal).

B. Conditions which need to be complied on field after handing over of forest land to the user agency by the State Forest Department but the compliance in form of undertaking shall be submitted prior to Stage-II approval.

1. ***Legal status of the diverted forest land shall remain unchanged;***

In compliance, an undertaking by OMC has been submitted to pursue the State Govt. to maintain the legal status of diverted forest land unchanged at **Sl.No.1** of **Annexure-XVIII (UT-B).**

2. ***The compensatory afforestation over non-forest land, equal in extent to the forest land being diverted i.e. 1243.27 ha, shall be raised by the State Forest Department at the project cost within three years from the date of grant of Stage - II approval;***

In compliance, it is submitted that the State Forest Department shall raise the compensatory afforestation over 1243.27 ha of non-forest land, equal in extent to the forest land being diverted i.e. 1243.27 ha by utilizing the funds deposited by OMC in CAMPA within three years from the date of grant of stage-II forest clearance.

3. ***At the time of payment of the Net Present Value (NPV) at the present rate, the user agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India;***

In compliance, an undertaking by OMC is given at **Sl.No.2** of **Annexure-XVIII (UT-B)** to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India.

4. ***Trees should be felled in phased manner as per the requirement in the approved Mining Plan with prior permission of concerned DFO;***

In compliance, OMC has furnished an undertaking at **Sl.No.3** of **Annexure-XVIII (UT-B)** to request DFO, Keonjhar to give permission for removal of trees in a phased manner as prescribed in the Mining Plan approved by IBM.

5. ***The user agency shall explore the possibility of translocation of maximum number of trees identified to be felled and shall ensure that any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department.***

In compliance, an undertaking by OMC is given at **Sl.No.4** of **Annexure-XVIII (UT-B)** to explore the possibility of translocation of maximum number of trees identified to be felled when it is unavoidable and that too under strict supervision of the State Forest Department.

6. ***The User Agency shall undertake mining in a phased manner after taking due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or the concern Addl. Principle Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities area satisfactorily executed.***

In compliance, it is submitted that in order to achieve the production target of 3.0 million tons of iron ore and 50000MT of manganese ore, operation at several locations within the already broken up area of the ML has been approved by IBM in the mining plan vide letter No.RMP/A/41-ORI/BHU/2019-20.2237 dt 04.02.2020. Considering the nature of the ore occurrences, concurrent reclamation is not possible from the first year of operation and during 4th and 5th year of five year (2020-21 to 2024-25) plan period of the Mining Plan, part of the waste generated shall be back filled in the de-mineralized portion of the pit. Subsequently, during the next block of 5-year plan period from 2025-26 till the end of the lease period, entire waste generated from the mine shall be utilized for backfilling in the de-mineralized portion of the pit. Since the mine is yet to operate, the back filling sequence is likely to be shifted to the next plan period. The copy of the extract of the Progressive Mine closure Plan approved by IBM along with the approval copy is enclosed as **Annexure-XIX.**

The reclamation plan shall be strictly followed as per the mining plan approved by IBM. An undertaking to this effect and submission of annual report on implementation of the above to the CCF (FD & NO) and Regional Officer, IRO is given at **Sl.No.5** of **Annexure-XVIII (UT-B)**.

7. The User Agency shall comply with the Hon'ble Supreme Court order on re-grassing, and re-grass the mining area and any other areas which may have been disturbed due to mining to restore them to a condition which is fit for growth of fodder, flora, fauna, etc. in a timely manner;

In compliance, an undertaking by OMC is given at **Sl.No.6** of **Annexure-XVIII (UT-B)** to comply with the Hon'ble Supreme Court order on re-grassing and re-grass the mining area and any other areas which may have been disturbed due to mining to restore them to a condition which is fit for growth of fodder, flora, fauna, etc. in a timely manner.

8. Period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development and Regulation) Act, 1957, as amended and the Rules framed there-under;

In compliance, it is submitted that OMC will consider this diversion order co-terminus with the mining lease period granted under Mines and Minerals (Development and Regulation) Act, 1957, as amended and the Rules framed there-under.

148.

9. ***The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;***

In compliance, it is submitted that OMC has filed application for grant of Environmental Clearance for production of 3.0 million tons of iron ore and 50000MT of manganese ore from Dubna-Sakradih Mines under EIA Notification 2006. Accordingly, MoEF & CC has approved the ToR vide F. No. 23-241/2018-IA-III (V) dt 27.05.2019. The Public Hearing has been conducted on dt 10.10.2021 by the State Pollution Control Board and final EIA/EMP report submitted before MoEF & CC vide letter No.16586/OMC/F&E/2022 dt 03.11.2021.The proposal was discussed in the EAC meeting held on dt 29.03.2022. The copy of approved ToR, letter on final submission of the EIA/EMP report to MoEF & CC and copy of the Agenda of the EAC meeting is enclosed as **Annexure-XX series** for reference.

10. ***No labour camp shall be established on the forest land and the User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas;***

In compliance, an undertaking by OMC is given at **Sl.No.7** of **Annexure-XVIII (UT-B)** that no labour camp shall be established on the forest land and OMC to provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas.

11. ***The boundary of the diverted forest land, mining lease and safety zone, as applicable, shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and GPS coordinates;***

In compliance, it is submitted that the list along with photographs of RCC pillars of mining lease boundary, diversion forest area (RF, Forest as on 25.10.1980 & Revenue forest), safety zone area and 1.5 times safety zone area, each indicated with its number and GPS co-ordinates is enclosed at **Annexure-XXI series.**

12. ***The layout plan of the mining plan/proposal shall not be changed without the prior approval of the Central Government and the forest land shall not be used for any purpose other than that specified in the proposal;***

In compliance, an undertaking by OMC is given at **Sl.No.8** of **Annexure-XVIII (UT-B)** to the effect that the layout plan of the mining plan/proposal shall not be changed without the prior approval of the Central Govt. and the forest land shall not be used for any purpose other than that specified in the proposal.

13. ***The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approvalof the Central Government.***

In compliance, an undertaking by OMC is given at **Sl.No.9** of **Annexure-XVIII (UT-B)** to the effect that the forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approvalof the Central Govt.

14. ***No damage to the flora and fauna of the adjoining area shall be caused;***

In compliance, an undertaking by OMC is given at **Sl.No.10** of **Annexure-XVIII (UT-B)** to the effect that no damage to the flora and fauna of the adjoining area shall be caused.

15. ***The User Agency shall submit the annual self-compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and to this Ministry by the end of March every year regularly;***

In compliance, an undertaking by OMC is given at **Sl.No.11** of **Annexure-XVIII (UT-B)** to submit the annual self-compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and to MoEF & CC, New Delhi by the end of March every year regularly after grant of stage-II forest clearance and commencement of mining operation.

16. ***Any other condition that the concerned Regional Office of this Ministry may stipulate with the approval of competent authority in the interest of conservation, protection and development of forests & wildlife; and***

In compliance, an undertaking by OMC is given at **Sl.No.12** of **Annexure-XVIII (UT-B)** to abide by any other condition to be stipulated by IRO, Bhubaneswar in the interest of conservation, protection and development of forests & wildlife.

17. ***The user agency shall comply all the provisions of the all Acts, Rules, Regulations, Guidelines, Hon'ble Court Order (s) and NGT Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project.***

In compliance, an undertaking by OMC is given at **Sl.No.13** of **Annexure-XVIII (UT-B)** to comply all the provisions of the all Acts, Rules, Regulations, Guidelines, Hon'ble Court Order (s) and NGT Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project.

18. ***Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as prescribed in para 1.21 of Chapter 1 of the Handbook of comprehensive guidelines of Forest (Conservation) Act, 1980 as issued by this Ministry's letter No. 5-2/2017-FC dated 28.03.2019.***

In compliance, an undertaking by OMC is given at **Sl.No.14** of **Annexure-XVIII (UT-B)** that OMC shall not violate any of the conditions stipulated above failing which OMC shall be liable for action to be taken as prescribed in para 1.21 of Chapter 1 of the Handbook of comprehensive guidelines of Forest (Conservation) Act, 1980 as issued by this Ministry's letter No. 5-2/2017-FC dated 28.03.2019.

In addition to the above, the following information is submitted regarding PF notification of the non-forest Government land selected for compensatory afforestation by the State Government under section-33 of Orissa Forest Act, 1972 in compliance to the condition No.3 of the letter No.11-423/2011-FC dt 02.04.2019 by MoEF & CC, Govt. of India:

Sl. No.	Name of the district & Tahasil	Name of the village	PF Notification by the State Government		
			Letter No. and date	Area in ha	Name of the PF
1	Kalahandi/ Thuamul Rampur	Madangaguda	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6912 / FE &CC; dt 11.04.2022	86.687	"Madangaguda Protected Forests"
2		Bhataguda	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6919 / FE &CC; dt 11.04.2022	34.767	"Bhataguda Protected Forests"

Sl. No.	Name of the district & Tahasil	Name of the village	PF Notification by the State Government		
			Letter No. and date	Area in ha	Name of the PF
3	Kalahandi/ Thuamul Rampur	Nunresh	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6926 / FE &CC; dt 11.04.2022	108.792	"Nunresh Protected Forests"
4		Uperjhabi	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6940 / FE &CC; dt 11.04.2022	266.942	"Uperjhabi Protected Forests"
5		Silet	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6968 / FE &CC; dt 11.04.2022	89.342	"Silet Protected Forests"
6		Nakrundi	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6961 / FE &CC; dt 11.04.2022	144.416	"Nakrundi Protected Forests"
7		Khandala	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6954 / FE &CC; dt 11.04.2022	106.8004	"Khandala Protected Forests"
8		Pokhariguda	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6947 / FE &CC; dt 11.04.2022	230.00	"Pokhariguda Protected Forests"
9		Kumjore	No.FE-DIV-FLD-0031-2021-10F (Cons) 77/2019-6933 / FE &CC; dt 11.04.2022	175.549	"Kumjore Protected Forests"
TOTAL				**1243.27**	

The copy of the PF Notification of the above mentioned nine villages are enclosed as **Annexure-XXII Series** for reference.

It is requested to kindly examine the compliance and recommend to higher quarter for onward submission to MoEF & CC, Govt. of India for grant of stage-II Forest Clearance over 1243.27 ha of forest land pertaining to Dubna-Sakradih iron and manganese ore mines of OMC Ltd to commence the mining operation.

Yours faithfully,

(Dr. Suman Krishna Sit)
General Manager (Geology)
Authorized signatory

Encls. as above.

ANNEXURE_I series

SCHEME FOR

SITE SPECIFIC COMPENSATORY AFFORESTATION

OVER

1243.27 HA OF NON-FOREST GOVT. LAND

IN VILLAGES

UPARJHABI, POKHARIGUDA, KUMJORE, SILET, NAKRUNDI, KHANDALA, BHATAGUDA, MADANG GUDA & NUNRESH

UNDER THUAMUL-RAMPUR TAHASIL

IN

KALAHANDI DISTRICT

AGAINST

DUBUNA SAKRADIHI IRON & MANGANESE ORE MINING LEASE

IN KEONJHAR DISTRICT, ODISHA

OF

M/s ODISHA MINING CORPORATION LTD.

(A Govt. of Odisha Undertaking)

OMC HOUSE, POST BOX-34, BHUBANESWAR-1

@ Rs. 315.00/- per Manday

Detailed scheme for Compensatory Afforestation to be carried out in lieu of 1243.27 hectares of forest area proposed to be diverted for Dubuna-Sakradihi Iron and Manganese Ore Mines of Odisha Mining Corporation Ltd. in Keonjhar District.

Total Mining Lease area of Dubna-Sakradihi Iron & Manganese Ore mine is 1332.019 hectares out of which 1243.27 ha is forest land. A proposal for diversion of 1243.27 ha of forest land has been submitted by OMC for approval. A CA scheme over 1243.27 ha in villages Uparjhabi (266.942 ha), Pokhariguda (230 ha), Kumjore (175.547 ha), Silet (89.316 ha), Bhataguda (34.769 ha), Khandala (106.8004 ha), Madanguda (86.687 ha), Nakarundi (144.4166 ha) and Semikhal (108.792 ha) was approved by PCCF (N) while complying the observation by MoEF & CC. Collector, Kalahandi has allotted non-forest Govt. land over 89.316 ha vide letter no. 486/Rev dt. 06.04.2017 in village Silet, over 144.4166 ha in village Nakrundi and over 108.792 ha in village Semikhal vide letter no. 1793/Rev dt. 09.10.2019, over 900.7454 ha vide letter no. 2538/Rev dt. 20.12.2019 in villages Kumjore (175.5470 ha), Pokhariguda (230.00 ha), Uparjhabi (266.9420 ha), Khandala (106.8004 ha), Bhataguda (34.7690 ha) and Madanguda (86.6870 ha).

Stage-I Forest Clearance over 1243.27 ha has been granted by MoEF & CC vide letter dt. 06.05.2021. Condition no. A.1.i of the Stage-I approval is given as under:

"*The cost of compensatory afforestation at the prevailing wage rates as per compensatory afforestation scheme and the cost of survey, demarcation and erection of permanent pillars, if required on the CA land, shall be deposited in advance with the Forest Department by the user agency. The CA will be maintained for 10 years. The scheme may include afforestation of indigenous species with appropriate provision for anticipated cost increase for works scheduled for subsequent years*".

Stage-I FC has been communicated by State Govt. vide letter dt. 21.05.2021. While communicating the Stage-I FC, APCCF (N) has revised the CA scheme over 1243.27 ha @ Rs. 311/- per manday with a financial outlay of Rs. 64,98,15,000/-. During processing of alienation of non-forest Govt. land in favour of State Forest Dept., Tahasildar, Thumaul Rampur has observed in his status report dt. 20.01.2021 that Patta has been issued to villagers over most of the allotted plots under FRA, 2006 in village Semikhal. Therefore OMC requested Collector, Kalahandi for allotment of alternative non-forest Govt. land for raising CA. Collector, Kalahandi vide letter no. 2997 dt. 06.09.2021 allotted 108.792 ha of non-forest Govt. land in village Nunresh under Thuamul Rampur, Tahasil of Kalahandi District.

The individual patches of total CA land allotted in nine different villages were examined through Decision Support System and the analysis is given as below:

Sl. No.	Name of the village	DSS Results		Total area in ha
		Open Forest or Non-Forest Area in ha	MDF Area in ha	
1	Uparjhabi	245.947	20.995	266.942
2	Pokhariguda	230.00	Nil	230.00
3	Kumjore	175.547	Nil	175.547
4	Silet	88.312	1.004	89.316
5	Nakrundi	144.4166	Nil	144.4166
6	Khandala	106.8004	Nil	106.8004
7	Bhataguda	34.769	Nil	34.769
8	MadangGuda	85.82	0.867	86.687
9	Nunresh	108.792	Nil	108.792
Total		1220.404	22.866	1243.27

Labour Commissioner of Odisha vide letter no. 5639/LC dt. 02.11.2021 has revised the minimum wage rate to Rs. 315/- per Manday.

Considering the results of DSS and observations during field verification, the CA scheme over 1243.27 ha are now revised at Current wage rate is given as under:

Name of the village	Type of Plantation	Area in ha	No. of seedlings to be planted per ha	Total no. of seedlings to be planted
Uparjhabi	Bald hill	245.947	1600	393515
	ANR without Gap	20.995	Nil	0
	Sub-total	**266.942**	-	**393515**
Pokhariguda	**Bald hill**	**230.00**	**1600**	**368000**
Kumjore	Bald hill	91.026	1600	135234
	ANR with Gap	84.521	400	33808
	Sub-total	**175.547**	-	**169042**
Silet	Bald hill	88.316	1600	141306
	ANR without Gap	1.00	Nil	0
	Sub-total	**89.316**	-	**141306**
Nakrundi	Bald hill	143.3266	1600	229323
	ANR without Gap	1.09	Nil	0
	Sub-total	**144.4166**	-	**229323**
Khandala	Bald hill	**106.8004**	1600	**170881**
Bhataguda	Bald hill	**34.769**	1600	**55630**
Madang Guda	Bald hill	85.82	1600	13731
	ANR without Gap	0.867	Nil	0
	Sub-total	**86.687**	-	**13731**
Nunresh	**Bald hill**	**108.792**	1600	**174067**
Grand Total		**1243.27**	-	**17,15,495**

Copy of the allotment orders are enclosed as **Annexure-A series.**
The site specific schemes are therefore prepared as follows:

1. Details of non-forest land: Enclosed as **Annexure-B Series**
The village maps showing the land details for the proposed compensatory afforestation are enclosed as Plate No. I to IX. The joint verification reports of non-forest land duly authenticated by Forest and Revenue authorities are enclosed as **Annexure-B Series.** Key Plans of CA area shown on topo sheets are enclosed as **Annexure-C Series.** GPS co-ordinates of survey stations of Compensatory Afforestation area are furnished as **Annexure-D Series.**

2. Description of Area

I. **Whether the site selected for Compensatory Afforestation is a land bank or not**: This identified non-forest area is under the control of Revenue Department and classified as 'Dangar'. It is not a land bank.

II. **If the CA site is other than the land bank, reasons be given**: No land bank has been established yet for this purpose.

III. **In case of non-forest area identified for CA, then what is the distance of CA site from the adjoining forest boundary**: The CA land selected in different villages of Dubuna-Sakradihi Iron Ore Mines is present in the adjoining forest boundary as given below:

Sl. No.	Name of the village	Name of Forest	Distance in Km	Sl. No.	Name of the village	Name of Forest	Distance in Km
1	Uparjhabi	Tunapari R.F.	1.58	6	Khandala	Mohangiri R.F.	0.50
2	Pokhariguda	Tunapari R.F.	1.30	7	Bhataguda	Khakes R.F.	0.30
3	Kumjore	Indravati R.F.	2.00	8	Madang Guda	Madang Guda R.F.	0.50
4	Silet	Melghara RF	Adjoining	9	Nunresh	Khakesh RF	1.0
5	Nakrundi	Mohangiri R.F.	1.30				

IV. **Soil type**: Lateritic soil.

V. **Topography** :

a) Hilly/Undulating/Plain: The Compensatory Afforestation sites are hilly and undulating.

b) Slope: Steep/Medium/Gentle: The sites selected for Compensatory Afforestation have medium to gentle slope.

VI. **Whether the area is bearing any root stock of vegetation:** The sites selected for Compensatory Afforestation are either barren or with weed growth like *Lantana, Eupatorium, Woodfordia fruticosa, Combretum decandrum.* Root stock of any principal species like Sal is not available.

3. Plantation Model:

Bald hill block plantation with 1600 plants per hectare will be raised over 1134.797 Ha, ANR with gap planting will be done for 400 plants per ha over 84.521 ha and ANR without Gap over 23.952 ha has been proposed over a maintenance period of 10 years. Considering these facts a site specific cost norm for the Bald hill block plantation with 1600 plants is furnished as **Annexure-E,** Gap Plantation with 400 plants per ha is furnished as **Annexure-F** and ANR without Gap per ha is furnished as **Annexure-G.** Revised plantation scheme prepared incorporating planting of 18 months old seedlings along with cost of transportation as per stipulation and new cost norm of Principal Chief Conservator of Forests & HoFF, Odisha with enhancement of wage rate from Rs.311/- to Rs.315/-. In case of ANR plantation pit size from 30 Cm^3 enhanced to 45 Cm^3 to accommodate bigger size 18 months old seedlings with (12"x10") poly bags properly inside the dugout pit.

4. Technical details: Technical details of Compensatory Afforestation Scheme are as follows:

a) General Details :

Survey & Demarcation of boundary: The identified area will be surveyed by DGP Sand the area will be demarcated with RCC pillars of size 2.5 mtr x 30 cm x 30 cm. This work will be done by the User Agency at Project cost.

Fencing: To protect the plantation from grazing and other biotic interference, it will be provided with GI Chain Link mesh fence, the cost for which will be paid by the User Agency. Since non-forest areas adjoining this site have also been taken for Compensatory Afforestation for other projects and Chain Link wire mesh fencing will be done around the entire patch as per the cost norm provided by the PCCF, Odisha vide Guideline dt. 08.11.2021, the length of GI Chain link mesh fence needed in this project is furnished below:

Sl. No	Village	Length of outer periphery of the site in mtr	Length of common fence of adjoining project which need not be fenced	Total length of fence in mtr
(1)	(2)	(3)	(4)	(5)
1	Silet	12318	Nil	12318
2	UparJhabi	21630	Nil	21630
3	Pokhariguda	25041	2346 mtr common with Uparjhabi	22695
4	Kumjore	17525	1204 mtr common with Pokhariguda	16321
5	Nakrundi	14407	Nil	14407
6	Khandala	6063	Nil	6063
7	Bhataguda	3421	Nil	3421
8	Madangaguda	6000	Nil	6000
9	Nunresh	11482	Nil	11482
Total		**117887 mtr**	**3550 mtr**	**114337 mtr**

Estimate for GI Chain Link mesh fence has been provided in **Annexure – (I).**

Planting and post-planting:

b) Bald hill block plantation shall be taken up with 1600 plants per hectares at spacing of 2.5 m x 2.5 m. Alignment and pit marking should be done carefully in slopes so that the horizontal distance between plants in a row remains 2.5 mtrs and not the distance measured along the slope. All post planting measures like casualty replacement, soil working, manuring, fire protection etc. will be undertaken. The plantation area should be divided into 4 hectare plots. These plots should be demarcated in the field before digging of pits so that the demarcating line does not cross a plantation row. The 4.0 ha plots should be shown on map. Cost norm for Bald hill block plantation is furnished

as **Annexure-E.** In areas having Moderately Dense Forests, ANR without gap shall be undertaken. ANR with gap planting @400 plants per ha will be undertaken in part of the Kumjore village. Cost norm for Gap Plantation with 400 plants per ha is furnished as **Annexure-F.** Cost norm for ANR without Gap per ha is furnished as **Annexure-G.**

While taking up plantation, the following vital points shall be taken up for consideration: -

- Care to be taken to raise healthy plantable seedlings of minimum 60 cm height.10% extra seedlings are to be raised for replacement of casualty.
- Pitting shall invariably be done during November-February i.e., before onset of monsoon. If possible the soil of upper portion and lower portion of pit should be placed separately in specific direction so that while planting the pits will be filled with top-soil first.
- Planting shall be done on the onset of monsoon to get full benefit of monsoon rain and planting should never be delayed.
- Basal dose of 50 grams of NPK and 5 grams of Chlorpyriphos dust per plant should be applied at the time of planting carefully by mixing with top-soil so that the roots of seedlings do not come in direct contact with fertilizer.
- In case of any mortality of planted seedlings, it should be replaced with good seedlings as soon as possible for better success rate.
- Complete weeding in proper time will be done. Strip weeding will not be permitted.
- Soil-working and application of 2nd dose fertilizer of 50 gms NPK per plant should be done in time.
- Since the area is provided with barbed wire fence, watch & ward will be easier and the watchers may be engaged in weeding in problematic areas along with watch & ward.

c) Species: Although indigenous species are to be preferred in the plantation, considering adverse soil & moisture conditions we may go for hardy exotic species where required so that the plants are able to survive. For success of plantation in interior tribal areas, plantation of fruit and NTFP species plays a great role since economic species have a little value for local people. Considering the topography, soil and moisture availability of the plantation area, the following species will be planted:

Sl No	Name of species	Common name	Remarks
1	*Azadirachtaindica*	Neem	
2	*Derris indica*	Karanja	
3	*Emblicaofficinalis*	Amla	
4	*Terminaliachebula*	Harida	In lower areas with good soil depth
5	*Terminaliabellirica*	Bahada	In lower areas with good soil depth
6	*Dalbergiasissoo*	Sissoo	In lower areas with good soil depth
7	*Gmelinaarborea*	Gambhari	In lower areas with good soil depth
8	*Dendrocalamusstrictus*	Salia bamboo	In lower areas with good soil depth healthy seedlings from rhizomes may be planted
9	*Cassia siamea*	Chakunda	In lower areas with good soil depth
10	*Tamarindusindica*	Tentuli	In lower areas with good soil depth
11	*Madhucaindica*	Mahul	Only two years old seedlings may be planted
12	*Simarubaglauca*	Simaruba	In rocky areas with low soil depth
13	*ZizyphusMauritania*	Ber	In rocky areas with low soil depth
14	*Tectonagrandis*	Teak	Potted seedlings from pre-sprouted healthy stumps will be planted
15	*Mangiferaindica*	Mango	In situ plantation (direct placing of mango stone in planting site) during pre-monsoon may be adopted in few lower areas or where watering can be done during summer
16	*Caryotaurens*	Salapa	
17	*Terminaliaarjuna*	Arjuna	Planted only on nala bank or near water.
18	*Desmodiumoojeinensis*	Bandhan	

19	*Dilleniaindica*	Ou	To be planted in area having good soil depth
20	*Feronialimonia*	Kaitha	
21	*Ficusbenghalensis*	Bara	
22	*Ficusracemosa*	Dimiri,Dumer	
23	*Ficusreligiosa*	Aswattha	
24	*Acacia auriculiformis*		
25	*Phoenix sylvestris*	Khajuri	
26	*Pithecolobiumdulce*	Simakayan	
27	*Acacia catechu*	Khair	
28	*Acacia nilotica*	Babul	
29	*Artocarpusheterophyllus*	Jack fruit	
30	*Bauhinia variegate*	Kuler	
31	*Boswelliaserrata*	Salai	
32	*Brideliaretusa*	Kasi	
33	*Buchananialanzan*	Char	
34	*Calophylluminophyllum*	Polanga	
35	*Cassia fistula*	Sunari	
36	*Ceibapentandra*	White silk cotton	
37	*Chloroxylonswietiana*	Bheru	
38	*Cleistanthuscollinus*	Karada	
39	*Albizialebbek*	Siris	
40	*Albiziaprocera*	White Siris	

d) Soil and Moisture Conservation Works :-

Since most of the areas are hilly and undulating, staggered trenches should be constructed as provided in cost norm. In order to achieve 25% cost towards SMC measures of total plantation cost around 4000 meter of loose boulder check dam has been proposed. Estimate for loose boulder check dam has been provided in **Annexure-(H).** The details of plantation and SMC measures proposed are given as under:

Sl. No.	Area in Ha	Plantation model	Cost of Plantation in Rs. per Ha.	Total Plantation cost in Rs.	Cost of SMC Measures in Rs. per Ha.	Total cost SMC measures in Rs.
1	1134.797	Baldhill block plantation	4,61,069.36	52,32,20,126.52	1,11,825.00	12,68,98,674.52
2	84.521	ANR with 400 plants per ha	83129.89	70,26,221.43	8,820.00	7,45,475.22
3	23.952	ANR without Gap	33989.55	8,14,117.70	8820.00	2,11,256.64
4	4000 meter of loose boulder check dam	-	0	0	3,200.00	1,28,00,000.00
		Total		**53,10,60,465.65**		**14,06,55,406.38**

So, the cost of SMC measures amounting Rs. 14, 06, 55,406.38 is 26.48 % of total plantation cost of Rs. 53, 10, 60,465.65.

e) Protection of the plantation: Chain link mesh fence will be provided all along the periphery of the plantation. Few watchers will also be engaged for protection of the plantation. The cost norm of Chain link mesh fence is furnished as **Annexure-(I).**

5. Proposed Monitoring Mechanism: The scheme shall be executed by the Divisional Forest Officer, Kalahandi South Division with his staff and all prescribed records are to be maintained. In addition to internal monitoring by Forest Officers of State Government, a Monitoring Committee under item no. 3.4(iii) of consolidated guidelines under F.C Act 1980 issued by MoEF, shall be

19	*Dilleniaindica*	Ou	To be planted in area having good soil depth
20	*Feronialimonia*	Kaitha	
21	*Ficusbenghalensis*	Bara	
22	*Ficusracemosa*	Dimiri,Dumer	
23	*Ficusreligiosa*	Aswattha	
24	*Acacia auriculiformis*		
25	*Phoenix sylvestris*	Khajuri	
26	*Pithecolobiumdulce*	Simakayan	
27	*Acacia catechu*	Khair	
28	*Acacia nilotica*	Babul	
29	*Artocarpusheterophyllus*	Jack fruit	
30	*Bauhinia variegate*	Kuler	
31	*Boswelliaserrata*	Salai	
32	*Brideliaretusa*	Kasi	
33	*Buchananialanzan*	Char	
34	*Calophylluminophyllum*	Polanga	
35	*Cassia fistula*	Sunari	
36	*Ceibapentandra*	White silk cotton	
37	*Chloroxylonswietiana*	Bheru	
38	*Cleistanthuscollinus*	Karada	
39	*Albizialebbek*	Siris	
40	*Albiziaprocera*	White Siris	

d) Soil and Moisture Conservation Works :-

Since most of the areas are hilly and undulating, staggered trenches should be constructed as provided in cost norm. In order to achieve 25% cost towards SMC measures of total plantation cost around 4000 meter of loose boulder check dam has been proposed. Estimate for loose boulder check dam has been provided in **Annexure-(H).** The details of plantation and SMC measures proposed are given as under:

Sl. No.	Area in Ha	Plantation model	Cost of Plantation in Rs. per Ha.	Total Plantation cost in Rs.	Cost of SMC Measures in Rs. per Ha.	Total cost SMC measures in Rs.
1	1134.797	Baldhill block plantation	4,61,069.36	52,32,20,126.52	1,11,825.00	12,68,98,674.52
2	84.521	ANR with 400 plants per ha	83129.89	70,26,221.43	8,820.00	7,45,475.22
3	23.952	ANR without Gap	33989.55	8,14,117.70	8820.00	2,11,256.64
4	4000 meter of loose boulder check dam	-	0	0	3,200.00	1,28,00,000.00
		Total		**53,10,60,465.65**		**14,06,55,406.38**

So, the cost of SMC measures amounting Rs. 14, 06, 55,406.38 is 26.48 % of total plantation cost of Rs. 53, 10, 60,465.65.

e) Protection of the plantation: Chain link mesh fence will be provided all along the periphery of the plantation. Few watchers will also be engaged for protection of the plantation. The cost norm of Chain link mesh fence is furnished as **Annexure-(I).**

5. Proposed Monitoring Mechanism: The scheme shall be executed by the Divisional Forest Officer, Kalahandi South Division with his staff and all prescribed records are to be maintained. In addition to internal monitoring by Forest Officers of State Government, a Monitoring Committee under item no. 3.4(iii) of consolidated guidelines under F.C Act 1980 issued by MoEF, shall be

established with a nominee of the Central Government to oversee that the stipulations, including those pertaining to Compensatory Afforestation are carried out.

6. **Total cost of the project:** The total cost of the project is **Rs. 78, 74, 49,700/- (Rupees seventy eight crore seventy four lakh forty nine thousand seven hundred) only** as detailed in **Annexure-J** which shall be payable by the user agency to the DFO, Kalahandi South Division.

Divisional Forests Officer
Kalahandi South Division
Divisional Forest Officer
Kalahandi South Division

OFFICE OF THE COLLECTOR & DISTRICT MAGISTRATE: KALAHANDI

No. 486 /Rev- Date: 6.4.2017

To,

Divisional Forest Officer (South)
Kalahandi, Bhawanipatna

Sub: Allotment of Govt. land for Compensatory Aforestation.

Ref: Your letter No.1420 dated 04.04.2017.

Sir,

With reference to the above cited subject, I am to say that the enclosed schedule of non-forest Government land measuring Ac. 220.704 equivalent to 89.316 Hectare under Th.Rampur Tahasil has been identified for allocation in favour of OMC Ltd, for raising compensatory aforestation in lieu of diversion of equivalent forest land pertaining to Dubna-Sakradihi Mining leases of OMC Ltd., Bhubaneswar.

You are requested to please file requisition in Form No.1-A before Tahasildar, Th.Rampur for processing alienation proposal for sanction of the land in favour of Forest & Environment Department immediately.

Enc: as above.

Yours faithfully,

Collector,
Kalahandi
6/4/2017

Memo No. 487 /Rev. Date: 6.4.2017

Copy to Tahasildar, Th.Rampur for information. He is requested to process the alienation proposal in favour of the Forest Department on obtaining the requisition from the Divisional Forest Officer (South), Kalahandi.

Collector,
Kalahandi
6/4/2017

Memo No. 488 /Rev. Date: 6.4.2017

Copy to Sub-Collector, Bhawanipatna for information and necessary action.

Collector,
Kalahandi
6/4/17

Memo No. 489 /Rev. Date: 6.4.2017.

Copy to Chairman-cum-Managing Director, OMC Ltd, Bhubaneswar with reference to his letter No. 2079/OMC dated 10.02.2017 for information and necessary action.

Collector,
Kalahandi
6/4/2017

OFFICE OF THE COLLECTOR & DISTRICT MAGISTRATE, KALAHANDI

No. 1793 /Rev- /2019 dated. 9.10.2019

To

The Divisional Forest Officer (South)
Kalahandi, Bhawanipatna.

Sub:- Allotment of Govt. land for Compensatory Afforestation.

Ref:- Your letter No. 3945 dated 23.09.2019.

Sir,

I am to say that the enclosed schedule of non-forest Government land measuring Ac. 625.69 equivalent to 253.2086(Ac.356.86 equivalent to 144.4166 Ha. at village- Nakrundi and Ac.268.83 equivalent to 108.792 Ha at village- Semikhal) under Th. Rampur Tahasil has been identified and joint verification completed for allocation for raising compensatory afforestation in lieu of the proposed diversion of forest land for mining and ancillary use against Dubna Sakradihi Iron & Manganese Ore Mines located in the district of Keonjhar of M/s OMC Ltd.

You are requested to please file necessary requisition in Form No. 1-A before the Tahasildar, Th. Rampur for processing alienation proposal for sanction of the land in favour of Forest and Environment Department immediately.

Yours faithfully
7/10/2019
Collector,
Kalahandi.

Memo No. 1794 / Dated. 9.10.2019

Copy alongwith copies of joint verification report and sketch map forwarded to Tahasildar, Th. Rampur for information. He is requested to process the alienation proposal in favour of the Forest and Environment Department, Odisha on obtaining the requisition from the Divisional Forest Officer (South), Kalahandi.

Collector,
Kalahandi.

Memo No. 1795 / Dated. 9.10.2019

Copy to Sub-Collector, Bhawanipatna for information and necessary action.

Collector,
Kalahandi.

Memo No. 1796 / Dated. 9.10.2019

Copy to Managing Director, OMC Ltd., Bhubaneswar for information and necessary action.

Collector,
Kalahandi.

ANNEXURE:-A Series

OFFICE OF THE COLLECTOR & DISTRICT MAGISTRATE, KALAHANDI

No. 2538 / Rev /2019 Dated. 20.12.2019

To

The Divisional Forest Officer (South),
Kalahandi, Bhawanipatna.

Sub:- Allotment of Govt. land for Compensatory Afforestation.

Ref:- Your Letter No. 5253/3F(Lease) Dt.19.12.2019

Sir,

I am to say that the enclosed schedules of non-forest Government land measuring Ac.2225.79 equivalent to 900.7454 Ha. at the followings under Th.Rampur Tahasil has been identified and joint verification completed for allocation of non forest Govt. land in lieu of diversion of forest land pertaining to Dubna Sakradihi Mining Lease located in Keonjhar district of M/s Odisha Mining Corporation Ltd.

Sl. No.	Name of the Village	Area in Acre	Area in Ha.
1	Kumjore	433.79	175.5470
2	Pokhriguda	568.34	230.0000
3	Uperjhapi	659.63	266.9420
4	Khandala	263.91	106.8004
5	Bhatguda	85.91	34.7690
6	Madangaguda	214.21	86.6870
TOTAL		2225.79	900.7454

You are therefore requested to please file necessary requisition in Form No.1-A before the Tahasildar, Th.Rampur for processing alienation proposal for sanction of the land in favor of Forest and Environment Department immediately.

Yours faithfully

20/12/2019

Collector,
Kalahandi.

Memo No. 2539 / Rev. Dated. 20.12.2019

Copy along with copies of joint verification report and sketch map forwarded to Tahasildar, Th.Rampur for information. He is requested to process the alienation proposal in favour of the Forest and Environment Department, Odisha on obtaining the requisition from the Divisional Forest Officer (South), Kalahandi.

Collector,
Kalahandi.

Memo No. 2540 /Rev. Dated 20.12.2019

Copy to Sub-Collector, Bhawanipatna for information and necessary action.

Collector,
Kalahandi

Memo No. 2541 /Rev. Dated 20.12.2019

Copy to Managing Director, OMC Ltd., Bhubaneswar for information and necessary action.

Collector,
Kalahandi.

Extract of order passed by Tahasildar, Th.Rampur in R.M.C.No 10/2019 on dated 29.12.2020

29.12.2020 Case record taken up today. Visited the village Semikhal alongwith R.I., Nakrundi to verify the physical possession of the beneficiaries covered under FRA. It reveals that the beneficiaries are in physical possession over the proposed area schedule below as per FRA issued them.

Plot No	Area distributed under FRA	Proposed area for compensatory afforstation (In Ac.)
194	9.47	10.02
76	1.08	5.22
185	4.30	2.43
186	1.18	10.40
64	1.85	10.64
183	0.90	3.82
188	4.70	8.92
80	2.32	10.00
79	3.50	15.00
187	2.60	10.00
Total	31.30	

The above proposed area for compensatory afforstation cannot be alienated as an area of Ac. 31.30 out of 268.83 of land has been distributed to the 19 nos. of beneficiaries under FRA From the fact the report of R.I. is genuine one. Hence the proceeding is dropped.

Intimate the D.F.O.(South)Kalahandi to file afresh requisition with alternative proposal for raising compensatory afforstation.

Dictated

Sd/-- 29.12.2020
Tahasildar.Th.Rampur

Memo No 11 Dated 4.1.2021

Copy alongwith extract of order forwarded to the Divisional Forest Officer.(South)Bhawanipatna Kalahandi

04.01.21
Tahasildar.Th.Rampur
Tahasildar
Th.Rampur

OFFICE OF THE COLLECTOR AND DISTRICT MAGISTRATE, KALAHANDI.

Letter No. 2997 /Rev. Date: 06/09/21

To

The Divisional Forest Officer
(South Division), Kalahandi.

Sub:- Allotment of Govt. land for Compensatory Afforestation.

Ref:- Your Letter No.4378/3F(Lease)/2021 Dt.02.09.2021.

Sir,

I am to say that the enclosed schedules of non-forest Government land measuring Ac.268.83 equivalent to 108.792 Ha. at village Nunresh under Th.Rampur Tahasil has been identified and joint verification completed for allocation of non-forest Government land in lieu of diversion of forest land for raising Compensatory Afforestation against the Dubuna-Sakradihi Iron & Manganese Ore Mines of M/S Odisha Mining Corporation Limited located in the district of Keonjhar.

You are therefore requested to please file necessary requisition in Form No.1-A before the Tahasildar, Th.Rampur for processing alienation proposal for sanction of the land in favour of Forest and Environment Department immediately.

Yours faithfully,

Collector, Kalahandi.

Memo No. 2998 / Rev. Date: 06/09/21

Copy along with copy of joint verification report and Xerox copy of cadastral map forwarded to Tahasildar, Th. Rampur for information. He is requested to process the alienation proposal in favour of the Forest and Environment Department, Odisha on obtaining the requisition from the Divisional Forest Officer (South), Kalahandi.

Collector, Kalahandi..

Memo No 2999 / Rev Date: 06/09/21

Copy to the Sub-Collector, Bhawanipatna for information and necessary action.

Copy to the Managing Director, OMC Ltd., Bhubaneswar for his information and necessary action.

Collector, Kalahandi.

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE UPERJHABI UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DUBNA-SAKRADIHI IRON & MANGANESE ORE MINES OF M/s ODISHA MINING CORPORATION LIMTED LOCATED IN THE DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Uperjhabi of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for bald hill Block plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Mines	Name of the Village	Plot No.	Khata No.	Kissam	Total area of the plot (Acres)	Area considered in (Acres)	Type of Plantation in Hectares
Dubna-Sakradihi Iron & Manganese Ore Mines	Uperjhabi	1	89 (AJA)	Dangar	28.23	28.23	Bald Hill Plantation 1600 Plants /HA
		2			15.78	15.78	
		3			17.18	17.18	
		4			16.60	16.28	
		5			33.65	26.29	
		20			82.60	79.29	
		24			32.13	19.28	
		65			10.03	8.55	
		84			6.09	1.83	
		87			8.73	6.84	
		108			38.20	37.16	
		111			38.17	36.00	
		112			39.90	39.74	
		113			28.65	25.10	
		114			11.35	9.92	
		168			64.39	42.23	
		381			40.95	30.47	
		382			31.80	29.31	
		573			63.03	41.07	
		574			25.50	15.61	
		575			25.94	24.41	
		576			17.15	17.15	
		577			8.78	4.37	
		699			22.13	17.54	
		710			63.35	51.24	
		721			35.57	18.76	
TOTAL						659.63 Acres or 266.942 ha.	

Revenue Inspector
Badachhatrang

Forester
FORESTER
Th.Rampur Section

Range Officer
Th.Rampur(S)Range
Range Officer
Th.Rampur South Range

Tahasildar
Thuamul Rampur
Tahasildar
Th.Rampur

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE POKHARIGUDA UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DUBNA-SAKRADIHI IRON & MANGANESE ORE MINES OF M/s ODISHA MINING CORPORATION LIMTED LOCATED IN THE .DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Pokhariguda of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for bald hill Block plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Mines	Name of the Village	Plot No.	Khata No.	Kissam	Total area of the plot (Acres)	Area considered in (Acres)	Type of Plantation in Hectares
Dubna-Sakradihi Iron & Manganese Ore Mines	Pokhariguda	174	49 (AJA)	Dangar	21.60	15.78	Bald Hill Plantation 1600 Plants /HA
		186			32.83	27.55	
		377			31.23	15.95	
		390			37.55	25.25	
		391			26.88	26.61	
		392			42.55	35.58	
		393			29.10	29.10	
		394			28.58	26.85	
		548			2.77	0.67	
		569			16.33	14.73	
		577			40.50	20.56	
		592			36.45	16.17	
		616			10.67	10.12	
		618			25.75	20.99	
		619			36.98	34.16	
		653			19.95	14.23	
		654			22.85	17.18	
		655			21.75	11.01	
		665			10.70	5.21	
		673			3.65	0.38	
		675			28.50	24.33	
		676			37.88	14.35	
		677			10.95	7.74	
		678			17.30	16.96	
		681			30.30	29.15	
		682			12.25	12.25	
		683			38.00	38.00	
		684			17.75	17.75	
		685			39.73	39.73	
					Total	568.34 Acres or 230.00 ha.	

Revenue Inspector
Th.Rampur
Revenue Inspector
Thuamul Rampur

Forester
FORESTER
Th.Rampur Section

Range Officer
Th.Rampur(S) Range
Range Officer
Th.Rampur South Range

Tahasildar
Thuamul Rampur
Tahasildar
Th.Rampur

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE KUMJORE UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DUBNA-SAKRADIHI IRON & MANGANESE ORE MINES OF M/s ODISHA MINING CORPORATION LIMTED LOCATED IN THE DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Kumjore of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for bald hill block plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Mines	Name of the Village	Plot No.	Khata No.	Kissam	Total area of the plot (Acres)	Area considered in (Acres)	Type of Plantation in Hectares
Dubna-Sakradihi Iron & Manganese Ore Mines	Kumjore	1	68 (AJA)	Dangar	60.30	57.51	Bald hill block plantation @ 1600 Plants/ha
		2			53.55	44.96	
		21			36.88	28.85	
		38			3.50	1.87	
		43			65.28	56.86	A.N.R. with gap plantation @400 no's seedling per ha
		157			14.32	7.82	
		181			45.05	24.08	Bald hill block Plantation @ 1600 Plants per ha.
		188			41.08	31.66	
		189			42.88	34.84	
		209			72.05	52.44	ANR with gap Plantation @400 nos of seedling per ha.
		294			47.55	44.35	
		319			51.48	47.39	
		321/463			1.16	1.16	
					Total	433.79 Acres or 175.547 ha.	

Revenue Inspector
Th.Rampur
Revenue Inspector
Thuamul Rampur

Forester
FORESTER
Th.Rampur Section

Range Officer
Th.Rampur(S) Range
Th.Rampur South Range

Tahasildar
Thuamul Rampur
Tahasildar
Th.Rampur

JOINT VERIFICATION REPORT OF NON-FOREST GOVT LAND IN VILLAGE SILET UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION AGAINST DUBNA-SAKRADIHI MINING LEASE OF OMC LTD LOCATED IN THE DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of non-forest Govt land (Kissam-Dangar) in Village Silet of Th.Rampur Tahasil of Kalahandi District, it is found that the schedule wise land mentioned as given under is free from encroachments and encumbrances , does not comes under DLC land and FR Settlement.

Tahasil	Village	Khata No.	Plot No.	Kissam	Total area of the plot (Acr)	Area considered (Acr)
THUAMULRAMPUR	SILET	36 (AAA)	1	Dangar	11.85	9.042
			2	Dangar	29.75	20.446
			3	Dangar	29.50	23.025
			4	Dangar	17.83	15.645
			5	Dangar	12.20	12.16
			6	Dangar	26.75	26.192
			7	Dangar	16.10	7.366
			9	Dangar	28.80	11.965
			11	Dangar	20.00	4.116
			12	Dangar	30.00	17.799
			13	Dangar	37.50	10.234
			15	Dangar	20.33	20.325
			17	Dangar	20.20	10.064
			215	Dangar	36.45	16.735
			216	Dangar	28.00	15.590

TOTAL AREA CONSIDERED: 220.704 Ac or 89.316 ha.

Revenue Inspector
Nakarundi

Revenue Inspector
Nakarundi

Section Forester
Th. Rampur

Range Officer
Th. Rampur (N)

Tahasildar
Th. Rampur

TAHASILDAR
Thuamal Rampur

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE NAKARUNDI UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION FOR MINING AND ANCILLARY USE AGAINST DUBNA-SEKRADIHI IRON & MANGANESE ORE MINES OF M/s ODISHA MINING CORPORATION LIMTED LOCATED IN THE DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Nakarundi of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for bald hill Block plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Mines	Name of the Village	Plot No.	Khata No.	Kissam	Total area of the plot (Acres)	Area considered in (Acres)	Type of Plantation in Hectares
Dubuna-Sekradihi Iron & Manganese Ore Mines	Nakarundi	2	72 (AAA)	Dangar	39.08	22.46	Bald Hill Plantation 1600 Plants /HA
		3			32.65	24.03	
		4			23.00	6.21	
		5			34.30	15.35	
		6			27.33	19.45	
		7			38.08	36.28	
		8			40.00	22.02	
		9			33.95	23.48	
		10			30.85	18.38	
		12			27.30	20.46	
		13			33.58	25.36	
		14			37.50	12.59	
		15			33.43	21.41	
		44			24.60	16.39	
		45			22.50	8.73	
		316			35.80	29.48	
		403			22.42	18.49	
		404			31.40	5.46	
		406			29.03	10.83	
TOTAL						356.86 Acre or 144.4166 Ha	

Revenue Inspector
Nakarundi
Revenue Inspector
Nakarundi

Forester
Section Foreste
Saisumi Sectior

Range Officer
Th.Rampur(N) Range
Range Officer
Th. Rampur (N) Range

Tahasildar 20.09.19
Th.Rampur
Tahasildar
Rampur

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE KHANDALA UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DUBUNA-SAKRADIHI IRON & MANGANESE ORE MINES OF M/s ODISHA MINING CORPORATION LIMTED LOCATED IN THE DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Khandala of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for bald hill Block plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Mines	Name of the Village	Plot No.	Khata No.	Kissam	Total area of the plot (Acres)	Area considered in (Acres)	Type of Plantation in Hectares
Dubuna-Sakradihi Iron & Manganese Ore Mines	Khandala	1	10 (AAA)	Dangar	23.84	9.77	Bald Hill Plantation 1600 Plants /HA
		2			12.60	12.60	
		3			22.50	21.63	
		4			15.00	15.00	
		5			16.08	4.53	
		6			22.95	6.38	
		7			14.60	14.16	
		8			13.80	13.80	
		9			15.00	15.00	
		10			22.50	15.46	
		11			18.28	18.28	
		12			22.05	21.77	
		13			26.65	19.55	
		79			21.23	14.40	
		80			7.40	3.92	
		85			14.55	13.05	
		86			15.00	15.00	
		87			15.70	15.70	
		88			14.60	13.91	
TOTAL						263.91 Acres or 106.8004 ha.	

Revenue Inspector
Revenue Inspector
Nakrundi

Forester
Section Foreste
Saisurni Sectio

Range Officer
Th.Rampur (N) Range

Tahasildar
Th.Rampur

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE BHATAGUDA UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DUBUNA-SAKRADIHI IRON & MANGANESE ORE MINES OF M/s ODISHA MINING CORPORATION LIMTED LOCATED IN THE DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Bhataguda of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for bald hill Block plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Mines	Name of the Village	Plot No.	Khata No.	Kissam	Total area of the plot (Acres)	Area considered in (Acres)	Type of Plantation in Hectares
Dubuna-Sakradihi Iron & Manganese Ore Mines	Bhataguda	28	12 (AAA)	Dangar	22.50	22.50	Bald Hill Plantation 1600 Plants /Ha
		29			22.50	22.50	
		119			9.85	5.48	
		121			19.75	16.43	
		122			24.00	19.00	
TOTAL						85.91 Acres or 34.769 Ha.	

Revenue Inspector
Gunpur
Revenue Inspector
Gunpur

Forester
Section Forester
Gunpur Section

Range Officer
Th.Rampur(N)Range
Range Officer
Th. Rampur (N) Range

Tahasildar 12.19
Thuamul Rampur
Tahasildar
Thuamul Rampur

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE MADANGA GUDA UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DUBUNA-SAKRADIHI IRON & MANGANESE ORE MINES OF M/s ODISHA MINING CORPORATION LIMTED LOCATED IN THE DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Madanga Guda of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for bald hill Block plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Mines	Name of the Village	Plot No.	Khata No.	Kissam	Total area of the plot (Acres)	Area considered in (Acres)	Type of Plantation in Hectares
Dubuna-Sakradihi Iron & Manganese Ore Mines	Madanga Guda	1	61 (AAA)	Dangar	35.63	1.76	Bald Hill Plantation 1600 Plants /Ha
		2			36.40	6.30	
		3			34.33	2.12	
		16			31.37	29.78	
		75			35.48	33.97	
		78			36.73	34.33	
		98			36.18	36.01	
		99			29.65	20.64	
		100			42.33	13.03	
		102			36.37	6.13	
		103			47.35	30.14	
TOTAL						214.21 Acres or 86.687 ha.	

Revenue Inspector
Revenue Inspector
Gunpur

Forester
Section Forester
Gunpur Section

Range Officer
Th. Rampur (N) Range
Th. Rampur (N) Range

11.12.19
Tahasildar
Thuamul Rampur
Tahasildar
Thuamul Rampur

JOINT VERIFICATION REPORT OF NON-FOREST GOVERNMENT LAND IN VILLAGE NUNRESH UNDER TH.RAMPUR TAHASIL OF KALAHANDI DISTRICT FOR RAISING COMPENSATORY AFFORESTATION (BALD HILL PLANTATION) IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DUBUNA-SAKRADIHI IRON & MANGANESE ORE MINES OF M/s ODISHA MINING CORPORATION LIMTED LOCATED IN THE DISTRICT OF KEONJHAR, ODISHA.

Certified that on joint verification of Non forest government land (Kissam – Dangar) in village Nunresh of Thuamul Rampur Tahasil of Kalahandi District, it is found that the scheduled wise land mentioned as given under is suitable for Bald Hill plantation and are free from encroachment and encumbrances, does not comes under DLC land and FR Settlement.

Name of the Project	Name of the Village	Plot No.	Khata No.	Kissam	Total area of the plot (Acres)	Area considered in (Acres)	Type of Plantation in Hectares
Dubuna-Sakradihi Iron & Manganese Ore Mines	Nunresh	58	23 (A.A.A)	Dangar	12.63	8.68	Bald Hill Plantation 1600 Plants /HA
		60			1.97	0.55	
		66			24.25	21.36	
		67			15.00	15.00	
		68			30.73	28.31	
		69			16.50	16.50	
		71			25.78	25.78	
		73			12.50	12.50	
		74			15.00	12.69	
		75			15.00	12.22	
		77			20.25	12.13	
		80			11.20	5.02	
		81			15.00	11.02	
		82			15.00	3.33	
		83			21.00	19.47	
		84			21.68 20.48	14.40	
		128			36.00	36.00	
		129			22.63	13.87	
Total :-						268.83 Acres or 108.792 Ha.	

Revenue Inspector
Nakarundi
Revenue Inspector
Nakrundi

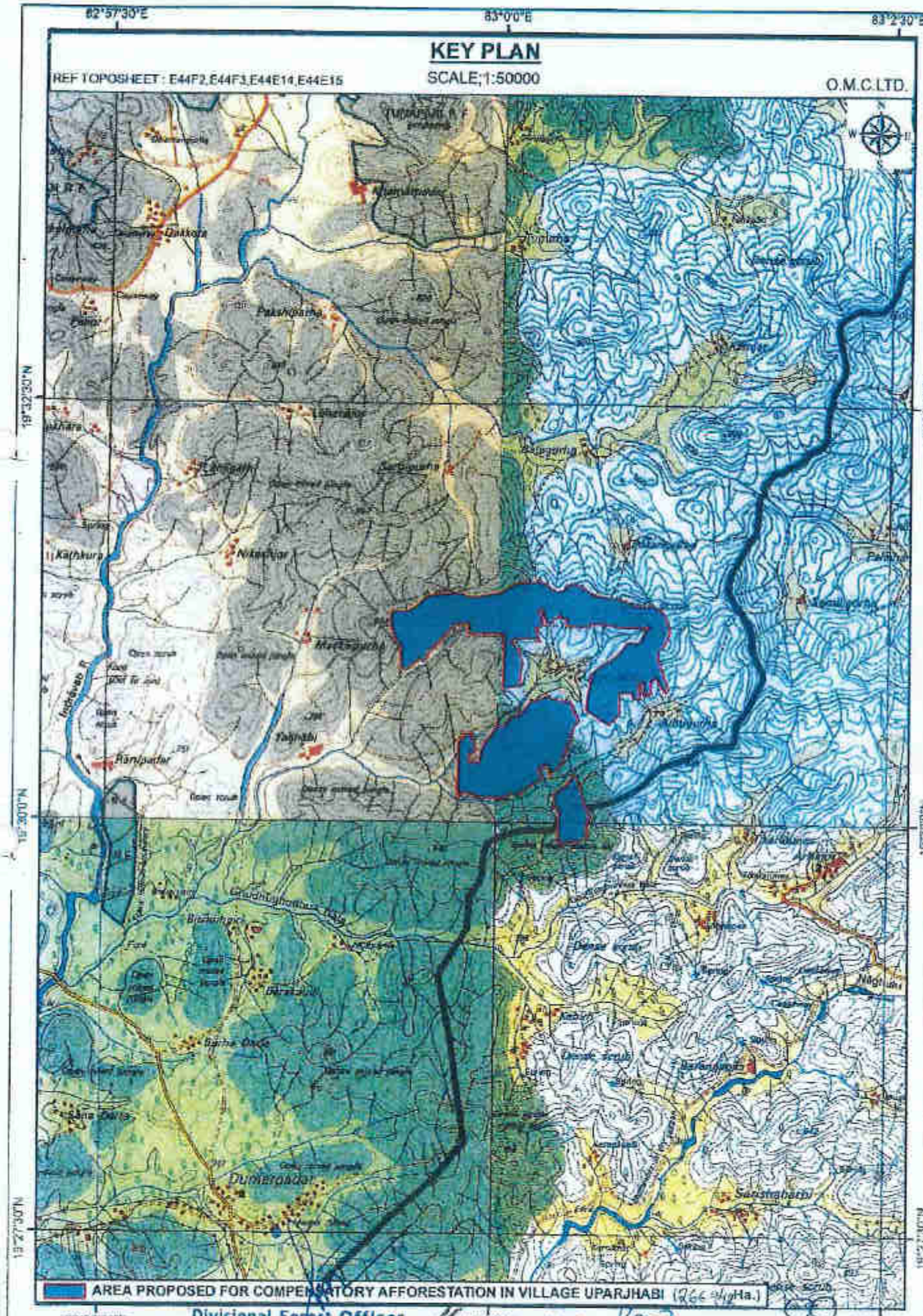
Forester
Section Forester
Gunpur Section

Range Officer
Th.Rampur (North) Range
Range Officer
Th. Rampur (N) Range

Tahasildar
Thuamul Rampur
Tahasildar
Thuamul Rampur

KEY PLAN

REF TOPOSHEET : E44F2,E44F3,E44E14,E44E15 SCALE;1:50000 O.M.C.LTD.



AREA PROPOSED FOR COMPENSATORY AFFORESTATION IN VILLAGE UPARJHABI (266.41Ha.)

Divisional Forest Officer
Kalahandi South Division

Tahasildar
Th.Rampur

Range Officer
Th.Rampur South Range

KEY PLAN

REF TOPOSHEET:- E44F2

SCALE:1:50000

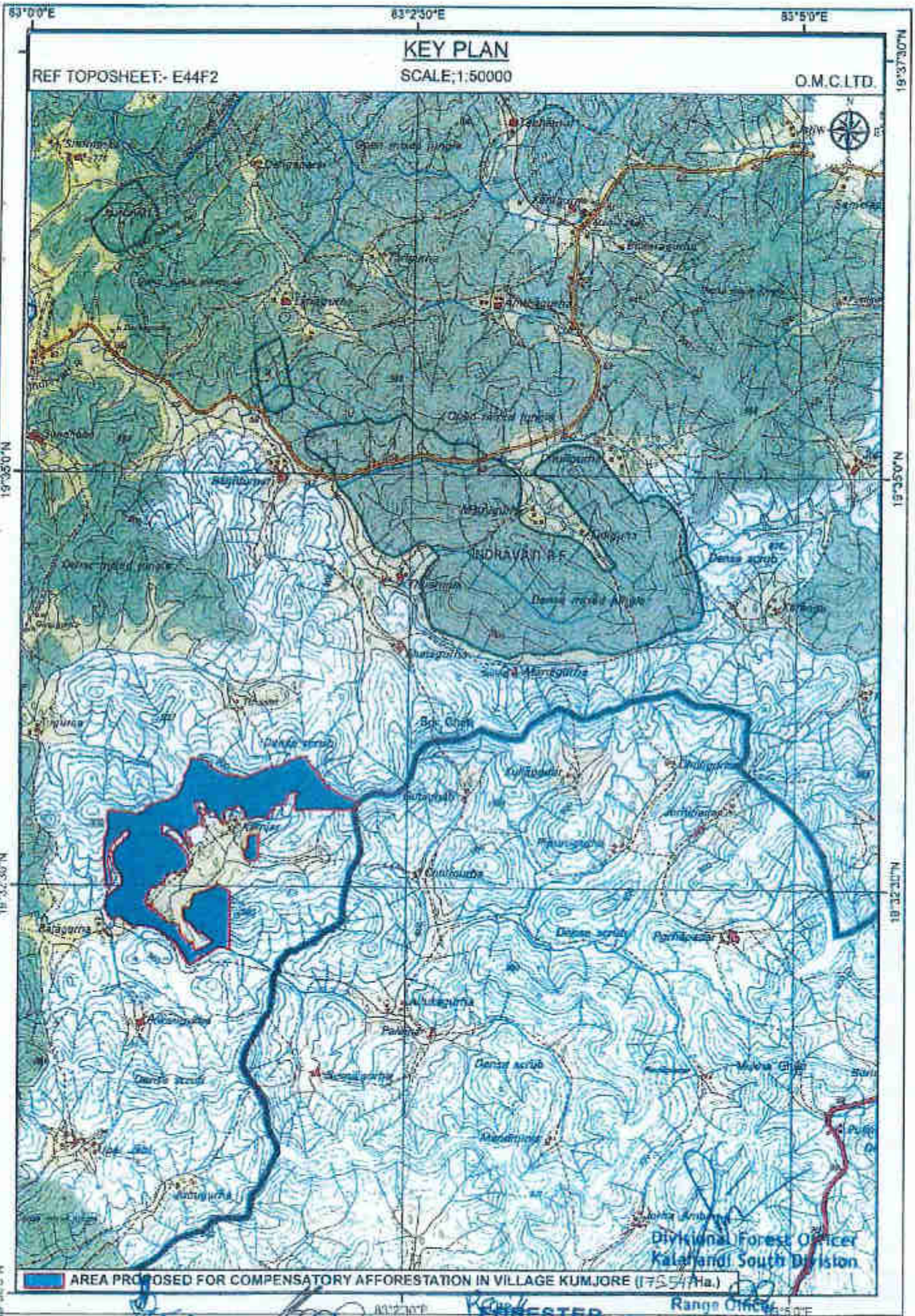
O.M.C.LTD.



AREA PROPOSED FOR COMPENSATORY AFFORESTATION IN VILLAGE POKHARIGUDA (230.00 Ha.)

KEY PLAN

REF TOPOSHEET:- E44F2 SCALE;1:50000 O.M.C.LTD.



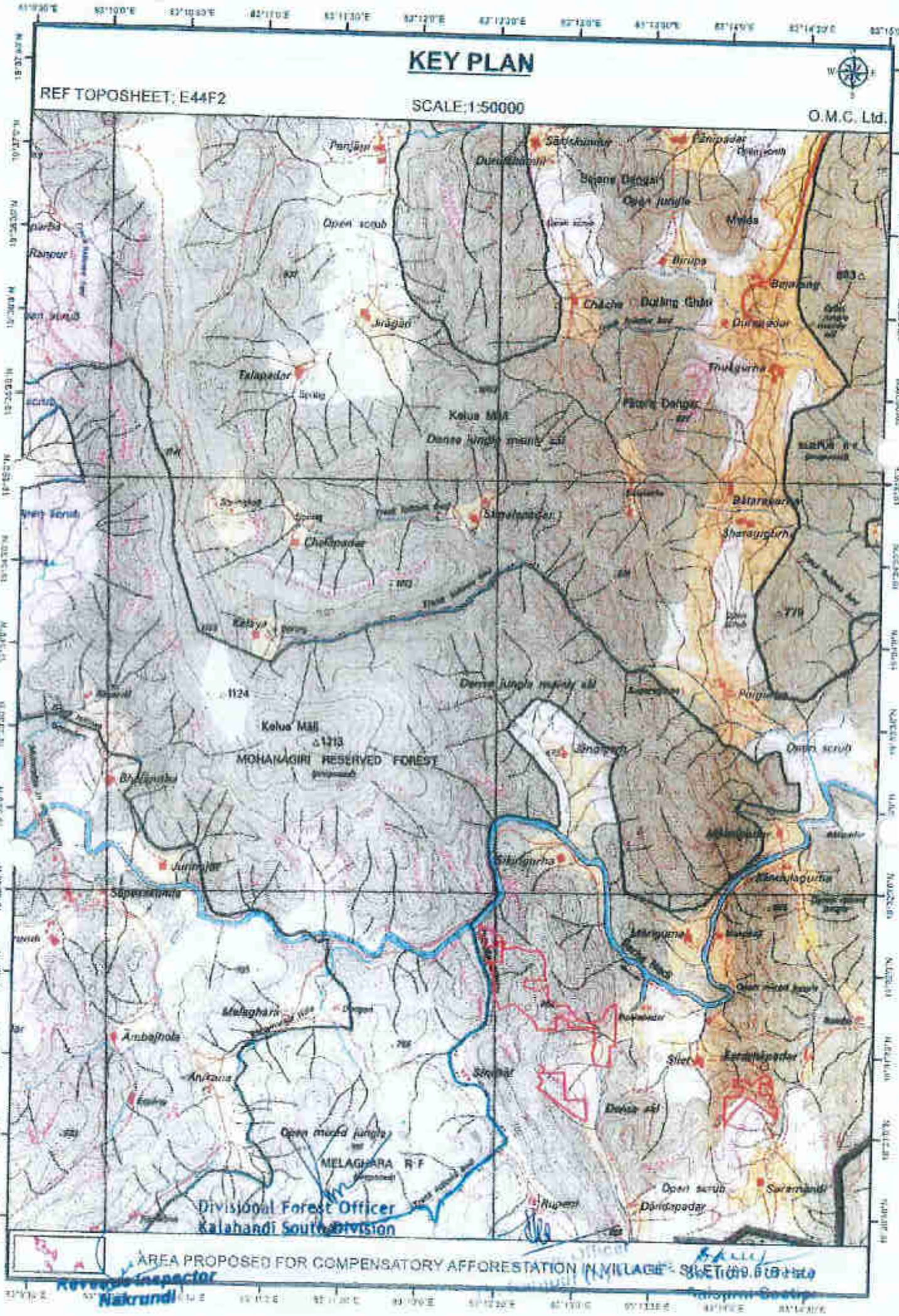
Revenue Inspector
Thuamul Rampur

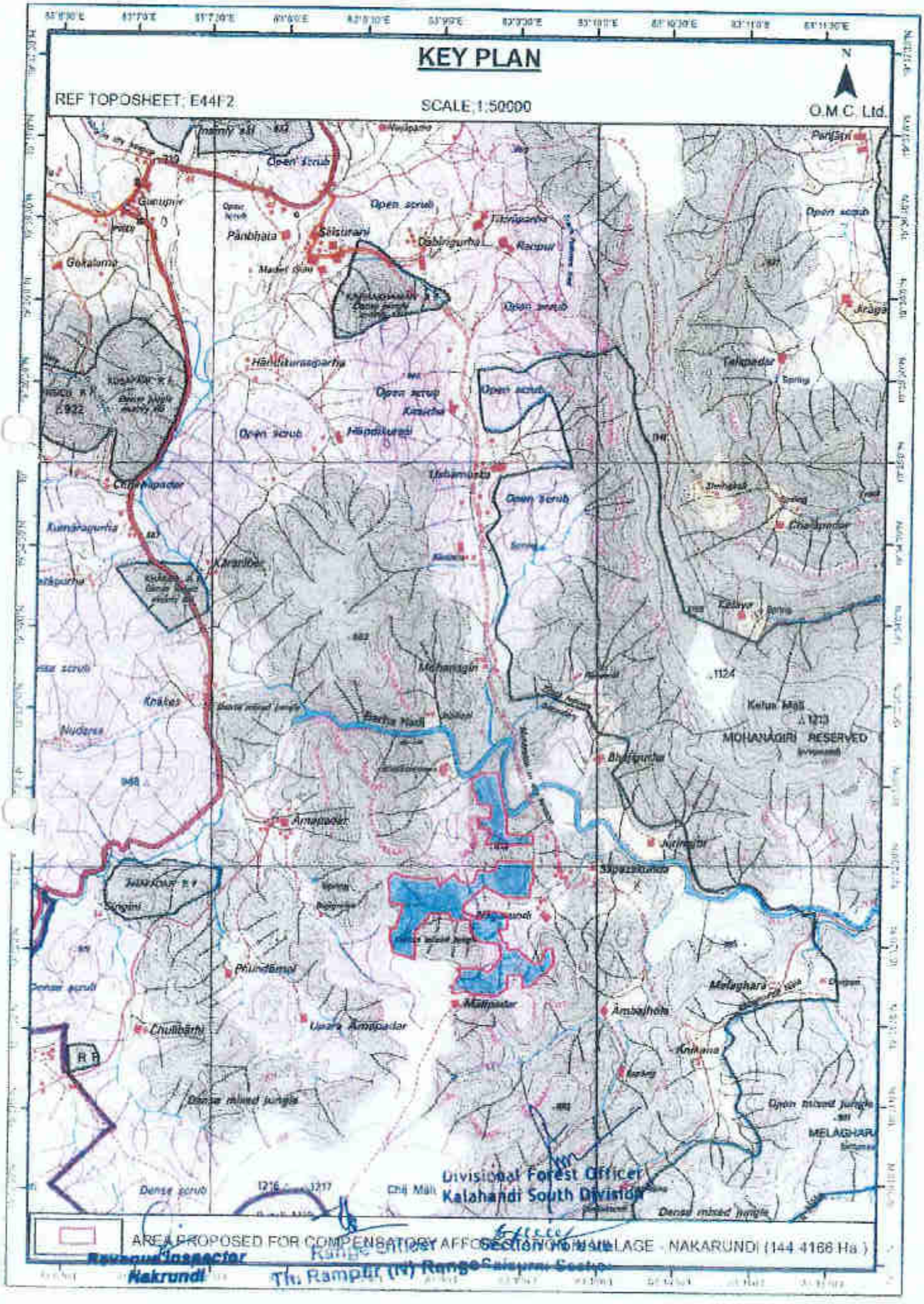
Tahasildar
Th.Rampur

FORESTER
Th.Rampur Section

Divisional Forest Officer
Kalahandi South Division

Range Officer
Th.Rampur South Range


KEY PLAN
REF TOPOSHEET: E44F2
SCALE:1:50000
O.M.C. Ltd.
Kalu Mali
△1213
MOHANAGIRI RESERVED FOREST
MELAGHARA R F
Open scrub
Open mixed jungle
Dense jungle mainly sal
Divisional Forest Officer
Kalahandi South Division
Nabrangpur
AREA PROPOSED FOR COMPENSATORY AFFORESTATION IN VILLAGE - SUKTIGUDA
Revenue Inspector
Nakrundi
Tahasildar
Jaipatna

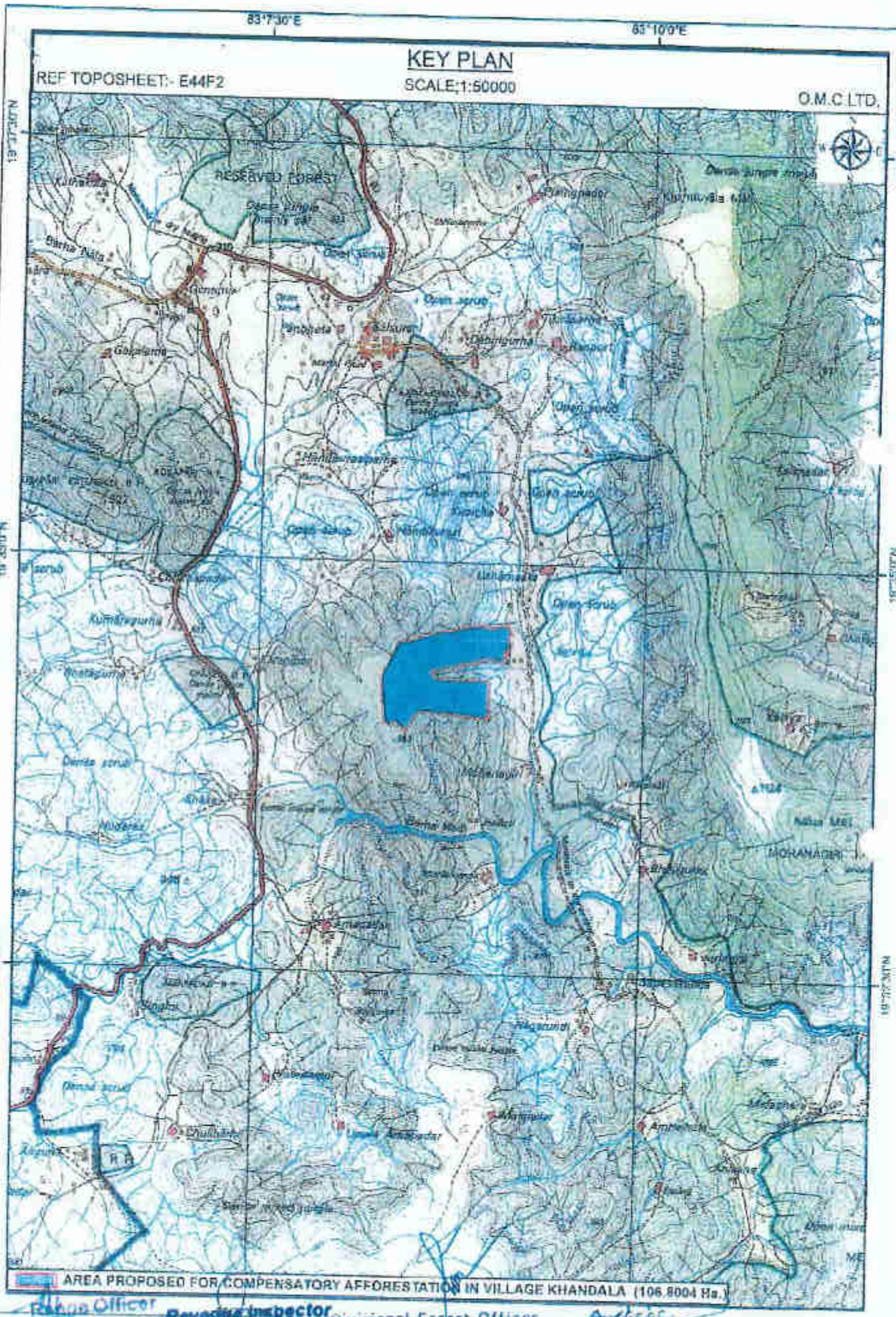

KEY PLAN
REF TOPOSHEET: E44F2
SCALE 1:50000
O.M.C. Ltd.
N
MOHANAGIRI RESERVED
MELAGHAR
Open scrub
Dense mixed jungle
Dense scrub
Divisional Forest Officer
Kalahandi South Division
Range Officer
Section Officer
Range Inspector
Nakrundi
AREA PROPOSED FOR COMPENSATORY AFFORESTATION IN VILLAGE - NAKARUNDI (144.4166 Ha.)

KEY PLAN

REF TOPOSHEET:- E44F2

SCALE;1:50000

O.M.C LTD.



Range Officer
Th. Junjpur (N) Range

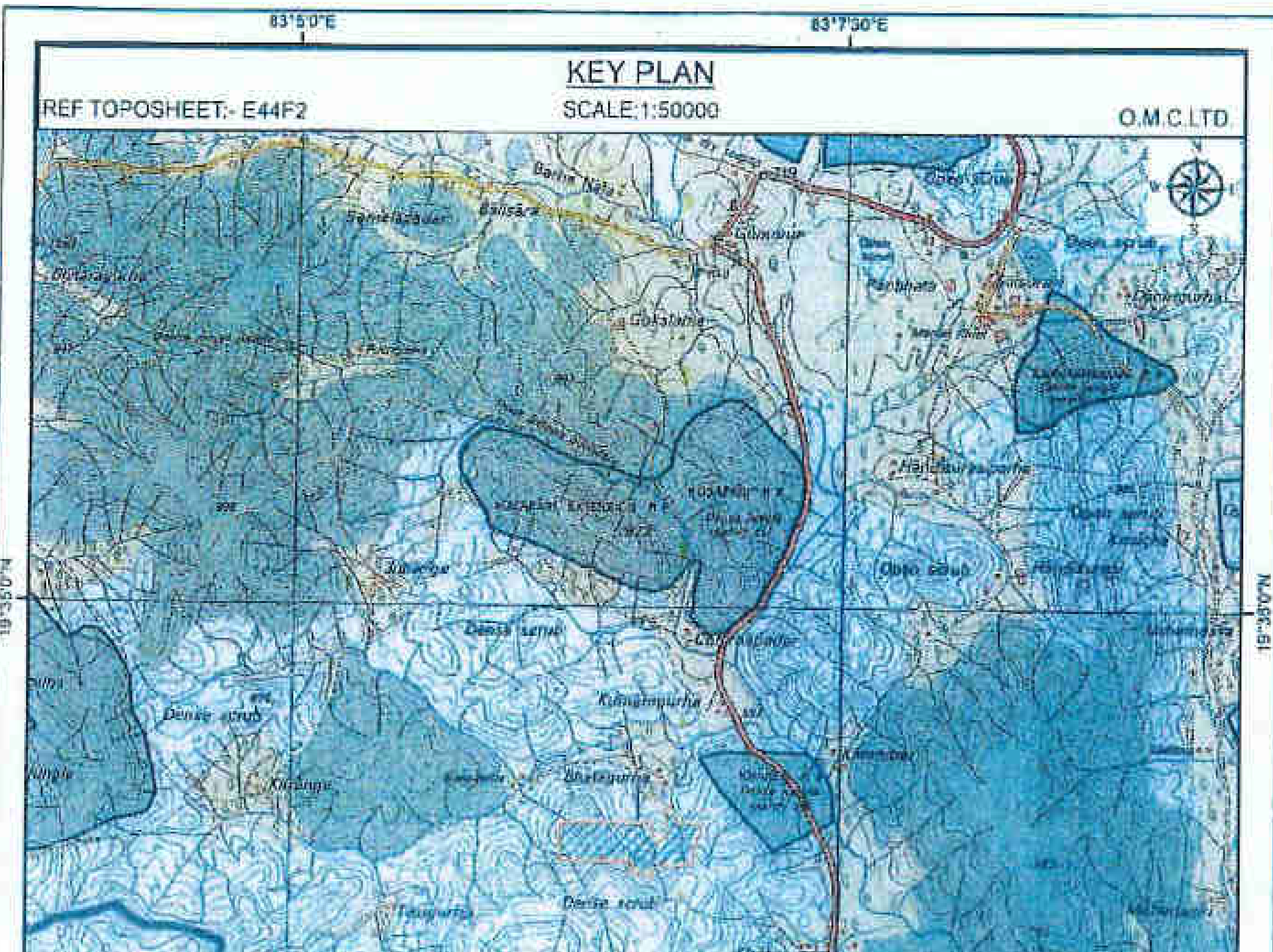
Revenue Inspector
Nuapada

Divisional Forest Officer
Kalahandi South Division

Section Forest Officer
Saisuma Section

KEY PLAN

REF TOPOSHEET:- E44F2 SCALE:1:50000 O.M.C.LTD.



AREA PROPOSED FOR COMPENSATORY AFFORESTATION IN VILLAGE BHATAGUDA (34.769 Ha.)

Divisional Forest Officer
Kalahandi South Division

Revenue Inspector
Gunpur

Section Forester
Gunpur Section

Range Officer
Th. Rampur (N) Range

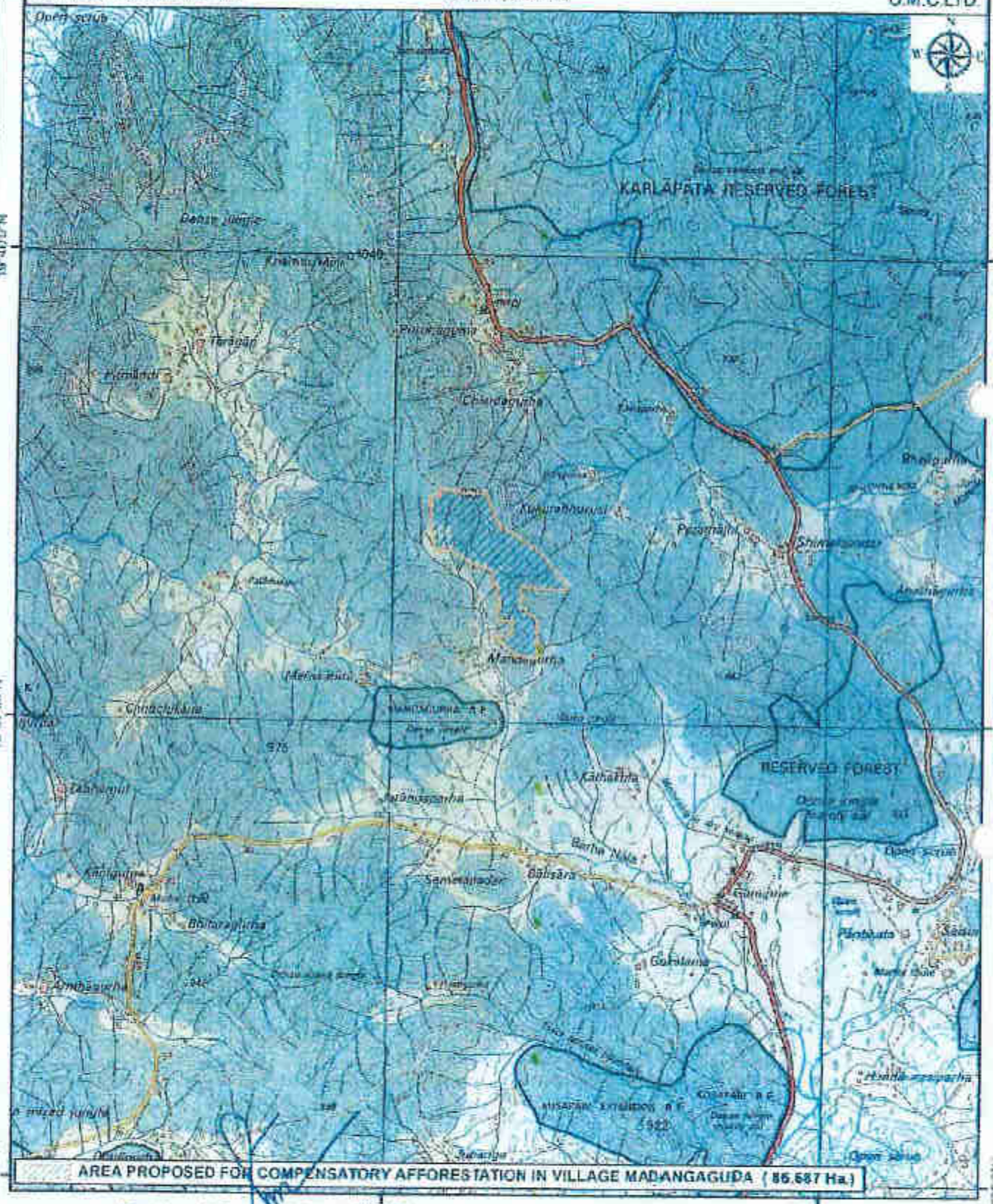
Tahasildar
Thuamul Rampur

KEY PLAN

REF TOPOSHEET:- E44F2

SCALE;1:50000

O.M.C.LTD.



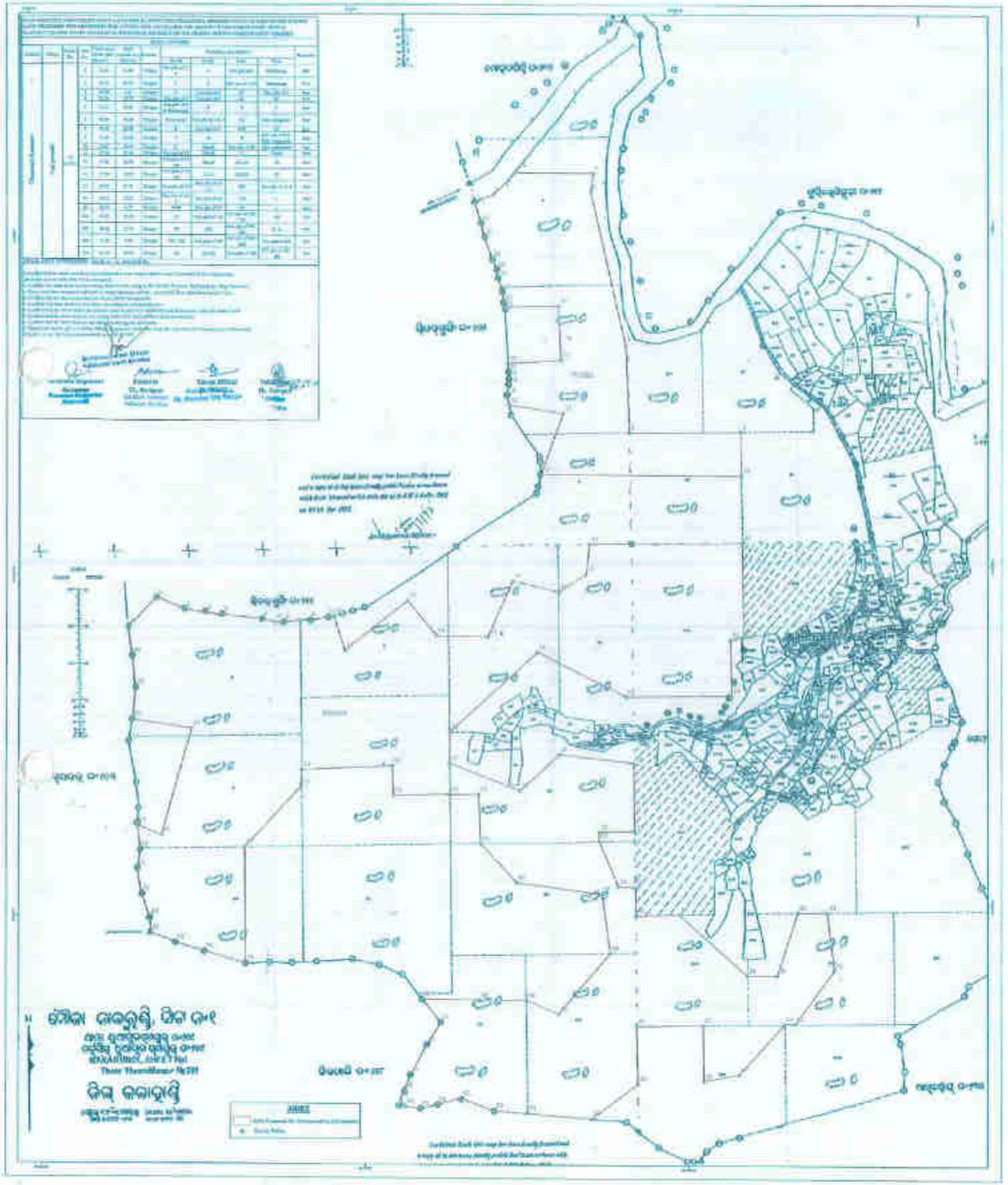
Divisional Forest Officer
Kalahandi South Division

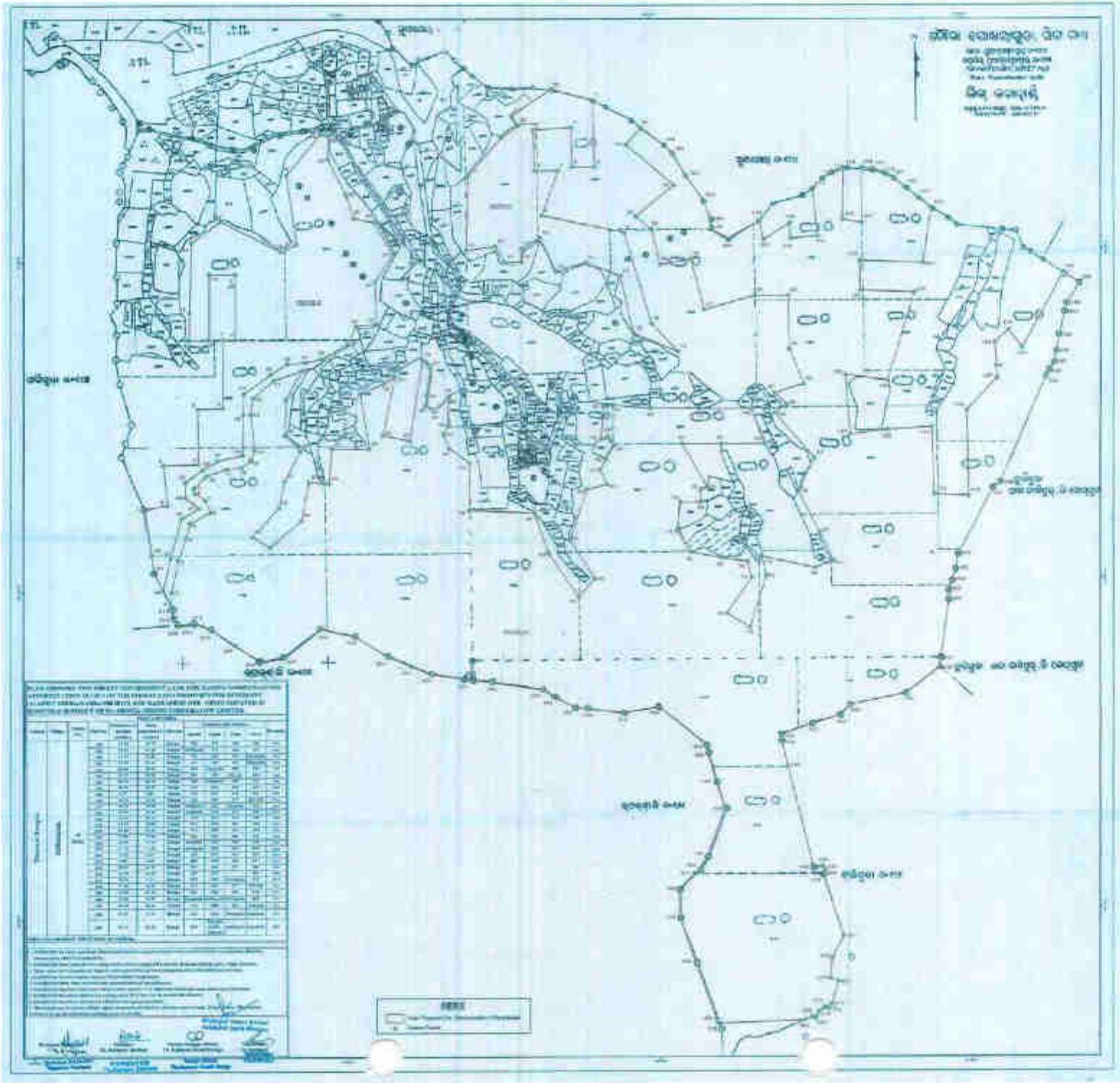
Revenue Inspector
Gunpur

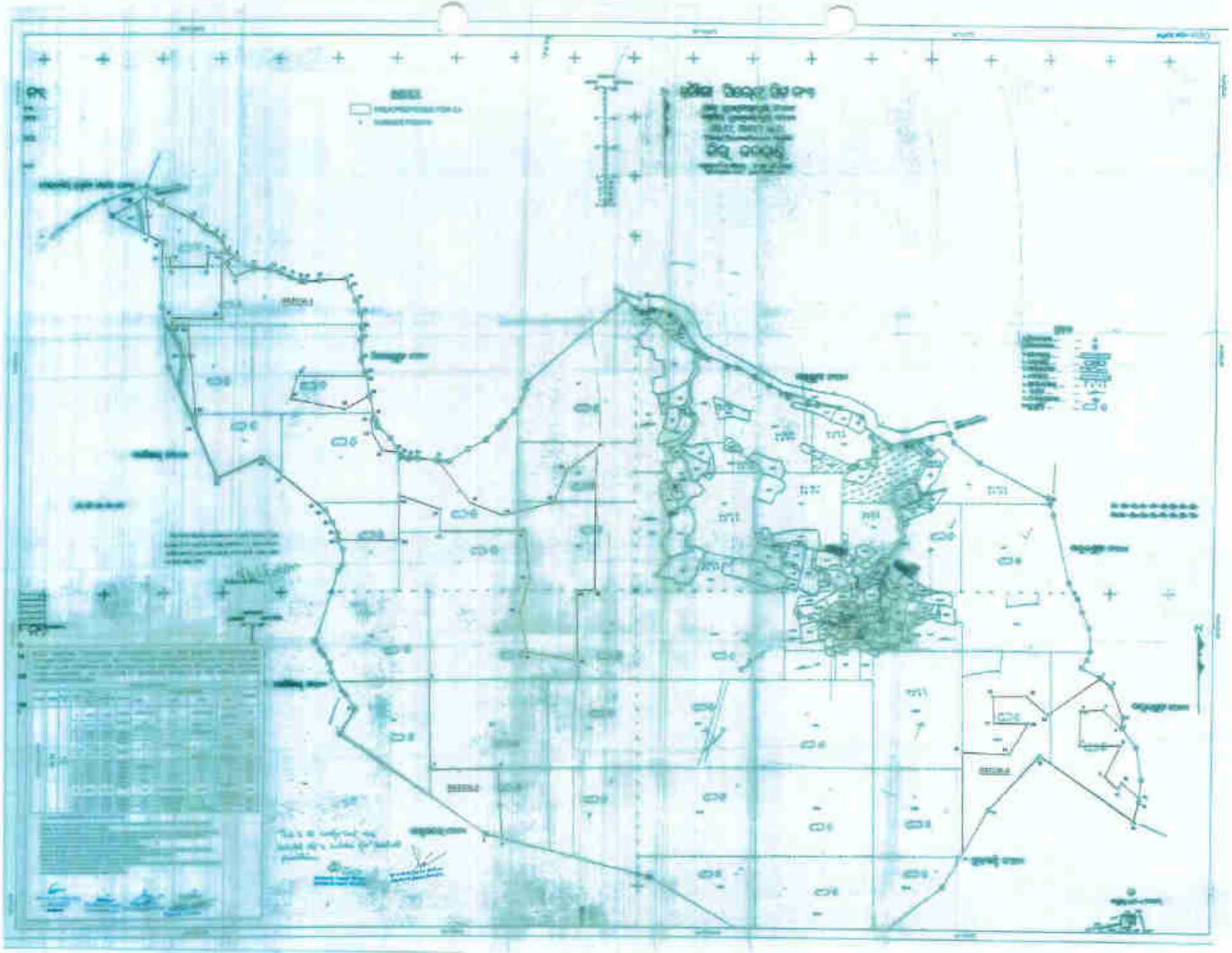
Section Forester
Gunpur Section

Range Officer
Th. Rampur (N) Range

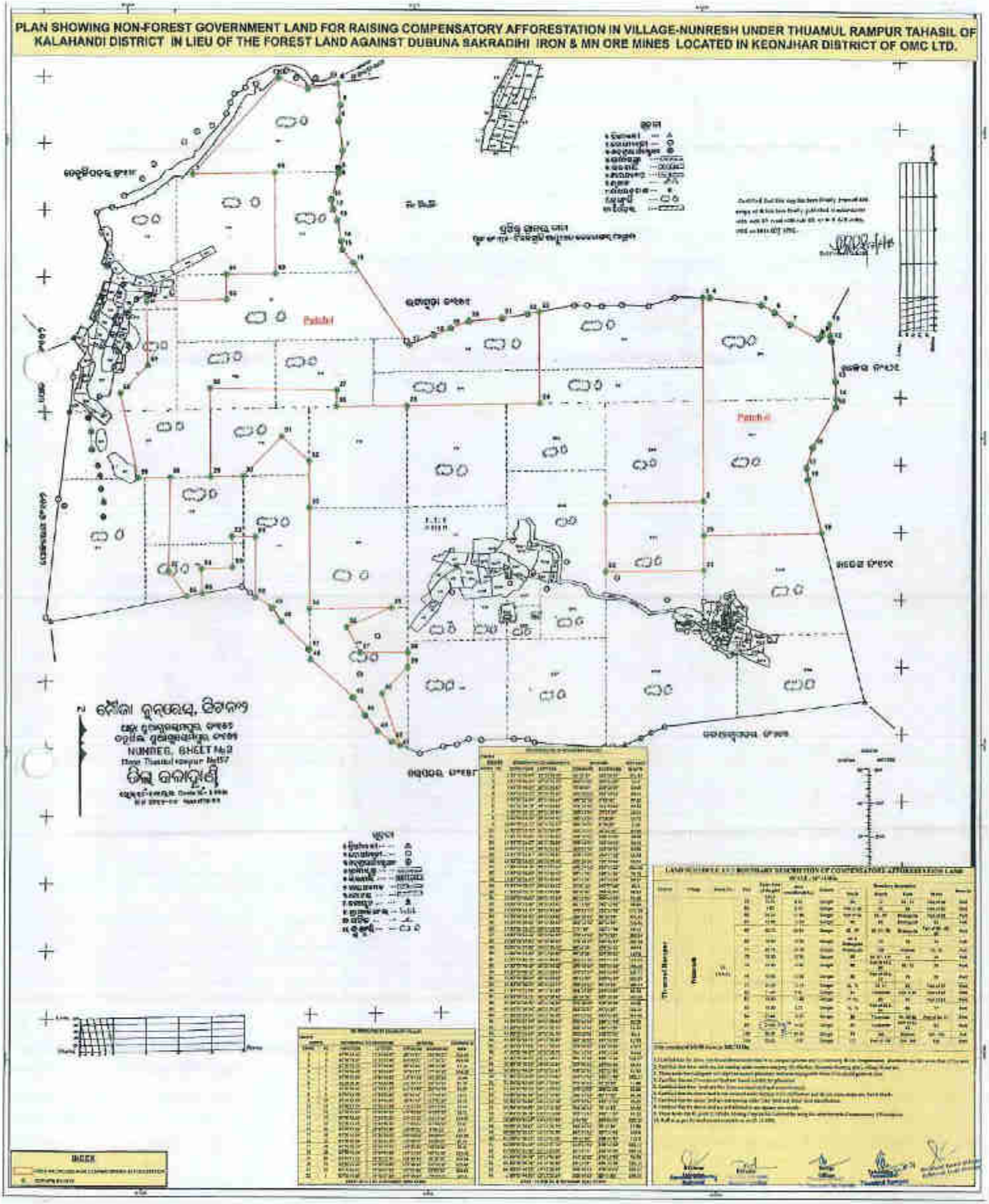
Tahasildar
Thuamul Rampur







PLAN SHOWING NON-FOREST GOVERNMENT LAND FOR RAISING COMPENSATORY AFFORESTATION IN VILLAGE-NUNRESH UNDER THUAMUL RAMPUR TAHASIL OF KALAHANDI DISTRICT IN LIEU OF THE FOREST LAND AGAINST DUBUNA SAKRADIHI IRON & MN ORE MINES LOCATED IN KEONJHAR DISTRICT OF OMC LTD.



ମୌଜା ଭଟାଗୁଡ଼ା, ସିଟ ନଂ୧

ଥାନା ଥୁଆମୂଳ ରାମପୁର ନଂ୧୫୯
ତହସିଲ ଥୁଆମୂଳ ରାମପୁର ନଂ୧୫୯

BHATAGURA, SHEET No.1

Thana Thuamul Rampur No.159

ଜିଲ୍ଲା କଳାହାଣ୍ଡି

ଅନୁସୂଚୀ-୧ ଫାରମ୍
ଆଇନ୍ଦ୍ରେ-୫୭

Scale 4"=1 Mile
Yide ORM - 102

PLAN SHOWING NON-FOREST GOVERNMENT LAND FOR RAISING COMPENSATORY AFFORESTATION IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DESHA-SARABARI IRON AND MANGANESE ORE MINES LOCATED IN KEONJHAR DISTRICT OF M/S ODISHA MINING CORPORATION LIMITED

SCALE : 12"=1000'n

Tahsil	Village	Khata No.	Plot No.	Total area of the plot (Acres)	Area considered (Acres)	Remarks	Boundaries				
							North	South	East	West	
Thuamul Rampur	Bhatagurha	22 (Part)	31	22.00	22.00	Forest	Forest	Forest	Forest	Forest	Forest
			30	22.00	22.00	Forest	Forest	Forest	Forest	Forest	Forest
			29	5.00	5.00	Forest	Forest	Forest	Forest	Forest	Forest
			111	14.71	14.00	Forest	Forest	Forest	Forest	Forest	Forest
			121	15.00	15.00	Forest	Forest	Forest	Forest	Forest	Forest

Total area considered (in Ac.) Area in Sq.Km

- Certified that the above land belongs to Government and is in occupation and is not subject to any encumbrance and does not contain more than 10 trees per acre.
- Certified that the above lands are not existing forest reserve managed by Forest Department, Revenue Forest, village forest etc.
- There are no rights and claims in respect of the land and if any claim is received in future the same shall be settled by the applicant.
- Certified that the Government land are suitable for plantation.
- Certified that there lands are free from encumbrances and encroachments.
- Certified that the area of land is not covered under Section 4 (1) notification and is not under any forest dispute.
- Certified that the above land are not coming under CRZ limit and there land classification.
- Certified that the above land are not likely to any submergence.
- There lands can be given to Odisha Mining Corporation Limited for using the same as mine Compensatory Afforestation.
- It is to be the land record available as on 31.03.1980.

Divisional Forest Officer
Kalahandi South Division

Revenue Inspector
Kesinga

Range Officer
Kumpur Section

Range Officer
Kumpur Section

Tahasildar
Thuamul Rampur

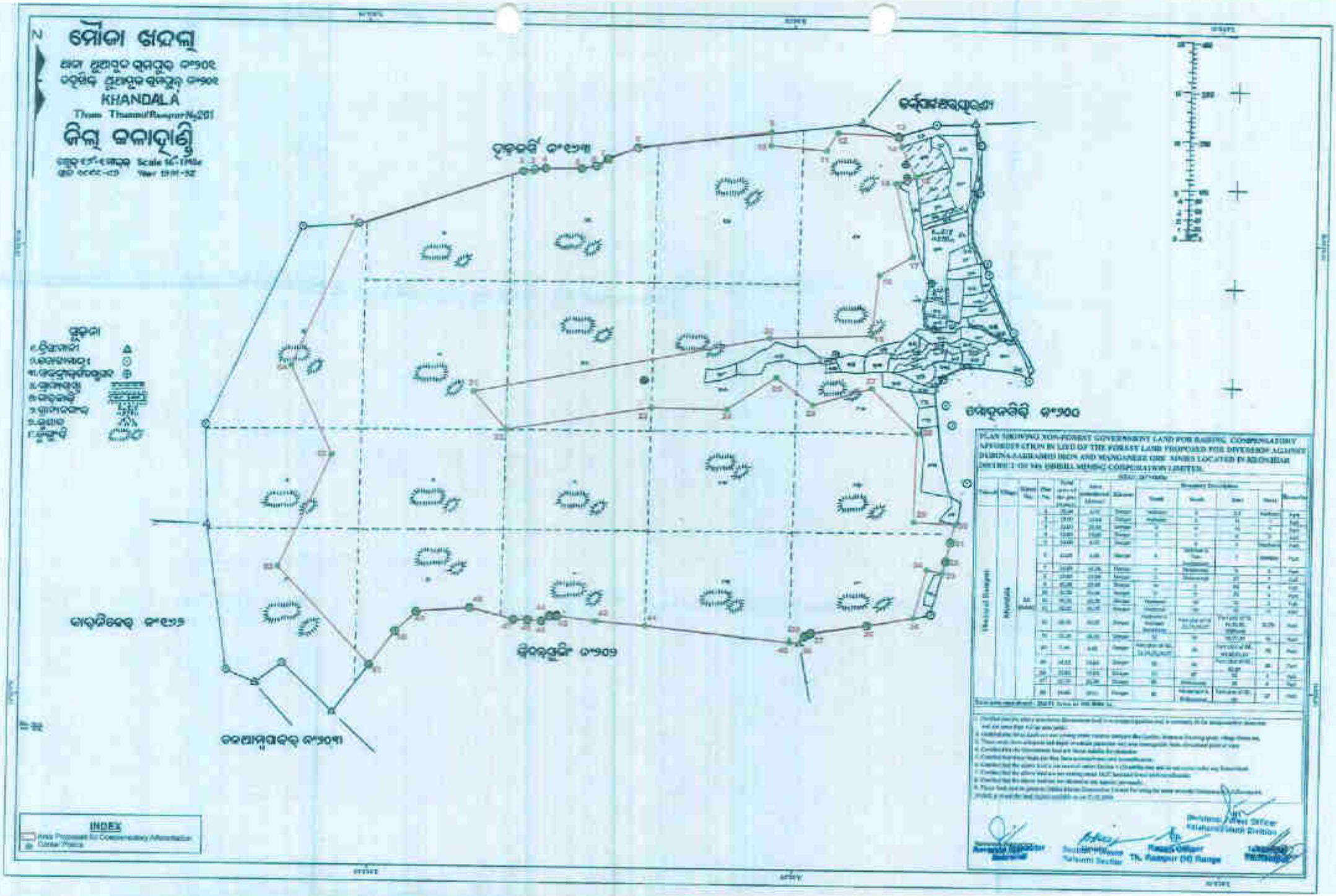
Th. Rampur (R) Range

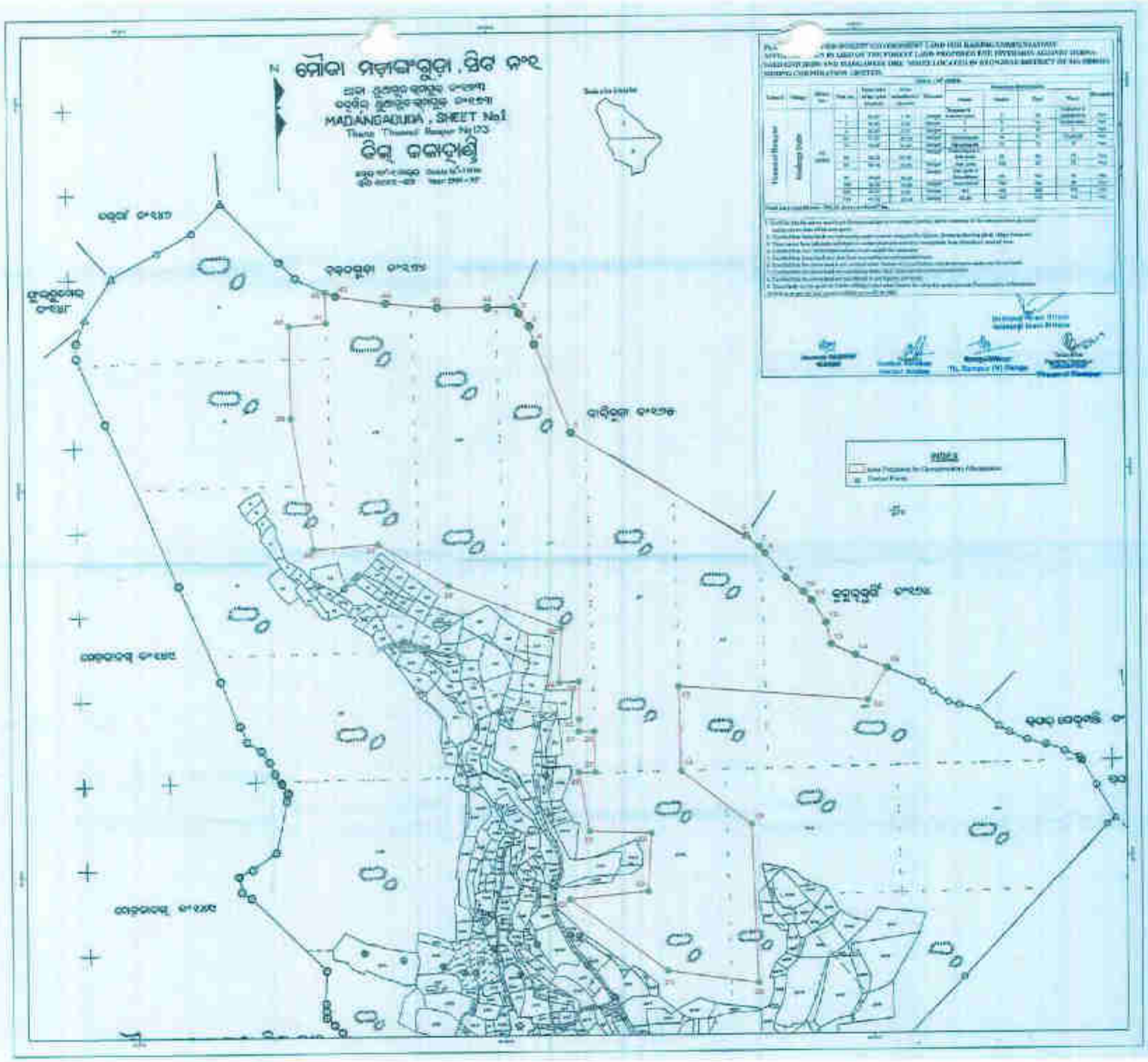
Thuamul Rampur

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Area Proposed for Compensatory Afforestation

Corner Points


ମୌଜା ଖଣ୍ଡଲା
KHANDALA
ଜିଲ୍ଲା ଝାଡ଼ାଦାଣ୍ଡି
ଦେବୁଦଳବିନ୍ଧି ନଂ୨୦୫
ଦୁଦୁରବିନ୍ଧି ନଂ୧୩୩
ଗୋଦୁଳବିନ୍ଧି ନଂ୨୦୫
ଘାଡ଼ାଡିବେଡ଼ ନଂ୧୩୫
ଶିରଡ଼ୁଡ଼ିଙ୍ଗି ନଂ୨୦୨
ଚଡ଼ାମୁଣ୍ଡଘଡ଼ ନଂ୨୦୩
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PLAN SHOWING NON-FOREST GOVERNMENT LAND FOR RAISING COMPENSATORY AFFORESTATION IN LIEU OF THE FOREST LAND PROPOSED FOR DIVERSION AGAINST DARINA-SARIGAMID IRON AND MANGANESE ORE MINES LOCATED IN KEONJHAR DISTRICT BY M/S ORIBEL MINING CORPORATION LIMITED.


ମୌଜା ମଡ଼ାଙ୍ଗଗୁଡ଼ା , ସିଟ ନଂ୧
MADANGAGUDA , SHEET No.1
ଟିକା ଇଜାଦ୍ୱାର୍ଣ୍ଣି
NOTES

CO-ORDINATES OF BOUNDARY PILLARS OF CA LAND IN VILLAGE UPARJHABI

PATCH-I

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	82°59'18.60"	19°31'16.23"	95°15'23"	275°15'23"	132.85
2	3	82°59'23.13"	19°31'15.79"	82°02'33"	262°02'33"	49.69
3	4	82°59'24.82"	19°31'15.99"	65°25'28"	245°25'28"	95.43
4	5	82°59'27.81"	19°31'17.25"	44°10'39"	224°10'39"	78.21
5	6	82°59'29.70"	19°31'19.05"	43°59'42"	223°59'42"	42.66
6	7	82°59'30.73"	19°31'20.04"	50°19'45"	230°19'45"	77.79
7	8	82°59'32.80"	19°31'21.63"	90°13'32"	270°13'32"	16.8
8	9	82°59'33.38"	19°31'21.62"	83°07'40"	263°07'40"	254.32
9	10	82°59'47.05"	19°31'22.52"	87°12'57"	267°12'57"	43.58
10	11	82°59'43.54"	19°31'22.57"	91°00'10"	271°00'10"	23.77
11	12	82°59'44.36"	19°31'22.55"	93°07'44"	273°07'44"	36.64
12	13	82°59'45.61"	19°31'22.47"	117°41'40"	297°41'40"	86.17
13	14	82°59'48.21"	19°31'21.14"	84°03'37"	264°03'37"	203.24
14	15	82°59'55.15"	19°31'21.74"	79°49'23"	259°49'23"	122.04
15	16	82°59'59.28"	19°31'22.40"	66°41'01"	246°41'01"	108.16
16	17	83°00'02.70"	19°31'23.75"	52°54'26"	232°54'26"	81.6
17	18	83°00'04.95"	19°31'25.33"	69°59'11"	249°59'11"	63.78
18	19	83°00'07.02"	19°31'26.02"	71°52'41"	251°52'41"	22.97
19	20	83°00'07.77"	19°31'26.24"	85°07'48"	265°07'48"	190.94
20	21	83°00'14.30"	19°31'26.69"	83°26'35"	263°26'35"	17.84
21	22	83°00'14.91"	19°31'26.75"	83°26'35"	263°26'35"	28.5
22	23	83°00'15.88"	19°31'26.85"	112°31'14"	292°31'14"	46.07
23	24	83°00'17.36"	19°31'26.25"	123°53'46"	303°53'46"	76.19
24	25	83°00'19.51"	19°31'24.84"	123°53'46"	303°53'46"	87.01
25	26	83°00'21.97"	19°31'23.24"	80°01'05"	260°01'05"	67.16
26	27	83°00'24.24"	19°31'23.59"	51°24'46"	231°24'46"	130.66
27	28	83°00'27.78"	19°31'26.20"	102°41'43"	282°41'43"	98.72
28	29	83°00'31.07"	19°31'25.46"	122°15'00"	302°15'00"	105.12
29	30	83°00'34.10"	19°31'23.60"	112°24'19"	292°24'19"	130.5
30	31	83°00'38.22"	19°31'21.94"	97°29'15"	277°29'15"	93.4
31	32	83°00'41.39"	19°31'21.51"	97°04'52"	277°04'52"	85.85
32	33	83°00'44.30"	19°31'21.13"	98°44'46"	278°44'46"	139.2
33	34	83°00'49.01"	19°31'20.39"	120°41'59"	300°41'59"	39.39
34	35	83°00'50.17"	19°31'19.72"	117°49'27"	297°49'27"	64.62
35	36	83°00'52.11"	19°31'18.72"	94°12'19"	274°12'19"	36.08
36	37	83°00'53.35"	19°31'18.62"	96°42'35"	276°42'35"	99.64
37	38	83°00'56.74"	19°31'18.20"	79°46'40"	259°46'40"	98.4
38	39	83°01'00.06"	19°31'18.73"	128°16'05"	308°16'05"	169.17
39	40	83°01'04.58"	19°31'15.28"	164°03'17"	344°03'17"	23.11
40	41	83°01'04.78"	19°31'14.55"	165°09'47"	345°09'47"	82.66
41	42	83°01'05.48"	19°31'11.95"	160°45'41"	340°45'41"	83.51
42	43	83°01'06.39"	19°31'09.37"	200°49'35"	20°49'35"	144.37
43	44	83°01'04.58"	19°31'05.00"	211°05'15"	31°05'15"	42.02
44	45	83°01'03.82"	19°31'03.84"	225°16'18"	45°16'18"	78.95
45	46	83°01'01.87"	19°31'02.06"	179°13'33"	359°13'33"	78.32
46	47	83°01'01.88"	19°30'59.51"	159°57'28"	339°57'28"	131.24
47	48	83°01'03.37"	19°30'55.48"	159°59'11"	339°59'11"	62.08
48	49	83°01'04.07"	19°30'53.58"	270°59'32"	90°59'32"	127.55
49	50	83°00'59.70"	19°30'53.70"	198°48'15"	18°48'15"	63.36
50	51	83°00'58.98"	19°30'51.76"	174°23'00"	354°23'00"	152.74
51	52	83°00'59.43"	19°30'46.81"	250°56'32"	70°56'32"	76.98
52	53	83°00'56.92"	19°30'46.02"	351°08'00"	171°08'00"	167.37

53	54	83°00'56.11"	19°30'51.41"	254°31'17"	74°31'17"	44.61
54	55	83°00'54.63"	19°30'51.04"	176°10'18"	356°10'18"	178.33
55	56	83°00'54.96"	19°30'45.25"	273°42'49"	93°42'49"	64.02
56	57	83°00'52.77"	19°30'45.41"	0°12'21"	180°12'21"	76.79
57	58	83°00'52.81"	19°30'47.89"	274°34'00"	94°34'00"	150.01
58	59	83°00'47.69"	19°30'48.33"	207°27'17"	27°27'17"	46.45
59	60	83°00'46.94"	19°30'47.00"	178°00'08"	358°00'08"	227.68
60	61	83°00'47.12"	19°30'39.60"	225°09'04"	45°09'04"	177.27
61	62	83°00'42.76"	19°30'35.58"	301°54'43"	121°54'43"	238.72
62	63	83°00'35.86"	19°30'39.76"	93°49'47"	273°49'47"	92.33
63	64	83°00'39.02"	19°30'39.53"	17°08'13"	197°08'13"	186.22
64	65	83°00'40.97"	19°30'45.29"	325°02'16"	145°02'16"	149.87
65	66	83°00'38.08"	19°30'49.32"	277°27'44"	97°27'44"	78.85
66	67	83°00'35.40"	19°30'49.68"	10°45'03"	190°45'03"	21.79
67	68	83°00'35.55"	19°30'50.37"	14°02'10"	194°02'10"	136.36
68	69	83°00'36.74"	19°30'54.66"	55°25'49"	235°25'49"	191.18
69	70	83°00'42.18"	19°30'58.13"	51°26'21"	231°26'21"	179.33
70	71	83°00'47.03"	19°31'01.71"	34°13'29"	214°13'29"	137.6
71	72	83°00'49.73"	19°31'05.38"	93°40'56"	273°40'56"	133.89
72	73	83°00'54.31"	19°31'05.05"	27°10'52"	207°10'52"	137.56
73	74	83°00'56.51"	19°31'09.01"	40°47'58"	220°47'58"	83.01
74	75	83°00'58.40"	19°31'11.03"	268°46'43"	88°46'43"	310.3
75	76	83°00'47.76"	19°31'10.93"	276°52'03"	96°52'03"	108.07
76	77	83°00'44.08"	19°31'11.39"	1°52'20"	181°52'20"	155.45
77	78	83°00'44.32"	19°31'16.44"	274°08'39"	94°08'39"	121.58
78	79	83°00'40.17"	19°31'16.77"	251°18'54"	71°18'54"	122.47
79	80	83°00'36.17"	19°31'15.54"	187°52'35"	7°52'35"	105.09
80	81	83°00'35.64"	19°31'12.16"	176°41'53"	356°41'53"	34.45
81	82	83°00'35.69"	19°31'11.04"	268°56'21"	88°56'21"	71.45
82	83	83°00'33.24"	19°31'11.03"	269°19'27"	89°19'27"	106.69
83	84	83°00'29.58"	19°31'11.03"	0°37'33"	180°37'33"	123.6
84	85	83°00'29.68"	19°31'15.05"	271°17'29"	91°17'29"	103.85
85	86	83°00'26.12"	19°31'15.16"	181°03'32"	1°03'32"	49.25
86	87	83°00'26.07"	19°31'13.56"	273°50'59"	93°50'59"	75.85
87	88	83°00'23.48"	19°31'13.76"	4°53'18"	184°53'18"	40.36
88	89	83°00'23.61"	19°31'15.06"	349°32'23"	169°32'23"	171.14
89	90	83°00'22.61"	19°31'20.55"	260°04'03"	80°04'03"	225.88
90	91	83°00'14.97"	19°31'19.36"	174°29'30"	354°29'30"	87.07
91	92	83°00'15.22"	19°31'16.54"	176°30'38"	356°30'38"	56.36
92	93	83°00'15.31"	19°31'14.71"	270°51'35"	90°51'35"	177.66
93	94	83°00'09.22"	19°31'14.87"	183°13'27"	3°13'27"	160.01
94	95	83°00'08.85"	19°31'09.67"	90°45'48"	270°45'48"	94.82
95	96	83°00'12.10"	19°31'09.60"	179°46'46"	359°46'46"	47.82
96	97	83°00'12.09"	19°31'08.04"	269°48'54"	89°48'54"	280.65
97	98	83°00'02.46"	19°31'08.12"	225°21'25"	45°21'25"	12.61
98	99	83°00'02.15"	19°31'07.84"	269°39'25"	89°39'25"	401.72
99	100	82°59'48.38"	19°31'07.91"	358°50'21"	178°50'21"	49.63
100	101	82°59'48.36"	19°31'09.52"	358°40'04"	178°40'04"	68.28
101	102	82°59'48.33"	19°31'11.74"	262°50'17"	82°50'17"	152.8
102	103	82°59'43.13"	19°31'11.18"	220°00'23"	40°00'23"	174.09
103	104	82°59'39.24"	19°31'06.89"	225°14'56"	45°14'56"	108.18
104	105	82°59'36.57"	19°31'04.44"	1°59'21"	181°59'21"	55.24
105	106	82°59'36.66"	19°31'06.24"	278°50'54"	98°50'54"	98.02
106	107	82°59'33.35"	19°31'06.76"	183°46'25"	3°46'25"	176.78
107	108	82°59'32.88"	19°31'01.05"	184°28'02"	4°28'02"	50.95
108	109	82°59'32.72"	19°30'59.40"	219°42'36"	39°42'36"	60.88
109	110	82°59'31.37"	19°30'57.89"	285°51'34"	105°51'34"	72.61
110	111	82°59'28.98"	19°30'58.56"	220°43'56"	40°43'56"	113.13

111	112	82°59'26.42"	19°30'55.80"	241°20'34"	61°20'34"	77.79
112	113	82°59'24.06"	19°30'54.61"	271°04'51"	91°04'51"	42.08
113	114	82°59'22.62"	19°30'54.66"	358°03'31"	178°03'31"	46.86
114	115	82°59'22.58"	19°30'56.18"	353°48'29"	173°48'29"	67.7
115	116	82°59'22.36"	19°30'58.37"	354°01'04"	174°01'04"	71.08
116	117	82°59'22.13"	19°31'00.67"	24°54'17"	204°54'17"	50.02
117	118	82°59'22.91"	19°31'02.20"	326°44'37"	146°44'37"	85.3
118	119	82°59'21.33"	19°31'04.54"	320°38'20"	140°38'20"	59.41
119	120	82°59'20.06"	19°31'06.05"	341°00'49"	161°00'49"	111.25
120	121	82°59'18.86"	19°31'09.48"	347°32'20"	167°32'20"	97.11
121	122	82°59'18.18"	19°31'12.57"	8°54'12"	188°54'12"	90.95
122	1	82°59'18.70"	19°31'15.49"	352°03'24"	172°03'24"	22.98

PERIMETER - 12637.51 METERS & AREA -156.893 HA.

PATCH-II

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	83°00'02.15"	19°31'05.49"	122°40'46"	302°40'46"	239.98
2	3	83°00'08.45"	19°31'01.56"	179°05'52"	359°05'52"	50.41
3	4	83°00'08.46"	19°30'59.92"	163°06'48"	343°06'48"	92.91
4	5	83°00'09.35"	19°30'57.02"	190°48'10"	10°48'10"	114.34
5	6	83°00'08.57"	19°30'53.38"	176°25'25"	356°25'25"	118.77
6	7	83°00'08.77"	19°30'49.52"	257°31'15"	77°31'15"	102.11
7	8	83°00'05.35"	19°30'48.84"	5°21'45"	185°21'45"	78.19
8	9	83°00'05.63"	19°30'51.37"	273°01'06"	93°01'06"	102.45
9	1	83°00'02.12"	19°30'51.58"	359°26'07"	179°26'07"	427.77

PERIMETER - 1306.93 METERS & AREA -7.801 HA.

PATCH-III

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	82°59'45.03"	19°30'21.90"	89°32'28"	269°32'28"	121.71
2	3	82°59'49.21"	19°30'21.88"	184°18'38"	4°18'38"	30.55
3	4	82°59'49.17"	19°30'21.54"	90°15'59"	270°15'59"	113.77
4	5	82°59'53.08"	19°30'21.48"	11°02'27"	191°02'27"	154.74
5	6	82°59'54.15"	19°30'26.41"	24°24'36"	204°24'36"	94.02
6	7	82°59'55.52"	19°30'29.18"	41°22'06"	221°22'06"	80.53
7	8	82°59'57.37"	19°30'31.12"	32°50'50"	212°50'50"	71.1
8	9	82°59'58.71"	19°30'33.05"	35°46'45"	215°46'45"	72.97
9	10	83°00'00.20"	19°30'34.96"	89°46'33"	269°46'33"	84.53
10	11	83°00'03.10"	19°30'34.94"	26°27'41"	206°27'41"	97.97
11	12	83°00'04.63"	19°30'37.77"	82°01'52"	262°01'52"	85.12
12	13	83°00'07.53"	19°30'38.12"	44°31'35"	224°31'35"	135.83
13	14	83°00'10.83"	19°30'41.24"	36°04'06"	216°04'06"	80.31
14	15	83°00'12.48"	19°30'43.33"	72°55'17"	252°55'17"	132.11
15	16	83°00'16.82"	19°30'44.54"	61°36'52"	241°36'52"	96.84
16	17	83°00'19.76"	19°30'46.01"	152°28'29"	332°28'29"	42.37
17	18	83°00'20.42"	19°30'44.78"	99°36'11"	279°36'11"	212.53
18	19	83°00'27.59"	19°30'43.55"	154°39'14"	334°39'14"	133.5
19	20	83°00'29.50"	19°30'39.60"	144°35'56"	324°35'56"	103.22
20	21	83°00'31.52"	19°30'36.84"	226°51'53"	46°51'53"	80.49
21	22	83°00'29.48"	19°30'35.08"	192°31'44"	12°31'44"	141.48
22	23	83°00'28.38"	19°30'30.60"	204°52'17"	24°52'17"	88.07
23	24	83°00'27.07"	19°30'28.01"	197°07'14"	17°07'14"	70.14
24	25	83°00'26.34"	19°30'25.84"	283°25'05"	103°25'05"	104.57
25	26	83°00'22.86"	19°30'26.67"	1°03'47"	181°03'47"	123.87
26	27	83°00'22.90"	19°30'30.70"	274°46'24"	94°46'24"	83.33
27	28	83°00'20.15"	19°30'30.95"	181°14'58"	1°14'58"	126.79
28	29	83°00'20.00"	19°30'26.83"	102°09'04"	282°09'04"	186.03
29	30	83°00'26.22"	19°30'25.49"	197°07'15"	17°07'15"	42.53

30	31	83°00'25.77"	19°30'24.17"	202°07'57"	22°07'57"	129.22
31	32	83°00'24.06"	19°30'20.30"	228°25'41"	48°25'41"	135.17
32	33	83°00'20.55"	19°30'17.42"	339°52'51"	159°52'51"	120.18
33	34	83°00'19.18"	19°30'21.31"	243°54'05"	63°54'05"	109.01
34	35	83°00'15.81"	19°30'19.59"	148°37'09"	328°37'09"	115.65
35	36	83°00'17.83"	19°30'16.35"	235°10'48"	55°10'48"	186.41
36	37	83°00'12.54"	19°30'12.95"	237°47'16"	57°47'16"	159.47
37	38	83°00'08.15"	19°30'09.86"	285°44'43"	105°44'43"	93.6
38	39	83°00'05.07"	19°30'10.72"	215°46'34"	35°46'34"	66.53
39	40	83°00'03.71"	19°30'08.98"	269°00'10"	89°00'10"	374.85
40	41	82°59'57.72"	19°30'08.95"	272°37'03"	92°37'03"	173.81
41	42	82°59'51.77"	19°30'09.77"	308°06'27"	128°06'27"	42.87
42	43	82°59'50.62"	19°30'10.15"	281°18'25"	101°18'25"	99.96
43	44	82°59'47.27"	19°30'10.82"	221°49'06"	41°49'06"	100.31
44	1	82°59'44.95"	19°30'08.42"	359°41'11"	179°41'11"	414.69

PERIMETER - 5092.73 METERS & AREA - 87.559 HA.

PATCH-IV

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	83°00'24.00"	19°29'56.18"	89°00'40"	269°00'40"	105.24
2	3	83°00'27.61"	19°29'56.20"	37°37'17"	217°37'17"	148.36
3	4	83°00'30.76"	19°29'59.99"	347°18'50"	167°18'50"	121.2
4	5	83°00'29.89"	19°30'03.84"	295°46'35"	115°46'35"	118.3
5	6	83°00'26.26"	19°30'05.56"	267°01'19"	87°01'19"	65.66
6	7	83°00'24.01"	19°30'05.47"	268°59'01"	88°59'01"	47.63
7	8	83°00'22.38"	19°30'05.46"	337°09'59"	157°09'59"	11.04
8	9	83°00'22.24"	19°30'05.79"	8°50'07"	188°50'07"	21.98
9	10	83°00'22.36"	19°30'06.50"	8°50'07"	188°50'07"	55.53
10	11	83°00'22.68"	19°30'08.28"	321°07'56"	141°07'56"	68.3
11	12	83°00'21.23"	19°30'10.02"	60°05'54"	240°05'54"	32.28
12	13	83°00'22.19"	19°30'10.54"	131°41'12"	311°41'12"	164.47
13	14	83°00'26.36"	19°30'06.93"	43°29'35"	223°29'35"	56.92
14	15	83°00'27.72"	19°30'08.26"	314°41'42"	134°41'42"	145
15	16	83°00'24.23"	19°30'11.62"	60°05'52"	240°05'52"	61.34
16	17	83°00'26.06"	19°30'12.59"	35°39'47"	215°39'47"	105.51
17	18	83°00'28.21"	19°30'15.35"	23°05'06"	203°05'06"	52.63
18	19	83°00'28.93"	19°30'16.92"	82°02'17"	262°02'17"	43.19
19	20	83°00'30.40"	19°30'17.10"	159°25'51"	339°25'51"	174
20	21	83°00'32.43"	19°30'11.78"	165°50'06"	345°50'06"	150.89
21	22	83°00'33.64"	19°30'07.01"	151°39'18"	331°39'18"	157.06
22	23	83°00'36.14"	19°30'02.49"	205°49'38"	25°49'38"	80.07
23	24	83°00'34.92"	19°30'00.16"	175°23'43"	355°23'43"	156.59
24	25	83°00'35.29"	19°29'55.08"	245°58'08"	65°58'08"	94.4
25	26	83°00'32.31"	19°29'53.86"	241°30'39"	61°30'39"	35.94
26	27	83°00'31.22"	19°29'53.31"	265°17'35"	85°17'35"	128
27	28	83°00'26.85"	19°29'53.01"	263°19'04"	83°19'04"	83.66
28	1	83°00'23.99"	19°29'52.73"	359°24'44"	179°24'44"	106.21

PERIMETER - 2591.40 METERS & AREA - 14.689 HA.

COORDINATES OF CA LAND AREA IN VILLAGE POKHARIGUDA

PATCH-I

FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	DISTANCE
1	2	83°00'54.39"	19°32'14.21"	178°08'18"	358°08'18"	190.544
2	3	83°00'54.53"	19°32'08.01"	270°00'00"	90°00'00"	63.5
3	4	83°00'52.35"	19°32'08.04"	358°40'04"	178°40'04"	113.802
4	5	83°00'52.30"	19°32'11.74"	266°28'04"	86°28'04"	107.36
5	6	83°00'48.63"	19°32'11.56"	177°23'51"	357°23'51"	116.537
6	7	83°00'48.76"	19°32'07.78"	90°00'00"	270°00'00"	64.823
7	8	83°00'50.98"	19°32'07.75"	199°41'31"	19°41'31"	133.484

8	9	83°00'49.39"	19°32'03.68"	101°41'22"	281°41'22"	235.063
9	10	83°00'57.27"	19°32'02.05"	103°10'11"	343°10'11"	265.92
10	11	83°00'59.80"	19°31'53.74"	136°43'37"	316°43'37"	109.445
11	12	83°01'02.34"	19°31'51.12"	292°42'55"	112°42'55"	135.587
12	13	83°00'58.08"	19°31'52.87"	346°50'17"	166°50'17"	164.758
13	14	83°00'56.85"	19°31'58.10"	291°24'13"	111°24'13"	103.874
14	15	83°00'53.55"	19°31'59.37"	252°54'54"	72°54'54"	87.602
15	16	83°00'50.67"	19°31'58.57"	334°25'14"	154°25'14"	104.8
16	17	83°00'49.16"	19°32'01.66"	239°08'45"	59°08'45"	59.329
17	18	83°00'47.40"	19°32'00.60"	180°00'00"	0°00'00"	37.042
18	19	83°00'47.38"	19°31'59.48"	269°14'10"	89°14'10"	49.614
19	20	83°00'45.68"	19°31'59.48"	331°05'27"	151°05'27"	50.627
20	21	83°00'44.86"	19°32'00.93"	262°29'53"	82°29'53"	81.061
21	22	83°00'42.10"	19°32'00.62"	1°15'04"	181°15'04"	209.264
22	23	83°00'42.34"	19°32'07.42"	40°48'28"	220°48'28"	143.310
23	24	83°00'45.60"	19°32'10.91"	54°14'46"	234°14'46"	57.055
24	25	83°00'47.20"	19°32'11.98"	324°37'31"	144°37'31"	37.449
25	26	83°00'46.56"	19°32'12.84"	56°04'59"	236°04'59"	132.169
26	1	83°00'50.36"	19°32'15.20"	103°51'17"	283°51'17"	121.541

PERIMETER 2970.564 METER & AREA -13.01 HA.

PATCH-II

FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	DISTANCE
1	2	83°00'11.00"	19°31'37.35"	79°30'30"	259°30'30"	65.74
2	3	83°00'13.22"	19°31'37.71"	354°04'32"	174°04'32"	112.786
3	4	83°00'12.87"	19°31'41.37"	88°08'33"	268°08'33"	97.948
4	5	83°00'16.22"	19°31'41.43"	359°00'56"	179°00'56"	154.011
5	6	83°00'16.20"	19°31'46.44"	87°59'35"	267°59'35"	70.511
6	7	83°00'18.61"	19°31'46.49"	0°17'18"	180°17'18"	192.796
7	8	83°00'18.72"	19°31'52.76"	90°54'34"	270°54'34"	33.342
8	9	83°00'19.87"	19°31'52.73"	0°00'00"	180°00'00"	183.092
9	10	83°00'19.94"	19°31'58.60"	270°50'11"	90°50'11"	72.504
10	11	83°00'17.45"	19°31'58.75"	180°09'51"	0°09'51"	184.68
11	12	83°00'17.36"	19°31'52.74"	269°03'06"	89°03'06"	55.551
12	13	83°00'15.46"	19°31'52.73"	1°05'09"	181°05'09"	78.392
13	14	83°00'15.54"	19°31'55.28"	1°34'58"	181°34'58"	195.276
14	15	83°00'15.80"	19°32'01.63"	53°47'42"	233°47'42"	100.337
15	16	83°00'18.60"	19°32'03.52"	116°55'23"	296°55'23"	189.324
16	17	83°00'24.36"	19°32'00.67"	63°43'07"	243°43'07"	47.804
17	18	83°00'25.84"	19°32'01.34"	351°42'59"	171°42'59"	195.09
18	19	83°00'24.95"	19°32'07.63"	39°04'16"	219°04'16"	148.702
19	20	83°00'28.21"	19°32'11.35"	99°27'44"	279°27'44"	23.9
20	21	83°00'29.02"	19°32'11.21"	181°42'32"	1°42'32"	66.419
21	22	83°00'28.02"	19°32'09.05"	152°49'55"	332°49'55"	112.415
22	23	83°00'30.64"	19°32'05.78"	162°07'17"	342°07'17"	68.945
23	24	83°00'31.34"	19°32'03.64"	101°00'13"	281°00'13"	58.22
24	25	83°00'33.30"	19°32'03.26"	149°32'04"	329°32'04"	104.368
25	26	83°00'35.08"	19°32'00.31"	213°52'29"	33°52'29"	91.141
26	27	83°00'33.30"	19°31'57.87"	177°41'57"	357°41'57"	118.629
27	28	83°00'33.42"	19°31'54.02"	265°16'48"	85°16'48"	57.876
28	29	83°00'31.44"	19°31'53.88"	204°37'25"	24°37'25"	55.882
29	30	83°00'30.62"	19°31'52.24"	239°23'19"	59°23'19"	82.158
30	31	83°00'28.18"	19°31'50.91"	257°15'59"	77°15'59"	50.663
31	32	83°00'26.48"	19°31'50.56"	265°37'27"	85°37'27"	48.121
32	33	83°00'24.83"	19°31'50.46"	238°43'29"	58°43'29"	56.517
33	34	83°00'23.16"	19°31'49.53"	233°11'30"	53°11'30"	91.188
34	35	83°00'20.64"	19°31'47.78"	182°12'54"	2°12'54"	58.954
35	36	83°00'20.54"	19°31'45.86"	180°43'42"	0°43'42"	113.095
36	37	83°00'20.44"	19°31'42.19"	256°29'28"	76°29'28"	70.641

37	38	83°00'18.08"	19°31'41.68"	240°39'36"	60°39'36"	48.276
38	39	83°00'16.63"	19°31'40.92"	233°35'52"	53°35'52"	59.198
39	40	83°00'14.98"	19°31'39.80"	180°00'00"	0°00'00"	43.656
40	41	83°00'14.96"	19°31'38.38"	128°15'50"	308°15'50"	47.851
41	42	83°00'16.24"	19°31'37.40"	239°04'53"	59°04'53"	57.673
42	43	83°00'14.53"	19°31'36.46"	195°07'28"	15°07'28"	114.637
43	44	83°00'13.46"	19°31'32.87"	192°30'04"	12°30'04"	97.582
44	45	83°00'17.74"	19°31'29.94"	332°05'07"	152°05'07"	55.419
45	46	83°00'11.87"	19°31'31.54"	352°52'30"	172°52'30"	50.129
46	47	83°00'11.67"	19°31'33.16"	350°39'09"	170°39'09"	130.318

PERIMETER 4206.761 METER & AREA -25.04 HA.

PATCH-III

FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	DISTANCE
1	2	83°00'13.44"	19°31'28.64"	3°03'53"	183°03'53"	35.257
2	3	83°00'13.52"	19°31'29.78"	11°48'30"	191°48'30"	92.444
3	4	83°00'14.21"	19°31'32.71"	19°29'28"	199°29'28"	65.817
4	5	83°00'14.99"	19°31'34.72"	14°46'15"	194°46'15"	42.549
5	6	83°00'15.37"	19°31'36.06"	61°45'45"	241°45'45"	64.87
6	7	83°00'17.35"	19°31'37.03"	335°54'30"	155°54'30"	37.159
7	8	83°00'16.84"	19°31'38.14"	304°25'27"	124°25'27"	34.536
8	9	83°00'15.87"	19°31'38.79"	347°58'40"	167°58'40"	14.608
9	10	83°00'15.77"	19°31'39.25"	44°20'25"	224°20'25"	47.805
10	11	83°00'16.93"	19°31'40.35"	71°15'38"	251°15'38"	61.246
11	12	83°00'18.93"	19°31'40.97"	84°25'45"	264°25'45"	42.006
12	13	83°00'20.36"	19°31'41.09"	52°36'21"	232°36'21"	31.804
13	14	83°00'21.24"	19°31'41.70"	19°13'50"	199°13'50"	30.124
14	15	83°00'21.59"	19°31'42.63"	353°54'59"	173°54'59"	101.111
15	16	83°00'21.26"	19°31'45.90"	7°31'48"	187°31'48"	46.438
16	17	83°00'21.49"	19°31'47.39"	49°45'53"	229°45'53"	77.27
17	18	83°00'23.53"	19°31'48.99"	70°55'16"	250°55'16"	83.02
18	19	83°00'26.23"	19°31'49.85"	208°53'47"	28°53'47"	93.081
19	20	83°00'24.66"	19°31'47.21"	181°29'30"	1°29'30"	101.635
20	21	83°00'24.53"	19°31'43.91"	135°41'55"	315°41'55"	61.37
21	22	83°00'25.98"	19°31'42.47"	208°08'54"	28°08'54"	94.223
22	23	83°00'24.42"	19°31'39.78"	191°13'54"	11°13'54"	76.07
23	24	83°00'23.88"	19°31'37.36"	222°29'37"	42°29'37"	111.237
24	25	83°00'21.27"	19°31'34.72"	121°13'55"	301°13'55"	58.172
25	26	83°00'22.97"	19°31'33.72"	49°09'22"	229°09'22"	116.159
26	27	83°00'26.01"	19°31'36.17"	11°12'03"	191°12'03"	108.967
27	28	83°00'26.78"	19°31'39.64"	93°48'51"	273°48'51"	55.686
28	29	83°00'28.68"	19°31'39.49"	4°58'21"	184°58'21"	96.965
29	30	83°00'29.01"	19°31'42.63"	89°52'09"	269°52'09"	103.779
30	31	83°00'32.57"	19°31'42.60"	350°49'31"	170°49'31"	155.983
31	32	83°00'31.78"	19°31'47.02"	65°48'14"	245°48'14"	71.894
32	33	83°00'34.04"	19°31'48.55"	58°04'15"	238°04'15"	36.358
33	34	83°00'35.11"	19°31'49.16"	191°10'18"	11°10'18"	167.966
34	35	83°00'33.97"	19°31'43.82"	101°36'17"	281°36'17"	75.029
35	36	83°00'36.46"	19°31'43.79"	8°44'39"	188°44'39"	230.385
36	37	83°00'37.75"	19°31'50.68"	137°04'43"	317°04'43"	32.435
37	38	83°00'38.50"	19°31'49.90"	187°39'02"	7°39'02"	76.418
38	39	83°00'38.12"	19°31'47.45"	187°39'02"	7°39'02"	30.9
39	40	83°00'37.97"	19°31'46.45"	122°39'03"	302°39'03"	32.367
40	41	83°00'38.89"	19°31'45.87"	41°56'50"	221°56'50"	56.206
41	42	83°00'40.20"	19°31'47.22"	181°18'07"	1°18'07"	81.513
42	43	83°00'40.10"	19°31'44.57"	208°13'02"	28°13'02"	24.622
43	44	83°00'39.69"	19°31'43.87"	158°23'29"	338°23'29"	43.826
44	45	83°00'40.23"	19°31'42.54"	125°26'56"	305°26'56"	68.418
45	46	83°00'42.13"	19°31'41.23"	179°40'30"	359°40'30"	133.685

46	47	83°00'42.10"	19°31'36.88"	92°14'51"	272°14'51"	182.174
47	48	83°00'48.34"	19°31'36.58"	160°53'51"	340°53'51"	170.045
48	49	83°00'49.64"	19°31'32.87"	145°01'44"	325°01'44"	147.719
49	50	83°00'52.49"	19°31'28.91"	43°24'32"	223°24'32"	67.378
50	51	83°00'54.10"	19°31'30.48"	327°37'20"	147°37'20"	128.207
51	52	83°00'51.79"	19°31'34.03"	17°09'35"	197°09'35"	149.746
52	53	83°00'53.36"	19°31'38.66"	77°11'45"	257°11'45"	59.693
53	54	83°00'55.37"	19°31'39.07"	334°32'12"	154°32'12"	46.155
54	55	83°00'54.70"	19°31'40.43"	30°13'05"	210°13'05"	32.423
55	56	83°00'55.27"	19°31'41.34"	30°41'12"	210°41'12"	46.939
56	57	83°00'56.11"	19°31'42.64"	321°46'02"	141°46'02"	30.857
57	58	83°00'55.46"	19°31'43.43"	251°34'33"	71°34'33"	19.382
58	59	83°00'54.83"	19°31'43.24"	4°25'26"	184°25'26"	89.575
59	60	83°00'55.10"	19°31'46.14"	77°52'07"	257°52'07"	25.95
60	61	83°00'55.98"	19°31'46.31"	94°58'11"	274°58'11"	106.897
61	62	83°00'59.63"	19°31'45.97"	90°38'17"	270°38'17"	138.229
62	63	83°01'04.36"	19°31'45.87"	90°02'50"	270°02'50"	144.109
63	64	83°01'09.31"	19°31'45.81"	158°19'08"	338°19'08"	105.106
64	65	83°01'10.60"	19°31'42.62"	269°36'01"	89°36'01"	123.029
65	66	83°01'06.38"	19°31'42.64"	270°18'55"	90°18'55"	108.668
66	67	83°01'02.65"	19°31'42.70"	149°45'49"	329°45'49"	138.87
67	68	83°01'05.00"	19°31'38.77"	246°02'15"	66°02'15"	18.762
68	69	83°01'04.41"	19°31'38.53"	182°31'21"	2°31'21"	36.071
69	70	83°01'04.34"	19°31'37.36"	269°30'52"	89°30'52"	56.2
70	71	83°01'02.42"	19°31'37.36"	186°57'54"	6°57'54"	80.189
71	72	83°01'02.05"	19°31'34.78"	146°25'52"	326°25'52"	71.561
72	73	83°01'03.38"	19°31'32.82"	100°49'39"	280°49'39"	88.734
73	74	83°01'06.36"	19°31'32.25"	98°17'33"	278°17'33"	71.804
74	75	83°01'08.80"	19°31'31.89"	164°10'03"	344°10'03"	46.065
75	76	83°01'09.21"	19°31'30.44"	214°53'27"	34°53'27"	122.575
76	77	83°01'06.77"	19°31'27.20"	121°02'59"	301°02'59"	75.664
77	78	83°01'08.97"	19°31'25.90"	17°52'43"	197°52'43"	150.82
78	79	83°01'10.62"	19°31'30.55"	345°46'23"	165°46'23"	56.895
79	80	83°01'10.36"	19°31'32.35"	102°19'01"	282°19'01"	153.106
80	81	83°01'15.28"	19°31'31.23"	70°18'05"	250°18'05"	56.909
81	82	83°01'17.12"	19°31'31.84"	333°14'56"	153°14'56"	91.111
82	83	83°01'15.75"	19°31'34.50"	332°51'30"	152°51'30"	130.867
83	84	83°01'13.75"	19°31'38.31"	26°59'41"	206°59'41"	100.919
84	85	83°01'15.36"	19°31'41.23"	318°48'51"	138°48'51"	168.7
85	86	83°01'11.60"	19°31'45.38"	53°29'55"	233°29'55"	41.144
86	87	83°01'12.74"	19°31'46.17"	312°33'11"	132°33'11"	47.244
87	88	83°01'11.56"	19°31'47.22"	72°46'05"	252°46'05"	86.565
88	89	83°01'14.41"	19°31'48.02"	337°14'56"	157°14'56"	106.729
89	90	83°01'13.03"	19°31'51.24"	359°11'35"	179°11'35"	150.299
90	91	83°01'13.02"	19°31'56.12"	270°19'25"	90°19'25"	93.664
91	92	83°01'09.81"	19°31'56.18"	254°10'03"	74°10'03"	147.409
92	93	83°01'04.93"	19°31'54.92"	345°09'42"	165°09'42"	146.709
93	94	83°01'03.70"	19°31'59.55"	259°58'20"	79°58'20"	88.13
94	95	83°01'00.71"	19°31'59.08"	346°02'12"	166°02'12"	100.877
95	96	83°00'59.92"	19°32'02.28"	309°44'15"	129°44'15"	57.116
96	97	83°00'58.43"	19°32'03.48"	50°45'25"	230°45'25"	138.019
97	98	83°01'02.13"	19°32'06.28"	310°37'12"	130°37'12"	176.379
98	99	83°00'57.58"	19°32'10.06"	39°25'17"	219°25'17"	61.339
99	100	83°00'58.84"	19°32'11.59"	175°50'59"	305°50'59"	80.1
100	101	83°01'01.15"	19°32'10.04"	136°08'45"	316°08'45"	37.425
101	102	83°01'02.02"	19°32'09.15"	148°48'54"	328°48'54"	70.514
102	103	83°01'03.25"	19°32'07.18"	144°06'00"	324°06'00"	87.537
103	104	83°01'04.98"	19°32'04.85"	159°52'49"	339°52'49"	56.919

104	105	83°01'05.63"	19°37'03.10"	180°00'00"	0°00'00"	26.458
105	106	83°01'05.62"	19°32'02.24"	117°47'02"	297°47'02"	55.626
106	107	83°01'07.30"	19°32'01.38"	60°33'32"	240°33'32"	99.045
107	108	83°01'10.28"	19°32'02.93"	166°26'14"	346°26'14"	54.447
108	109	83°01'10.69"	19°32'01.21"	57°19'40"	237°19'40"	86.752
109	110	83°01'13.22"	19°32'02.70"	176°19'32"	356°19'32"	43.349
110	111	83°01'13.29"	19°32'01.29"	85°14'11"	265°14'11"	76.464
111	112	83°01'15.91"	19°32'01.47"	353°16'42"	173°16'42"	132.815
112	113	83°01'15.43"	19°32'05.77"	43°59'42"	223°59'42"	47.663
113	114	83°01'16.46"	19°32'06.75"	54°07'04"	234°07'04"	30.696
114	115	83°01'17.32"	19°32'07.33"	72°21'00"	252°21'00"	34.531
115	116	83°01'18.45"	19°32'07.66"	181°09'33"	1°09'33"	145.312
116	117	83°01'18.29"	19°32'07.93"	97°57'11"	277°57'11"	55.535
117	118	83°01'20.18"	19°32'02.66"	350°29'18"	170°29'18"	153.673
118	119	83°01'20.19"	19°32'07.66"	95°37'29"	275°37'29"	32.983
119	120	83°01'21.32"	19°32'07.54"	113°06'23"	293°06'23"	43.149
120	121	83°01'22.67"	19°32'06.98"	119°34'06"	299°34'06"	17.338
121	122	83°01'23.18"	19°32'06.69"	127°34'07"	307°34'07"	43.395
122	123	83°01'24.35"	19°32'05.82"	128°02'49"	308°02'49"	46.365
123	124	83°01'25.59"	19°32'04.87"	128°39'35"	308°39'35"	47.437
124	125	83°01'26.85"	19°32'03.90"	188°20'58"	8°20'58"	155.52
125	126	83°01'26.01"	19°31'58.90"	272°04'32"	92°04'32"	178.02
126	127	83°01'19.92"	19°31'59.18"	178°53'28"	358°53'28"	82.036
127	128	83°01'19.94"	19°31'56.51"	92°03'32"	272°03'32"	151.924
128	129	83°01'25.14"	19°31'56.28"	196°48'58"	16°48'58"	258.44
129	130	83°01'22.48"	19°31'48.26"	277°12'26"	97°12'26"	120.773
130	131	83°01'18.37"	19°31'48.80"	174°34'36"	354°34'36"	167.969
131	132	83°01'18.85"	19°31'43.36"	83°01'08"	263°01'08"	104.492
132	133	83°01'22.41"	19°31'43.73"	86°25'56"	266°25'56"	124.544
133	134	83°01'26.68"	19°31'43.04"	177°45'36"	357°45'36"	188.243
134	135	83°01'26.85"	19°31'37.82"	93°08'42"	273°08'42"	96.454
135	136	83°01'30.16"	19°31'37.61"	358°59'26"	178°59'26"	240.279
136	137	83°01'30.11"	19°31'45.42"	42°44'14"	222°44'14"	123.201
137	138	83°01'33.01"	19°31'48.33"	357°00'11"	177°00'11"	101.209
138	139	83°01'32.87"	19°31'51.62"	47°31'34"	227°31'34"	50.938
139	140	83°01'34.17"	19°31'52.72"	143°07'48"	323°07'48"	63.5
140	141	83°01'35.46"	19°31'51.06"	28°46'17"	208°46'17"	240.631
141	142	83°01'39.52"	19°31'57.87"	123°48'07"	303°48'07"	54.666
142	143	83°01'41.06"	19°31'56.86"	212°18'01"	32°18'01"	65.359
143	144	83°01'39.84"	19°31'55.08"	193°20'55"	13°20'55"	25.67
144	145	83°01'39.63"	19°31'54.27"	193°34'59"	13°34'59"	64.892
145	146	83°01'39.08"	19°31'52.23"	190°03'09"	10°03'09"	47.293
146	147	83°01'38.78"	19°31'50.72"	191°40'36"	11°40'36"	37.421
147	148	83°01'38.54"	19°31'49.69"	213°49'20"	33°49'20"	25.478
148	149	83°01'38.05"	19°31'49.00"	206°01'47"	26°01'47"	20.258
149	150	83°01'37.73"	19°31'48.41"	203°18'27"	23°18'27"	371.513
150	151	83°01'33.25"	19°31'38.86"	231°55'16"	51°55'16"	26.083
151	152	83°01'32.54"	19°31'38.35"	207°39'55"	27°39'55"	211.984
152	153	83°01'29.09"	19°31'32.28"	188°39'31"	8°39'31"	42.179
153	154	83°01'28.85"	19°31'30.93"	196°48'18"	16°48'18"	32.945
154	155	83°01'28.51"	19°31'29.91"	199°58'59"	19°58'59"	29.73
155	156	83°01'28.16"	19°31'29.00"	180°00'00"	0°00'00"	26.67
156	157	83°01'28.14"	19°31'28.13"	188°07'48"	8°07'48"	164.638
157	158	83°01'27.28"	19°31'22.84"	187°52'09"	7°52'09"	26.283
158	159	83°01'27.35"	19°31'22.00"	231°54'01"	51°54'01"	118.349
159	160	83°01'23.92"	19°31'19.66"	258°21'43"	78°21'43"	159.489
160	161	83°01'18.55"	19°31'18.67"	225°24'33"	45°24'33"	41.909
161	162	83°01'17.52"	19°31'17.73"	253°12'54"	73°12'54"	81.36

162	163	83°01'14.84"	19°31'17.00"	251°08'26"	71°08'26"	90.865
163	164	83°01'11.89"	19°31'16.08"	179°15'56"	359°15'56"	16.511
164	165	83°01'11.89"	19°31'15.54"	166°42'47"	346°42'47"	74.599
165	166	83°01'12.45"	19°31'13.17"	165°49'25"	345°49'25"	293.853
166	167	83°01'14.80"	19°31'03.88"	82°29'09"	262°29'09"	25.762
167	168	83°01'15.68"	19°31'03.98"	149°25'15"	329°25'15"	13.522
168	169	83°01'15.91"	19°31'03.60"	206°03'13"	26°03'13"	0.874
169	170	83°01'15.76"	19°31'03.32"	206°03'13"	26°03'13"	3.379
170	171	83°01'15.71"	19°31'03.22"	161°19'36"	341°19'36"	180.977
171	172	83°01'17.63"	19°30'57.62"	206°10'19"	26°10'19"	68.985
172	173	83°01'16.56"	19°30'55.62"	188°08'57"	8°08'57"	56.765
173	174	83°01'16.26"	19°30'53.80"	108°53'21"	288°53'21"	25.847
174	175	83°01'17.09"	19°30'53.51"	197°23'36"	17°23'36"	69.038
175	176	83°01'16.36"	19°30'51.38"	215°52'56"	35°52'56"	15.348
176	177	83°01'16.05"	19°30'50.98"	297°15'19"	117°15'19"	9.822
177	178	83°01'15.75"	19°30'51.13"	235°31'32"	55°31'32"	20.426
178	179	83°01'15.17"	19°30'50.76"	207°01'06"	27°01'06"	21.177
179	180	83°01'14.83"	19°30'50.15"	299°21'28"	119°21'28"	9.714
180	181	83°01'14.54"	19°30'50.31"	246°07'04"	66°07'04"	23.461
181	182	83°01'13.80"	19°30'50.01"	267°41'39"	87°41'39"	243.349
182	183	83°01'05.46"	19°30'49.78"	341°53'46"	161°53'46"	15.62
183	184	83°01'05.30"	19°30'50.27"	339°59'11"	159°59'11"	170.079
184	185	83°01'03.37"	19°30'55.48"	339°57'28"	159°57'28"	131.244
185	186	83°01'01.88"	19°30'59.51"	359°13'33"	179°13'33"	78.324
186	187	83°01'01.87"	19°31'02.06"	45°16'18"	225°16'18"	61.562
187	188	83°01'03.39"	19°31'03.45"	45°16'18"	225°16'18"	17.39
188	189	83°01'03.82"	19°31'03.84"	31°05'15"	211°05'15"	42.018
189	190	83°01'04.58"	19°31'05.00"	20°49'35"	200°49'35"	144.371
190	191	83°01'06.39"	19°31'09.37"	340°45'41"	160°45'41"	83.51
191	192	83°01'05.48"	19°31'11.95"	345°09'47"	165°09'47"	87.66
192	193	83°01'04.78"	19°31'14.55"	344°03'17"	164°03'17"	23.114
193	194	83°01'04.58"	19°31'15.28"	308°16'05"	128°16'05"	169.172
194	195	83°01'00.06"	19°31'18.73"	259°46'40"	79°46'40"	98.4
195	196	83°00'56.74"	19°31'18.20"	276°42'35"	96°42'35"	99.637
196	197	83°00'53.35"	19°31'18.62"	274°12'19"	94°12'19"	36.081
197	198	83°00'52.11"	19°31'18.72"	297°49'27"	117°49'27"	64.621
198	199	83°00'50.17"	19°31'19.72"	300°41'59"	120°41'59"	39.387
199	200	83°00'49.01"	19°31'20.39"	278°44'46"	98°44'46"	139.202
200	201	83°00'44.30"	19°31'21.13"	277°04'52"	97°04'52"	85.853
201	202	83°00'41.39"	19°31'21.51"	277°29'15"	97°29'15"	93.401
202	203	83°00'38.22"	19°31'21.94"	292°24'19"	112°24'19"	59.535
203	204	83°00'36.34"	19°31'22.70"	292°24'19"	112°24'19"	70.966
204	205	83°00'34.10"	19°31'23.60"	302°15'00"	122°15'00"	105.117
205	206	83°00'31.07"	19°31'25.46"	282°41'43"	102°41'43"	98.722
206	207	83°00'27.78"	19°31'26.20"	231°24'46"	51°24'46"	130.657
207	208	83°00'24.24"	19°31'23.59"	260°01'05"	80°01'05"	67.103
208	209	83°00'21.97"	19°31'23.24"	303°53'46"	123°53'46"	87.011
209	210	83°00'19.51"	19°31'24.84"	303°53'46"	123°53'46"	76.193
210	211	83°00'17.36"	19°31'26.25"	292°31'14"	112°31'14"	46.974
211	212	83°00'15.88"	19°31'26.85"	263°26'35"	83°26'35"	28.501
212	213	83°00'14.91"	19°31'26.75"	263°51'44"	83°51'44"	23.734
213	214	83°00'14.10"	19°31'26.68"	330°31'01"	150°31'01"	24.961
214	215	83°00'33.69"	19°31'27.39"	356°30'38"	176°30'38"	27.17
215	1	83°00'13.64"	19°31'28.27"	332°05'07"	152°05'07"	12.496

PERIMETER 17809.247 METER & AREA -191.95 HA.

CO-ORDINATES OF BOUNDARY PILLARS OF CA LAND IN VILLAGE KUMJORE

PATCH-I

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	83°01'07.40"	19°32'15.71"	69°47'21"	249°47'21"	85.35
2	3	83°01'10.16"	19°32'16.63"	355°36'05"	175°36'05"	82.79
3	4	83°01'09.98"	19°32'19.32"	265°07'43"	85°07'43"	93.47
4	5	83°01'06.78"	19°32'19.10"	180°57'33"	0°57'33"	74.47
5	6	83°01'06.71"	19°32'16.68"	267°17'42"	87°17'42"	33.64
6	7	83°01'05.55"	19°32'16.64"	310°00'23"	130°00'23"	19.34
7	8	83°01'05.05"	19°32'17.05"	339°38'48"	159°38'48"	57.49
8	9	83°01'04.44"	19°32'18.66"	355°58'12"	175°58'12"	316.71
9	10	83°01'04.21"	19°32'22.44"	95°21'24"	275°21'24"	76.94
10	11	83°01'06.83"	19°32'22.18"	12°23'34"	192°23'34"	151.02
11	12	83°01'08.00"	19°32'26.97"	70°44'05"	250°44'05"	216.52
12	13	83°01'15.04"	19°32'29.21"	53°12'24"	233°12'24"	73.18
13	14	83°01'17.07"	19°32'30.61"	39°19'58"	219°19'58"	18.09
14	15	83°01'17.47"	19°32'31.06"	320°40'03"	300°40'03"	175.57
15	16	83°01'22.61"	19°32'28.09"	179°10'36"	359°10'36"	460.96
16	17	83°01'22.65"	19°32'13.10"	279°34'05"	99°34'05"	206.99
17	18	83°01'15.67"	19°32'14.30"	299°26'19"	119°26'19"	122.74
18	19	83°01'12.03"	19°32'16.30"	200°13'43"	20°13'43"	90.08
19	20	83°01'10.92"	19°32'13.57"	216°32'42"	36°32'42"	27.99
20	21	83°01'10.34"	19°32'12.84"	317°10'01"	137°10'01"	103.91
21	1	83°01'07.95"	19°32'15.35"	303°54'23"	123°54'23"	19.45

PERIMETER - 2301.7 METERS & AREA- 20.476 HA.

PATCH-II

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	83°00'34.50"	19°32'56.93"	81°12'53"	261°12'53"	58.9
2	3	83°00'36.50"	19°32'57.20"	93°06'39"	273°06'39"	48.76
3	4	83°00'38.17"	19°32'57.10"	83°46'27"	263°46'27"	29.28
4	5	83°00'39.17"	19°32'57.19"	98°58'21"	278°58'21"	20.36
5	6	83°00'39.86"	19°32'57.08"	109°13'50"	289°13'50"	24.1
6	7	83°00'40.63"	19°32'56.81"	91°42'35"	271°42'35"	35.47
7	8	83°00'41.85"	19°32'56.77"	78°41'24"	258°41'24"	40.47
8	9	83°00'43.21"	19°32'57.01"	105°59'45"	285°59'45"	82.57
9	10	83°00'45.93"	19°32'56.24"	104°55'53"	284°55'53"	16.43
10	11	83°00'46.47"	19°32'56.09"	68°40'56"	248°40'56"	23.29
11	12	83°00'47.22"	19°32'56.36"	50°34'20"	230°34'20"	30.83
12	13	83°00'48.04"	19°32'56.99"	70°49'16"	250°49'16"	25.77
13	14	83°00'48.88"	19°32'57.25"	29°28'33"	209°28'33"	27.96
14	15	83°00'49.36"	19°32'58.04"	22°00'41"	202°00'41"	26.83
15	16	83°00'49.72"	19°32'58.85"	68°24'58"	248°24'58"	155.36
16	17	83°00'54.70"	19°33'00.65"	71°04'31"	251°04'31"	58.74
17	18	83°00'56.61"	19°33'01.25"	77°33'00"	257°33'00"	41.73
18	19	83°00'58.01"	19°33'01.52"	62°49'08"	242°49'08"	44.02
19	20	83°00'59.36"	19°33'02.16"	64°39'14"	244°39'14"	44.5
20	21	83°01'00.75"	19°33'02.77"	47°48'56"	227°48'56"	45.7
21	22	83°01'01.92"	19°33'03.75"	25°38'28"	205°38'28"	102.77
22	23	83°01'03.48"	19°33'06.74"	11°09'17"	191°09'17"	76.59
23	24	83°01'04.02"	19°33'09.18"	3°30'13"	183°30'13"	51.96
24	25	83°01'04.15"	19°33'10.87"	29°44'42"	209°44'42"	25.6
25	26	83°01'04.60"	19°33'11.59"	28°31'23"	208°31'23"	27.7
26	27	83°01'05.06"	19°33'12.37"	31°31'01"	211°31'01"	65.8
27	28	83°01'06.26"	19°33'14.18"	0°00'00"	180°00'00"	38.1
28	29	83°01'06.28"	19°33'15.42"	10°32'21"	190°32'21"	23.15
29	30	83°01'06.43"	19°33'16.16"	5°31'39"	185°31'39"	16.48

30	31	83°01'00.49"	19°33'16.69"	91°52'28"	271°52'28"	145.6
31	32	83°01'11.48"	19°33'16.48"	119°32'20"	299°32'20"	18.25
32	33	83°01'12.02"	19°33'16.18"	126°52'12"	306°52'12"	23.81
33	34	83°01'12.67"	19°33'15.71"	140°26'25"	320°26'25"	31.57
34	35	83°01'13.35"	19°33'14.91"	140°56'49"	320°56'49"	36.12
35	36	83°01'14.12"	19°33'13.99"	126°28'09"	306°28'09"	45.4
36	37	83°01'15.36"	19°33'13.10"	314°54'17"	294°54'17"	32.67
37	38	83°01'16.37"	19°33'12.64"	115°18'29"	295°18'29"	75.51
38	39	83°01'18.70"	19°33'11.56"	112°50'01"	292°50'01"	32.73
39	40	83°01'19.73"	19°33'11.14"	107°01'14"	287°01'14"	54.23
40	41	83°01'21.50"	19°33'10.60"	96°03'15"	276°03'15"	35.12
41	42	83°01'22.70"	19°33'10.47"	94°31'44"	274°31'44"	53.61
42	43	83°01'24.53"	19°33'10.31"	103°51'05"	283°51'05"	79.57
43	44	83°01'27.17"	19°33'09.66"	79°02'45"	259°02'45"	16.71
44	45	83°01'27.74"	19°33'09.76"	64°54'18"	244°54'18"	258.27
45	46	83°01'35.80"	19°33'13.73"	76°45'34"	256°45'34"	175.59
46	47	83°01'41.68"	19°33'14.47"	64°57'01"	244°57'01"	223.71
47	48	83°01'48.67"	19°33'17.47"	90°36'11"	270°36'11"	50.77
48	49	83°01'50.39"	19°33'17.44"	135°00'00"	315°00'00"	74.09
49	50	83°01'52.17"	19°33'15.71"	149°34'27"	329°34'27"	38.66
50	51	83°01'52.83"	19°33'14.62"	139°23'55"	319°23'55"	63.42
51	52	83°01'54.22"	19°33'13.04"	141°24'27"	321°24'27"	70.41
52	53	83°01'55.71"	19°33'11.24"	152°10'33"	332°10'33"	21.54
53	54	83°01'56.04"	19°33'10.61"	145°05'51"	325°05'51"	26.51
54	55	83°01'56.56"	19°33'09.90"	144°14'38"	324°14'38"	20.26
55	56	83°01'56.96"	19°33'09.36"	232°37'56"	52°37'56"	220.24
56	57	83°01'50.90"	19°33'05.08"	291°17'07"	111°17'07"	26.35
57	58	83°01'50.06"	19°33'05.40"	290°44'58"	110°44'58"	106.2
58	59	83°01'46.67"	19°33'06.66"	213°36'36"	33°36'36"	89.08
59	60	83°01'44.95"	19°33'04.27"	197°29'33"	17°29'33"	144.38
60	61	83°01'43.40"	19°32'59.81"	305°39'19"	125°39'19"	29.96
61	62	83°01'42.58"	19°33'00.39"	216°20'51"	36°20'51"	34.82
62	63	83°01'41.86"	19°32'59.48"	285°21'42"	105°21'42"	49.94
63	64	83°01'40.21"	19°32'59.93"	250°38'28"	70°38'28"	20.75
64	65	83°01'39.54"	19°32'59.72"	196°57'58"	16°57'58"	32.64
65	66	83°01'39.20"	19°32'58.70"	225°00'00"	45°00'00"	30.68
66	67	83°01'38.44"	19°32'58.01"	359°16'12"	179°16'12"	116.91
67	68	83°01'38.44"	19°33'01.81"	271°25'56"	91°25'56"	57.93
68	69	83°01'36.63"	19°33'01.87"	178°50'59"	358°50'59"	179.64
69	70	83°01'36.68"	19°32'56.03"	134°16'29"	314°16'29"	29.56
70	71	83°01'37.39"	19°32'55.35"	239°40'35"	59°40'35"	32.49
71	72	83°01'36.43"	19°32'54.83"	281°12'03"	101°12'03"	45.52
72	73	83°01'34.90"	19°32'55.13"	359°35'23"	179°35'23"	51.04
73	74	83°01'34.91"	19°32'56.79"	271°17'32"	91°17'32"	88
74	75	83°01'31.89"	19°32'56.89"	180°23'40"	0°23'40"	52.34
75	76	83°01'31.86"	19°32'55.19"	250°20'46"	70°20'46"	39.33
76	77	83°01'30.58"	19°32'54.77"	269°55'35"	89°55'35"	78.78
77	78	83°01'27.88"	19°32'54.80"	358°12'33"	178°12'33"	76.06
78	79	83°01'27.83"	19°32'57.27"	319°21'04"	139°21'04"	103.57
79	80	83°01'25.55"	19°32'59.86"	246°55'33"	66°55'33"	113.38
80	81	83°01'21.95"	19°32'58.45"	233°23'08"	53°23'08"	94.93
81	82	83°01'19.31"	19°32'56.64"	284°18'19"	104°18'19"	108.44
82	83	83°01'15.72"	19°32'57.55"	245°03'16"	65°03'16"	111.83
83	84	83°01'12.22"	19°32'56.06"	6°49'29"	186°49'29"	100.19
84	85	83°01'12.67"	19°32'59.29"	330°18'22"	150°18'22"	67.7
85	86	83°01'11.55"	19°33'01.21"	291°27'42"	111°27'42"	134.54
86	87	83°01'07.27"	19°33'02.86"	275°18'18"	95°18'18"	111.6
87	88	83°01'03.40"	19°33'03.24"	189°19'02"	9°19'02"	102.96

88	89	83°01'02.85"	19°32'59.94"	96°20'07"	276°20'07"	172.7
89	90	83°01'08.73"	19°32'59.26"	179°19'10"	359°19'10"	20.17
90	91	83°01'08.73"	19°32'58.60"	88°32'59"	268°32'59"	6.91
91	92	83°01'08.97"	19°32'58.60"	160°20'41"	340°20'41"	1.11
92	93	83°01'08.98"	19°32'58.57"	160°20'41"	340°20'41"	26.62
93	94	83°01'09.28"	19°32'57.75"	145°13'20"	325°13'20"	23.19
94	95	83°01'09.72"	19°32'57.13"	65°13'29"	245°13'29"	7.58
95	96	83°01'09.96"	19°32'57.23"	133°05'52"	313°05'52"	50.73
96	97	83°01'11.22"	19°32'56.08"	263°30'55"	83°30'55"	36.74
97	98	83°01'09.96"	19°32'55.90"	170°21'09"	350°21'09"	108.07
98	99	83°01'10.54"	19°32'57.49"	302°44'32"	122°44'32"	18.89
99	100	83°01'10.00"	19°32'52.83"	225°46'08"	45°46'08"	33.45
100	101	83°01'09.17"	19°32'52.08"	243°54'54"	63°54'54"	137.22
101	102	83°01'04.92"	19°32'50.17"	173°00'36"	353°00'36"	60.57
102	103	83°01'05.18"	19°32'47.92"	94°51'52"	274°51'52"	37.44
103	104	83°01'06.40"	19°32'47.80"	181°39'37"	1°39'37"	18.26
104	105	83°01'06.43"	19°32'47.21"	150°34'51"	330°34'51"	80.8
105	106	83°01'07.75"	19°32'44.90"	232°34'29"	52°34'29"	41.78
106	107	83°01'06.62"	19°32'44.09"	321°47'18"	141°47'18"	230.25
107	108	83°01'01.80"	19°32'50.03"	1°29'21"	181°29'21"	67.34
108	109	83°01'01.89"	19°32'52.22"	269°24'33"	89°24'33"	178.25
109	110	83°00'55.78"	19°32'52.22"	172°18'14"	352°18'14"	88.91
110	111	83°00'56.15"	19°32'49.36"	313°42'00"	293°42'00"	173.3
111	112	83°01'01.56"	19°32'47.03"	142°45'13"	322°45'13"	209.4
112	113	83°01'05.84"	19°32'41.56"	170°10'43"	350°10'43"	123.84
113	114	83°01'06.52"	19°32'37.59"	230°05'51"	50°05'51"	172.74
114	115	83°01'01.93"	19°32'34.03"	310°23'49"	130°23'49"	49.53
115	116	83°01'00.64"	19°32'35.09"	241°18'50"	61°18'50"	45.32
116	117	83°00'59.20"	19°32'34.40"	351°30'49"	171°30'49"	85.16
117	118	83°00'58.87"	19°32'37.14"	271°44'22"	91°44'22"	183.04
118	119	83°00'52.59"	19°32'37.39"	181°18'07"	1°18'07"	52.4
119	120	83°00'52.53"	19°32'35.69"	269°17'34"	89°17'34"	192.9
120	121	83°00'45.92"	19°32'35.68"	183°10'24"	3°10'24"	193.57
121	122	83°00'45.47"	19°32'29.40"	173°31'44"	353°31'44"	172.55
122	123	83°00'46.07"	19°32'23.82"	85°16'32"	265°16'32"	35.48
123	124	83°00'47.28"	19°32'23.90"	176°39'53"	356°39'53"	153.16
124	125	83°00'47.53"	19°32'18.03"	82°59'26"	262°59'26"	65.05
125	126	83°00'49.74"	19°32'19.16"	359°57'35"	179°57'35"	313.07
126	127	83°00'49.79"	19°32'22.84"	179°29'45"	309°29'45"	75.35
127	128	83°00'51.76"	19°32'21.26"	128°00'41"	308°00'41"	29.22
128	129	83°00'52.54"	19°32'20.67"	38°10'44"	218°10'44"	39.38
129	130	83°00'53.39"	19°32'21.66"	134°04'01"	314°04'01"	211.13
130	131	83°00'58.53"	19°32'16.83"	100°18'35"	280°18'35"	134.41
131	132	83°01'03.06"	19°32'16.00"	167°46'38"	347°46'38"	97.03
132	133	83°01'03.73"	19°32'12.88"	139°58'57"	319°58'57"	146.48
133	134	83°01'06.92"	19°32'09.19"	66°54'30"	246°54'30"	35.52
134	135	83°01'08.04"	19°32'09.63"	161°42'55"	341°42'55"	98.27
135	136	83°01'09.06"	19°32'06.59"	67°51'12"	247°51'12"	100.17
136	137	83°01'12.26"	19°32'07.78"	58°37'11"	238°37'11"	87.4
137	138	83°01'14.83"	19°32'09.23"	83°57'21"	203°57'21"	22.61
138	139	83°01'15.61"	19°32'09.30"	14°15'52"	194°15'52"	37.21
139	140	83°01'15.89"	19°32'10.31"	110°51'17"	290°51'17"	91.09
140	141	83°01'18.80"	19°32'09.23"	174°24'12"	354°24'12"	44.03
141	142	83°01'18.92"	19°32'07.79"	252°21'00"	72°21'00"	48.87
142	143	83°01'17.32"	19°32'07.33"	234°07'04"	54°07'04"	30.7
143	144	83°01'16.46"	19°32'06.75"	223°59'42"	43°59'42"	42.66
144	145	83°01'15.43"	19°32'05.77"	241°45'45"	61°45'45"	37.44
145	146	83°01'14.44"	19°32'05.28"	253°22'09"	73°22'09"	85.05

146	147	83°01'11.64"	19°32'04.52"	218°30'33"	38°30'33"	62.89
147	148	83°01'10.28"	19°32'02.93"	240°33'32"	60°33'32"	99.05
148	149	83°01'07.30"	19°32'01.38"	207°47'02"	117°47'02"	55.63
149	150	83°01'05.67"	19°32'02.24"	0°00'00"	180°00'00"	26.46
150	151	83°01'05.63"	19°32'03.10"	339°52'49"	159°52'49"	56.92
151	152	83°01'04.98"	19°32'04.85"	324°06'00"	144°06'00"	87.54
152	153	83°01'03.25"	19°32'07.18"	328°48'54"	148°48'54"	70.51
153	154	83°01'02.02"	19°32'09.15"	316°08'45"	136°08'45"	37.42
154	155	83°01'01.15"	19°32'10.04"	305°50'59"	125°50'59"	112.94
155	156	83°00'58.03"	19°32'12.22"	300°12'12"	120°12'12"	82.05
156	157	83°00'55.62"	19°32'13.59"	297°14'07"	117°14'07"	40.47
157	158	83°00'54.39"	19°32'14.71"	283°51'17"	103°51'17"	121.54
158	159	83°00'50.36"	19°32'15.20"	276°12'56"	96°12'56"	53.76
159	160	83°00'48.52"	19°32'15.41"	264°33'35"	84°33'35"	55.81
160	161	83°00'46.62"	19°32'15.26"	274°15'14"	94°15'14"	64.21
161	162	83°00'44.47"	19°32'15.41"	305°14'31"	125°14'31"	59.61
162	163	83°00'42.77"	19°32'16.58"	311°08'36"	131°08'36"	66.75
163	164	83°00'41.06"	19°32'18.02"	312°55'48"	132°55'48"	31.08
164	165	83°00'40.29"	19°32'18.72"	248°55'11"	68°55'11"	101.52
165	166	83°00'37.03"	19°32'17.57"	309°35'17"	129°35'17"	71.41
166	167	83°00'35.16"	19°32'19.07"	345°01'38"	165°01'38"	47.11
167	168	83°00'34.76"	19°32'20.55"	321°39'16"	141°39'16"	45.21
168	169	83°00'33.81"	19°32'21.72"	1°23'50"	181°23'50"	21.7
169	170	83°00'33.84"	19°32'22.42"	12°59'41"	192°59'41"	35.3
170	171	83°00'34.12"	19°32'23.54"	10°34'05"	190°34'05"	72.13
171	172	83°00'34.61"	19°32'25.84"	50°05'57"	230°05'57"	69.8
172	173	83°00'36.46"	19°32'27.27"	48°51'56"	228°51'56"	166.51
173	174	83°00'40.81"	19°32'30.79"	348°56'55"	168°56'55"	103.52
174	175	83°00'40.17"	19°32'34.10"	322°52'09"	142°52'09"	139.38
175	176	83°00'37.33"	19°32'37.74"	354°08'38"	174°08'38"	45.91
176	177	83°00'37.18"	19°32'39.23"	90°33'33"	270°33'33"	204.31
177	178	83°00'44.19"	19°32'39.09"	352°50'05"	172°50'05"	58.33
178	179	83°00'43.96"	19°32'40.97"	276°11'59"	96°11'59"	206.25
179	180	83°00'36.94"	19°32'41.77"	31°18'36"	211°18'36"	90.12
180	181	83°00'38.58"	19°32'44.26"	48°42'17"	228°42'17"	78.18
181	182	83°00'40.61"	19°32'45.91"	43°41'32"	223°41'32"	122.95
182	183	83°00'43.56"	19°32'48.77"	331°49'17"	151°49'17"	50.43
183	184	83°00'42.76"	19°32'50.23"	261°39'52"	81°39'52"	80.77
184	185	83°00'40.02"	19°32'49.88"	190°24'05"	10°24'05"	64.19
185	186	83°00'39.59"	19°32'47.83"	225°00'00"	45°00'00"	13.15
186	187	83°00'39.27"	19°32'47.53"	223°50'34"	43°50'34"	111.15
187	188	83°00'36.60"	19°32'44.95"	197°55'08"	17°55'08"	139.31
188	189	83°00'35.07"	19°32'40.66"	177°06'31"	357°06'31"	78.68
189	190	83°00'35.18"	19°32'38.10"	166°42'33"	346°42'33"	207.16
190	191	83°00'36.73"	19°32'31.53"	211°44'13"	31°44'13"	77.07
191	192	83°00'35.31"	19°32'29.41"	269°06'07"	89°06'07"	29.18
192	193	83°00'34.31"	19°32'29.41"	354°53'05"	174°53'05"	55.26
193	194	83°00'34.17"	19°32'31.20"	354°53'05"	174°53'05"	42.3
194	195	83°00'34.05"	19°32'32.57"	0°00'00"	180°00'00"	32.28
195	196	83°00'34.07"	19°32'33.62"	353°09'26"	173°09'26"	173.21
196	197	83°00'33.43"	19°32'39.22"	350°48'40"	170°48'40"	36.45
197	198	83°00'33.24"	19°32'40.39"	0°56'03"	180°56'03"	194.76
198	199	83°00'33.43"	19°32'46.72"	18°48'34"	198°48'34"	128.02
199	200	83°00'34.89"	19°32'50.65"	356°37'23"	176°37'23"	170.69
200	1	83°00'34.62"	19°32'56.19"	350°45'14"	170°45'14"	23.05

PERIMETER - 15222.33 METERS & AREA- 155.071 HA.

CA LAND IN VILLAGE SILET

PATCH-I

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	METRS
1	2	83°12'24.27"	19°32'18.36"	118°36'16"	298°36'16"	58.09
2	3	83°12'26.00"	19°32'17.43"	113°43'30"	293°43'30"	113.44
3	4	83°12'29.54"	19°32'15.90"	128°52'04"	308°52'04"	56.92
4	5	83°12'31.05"	19°32'14.72"	118°41'10"	298°41'10"	39.96
5	6	83°12'32.24"	19°32'14.09"	129°57'27"	309°57'27"	31.93
6	7	83°12'33.07"	19°32'13.41"	152°16'53"	332°16'53"	44.09
7	8	83°12'33.76"	19°32'12.13"	125°05'45"	305°05'45"	29.91
8	9	83°12'34.59"	19°32'11.56"	236°18'36"	56°18'36"	38.16
9	10	83°12'33.49"	19°32'10.89"	142°14'13"	322°14'13"	59.41
10	11	83°12'34.72"	19°32'09.34"	64°54'59"	244°54'59"	68.05
11	12	83°12'36.86"	19°32'10.26"	91°19'56"	271°19'56"	56.9
12	13	83°12'38.81"	19°32'10.20"	109°47'56"	289°47'56"	35.15
13	14	83°12'39.94"	19°32'09.80"	113°25'43"	293°25'43"	43.25
14	15	83°12'41.29"	19°32'09.22"	109°26'24"	289°26'24"	35.77
15	16	83°12'42.45"	19°32'08.82"	96°34'55"	276°34'55"	17.31
16	17	83°12'43.04"	19°32'08.75"	84°31'21"	264°31'21"	48.51
17	18	83°12'44.69"	19°32'08.88"	88°21'48"	268°21'48"	92.64
18	19	83°12'47.87"	19°32'08.93"	160°49'16"	340°49'16"	32.22
19	20	83°12'48.22"	19°32'07.93"	151°19'37"	331°19'37"	48.25
20	21	83°12'48.99"	19°32'06.55"	159°53'15"	339°53'15"	50.01
21	22	83°12'49.50"	19°32'05.01"	173°20'00"	353°20'00"	51.28
22	23	83°12'49.74"	19°32'03.35"	188°31'51"	8°31'51"	40.13
23	24	83°12'49.52"	19°32'02.07"	180°00'00"	0°00'00"	66.15
24	25	83°12'49.49"	19°31'59.92"	161°01'47"	341°01'47"	44.77
25	26	83°12'49.97"	19°31'58.53"	107°11'45"	347°11'45"	14.92
26	27	83°12'50.08"	19°31'58.06"	270°09'43"	90°09'43"	234.16
27	28	83°12'47.05"	19°31'58.18"	195°37'27"	15°37'27"	81.05
28	29	83°12'41.27"	19°31'55.65"	100°59'33"	280°59'33"	187.32
29	30	83°12'47.56"	19°31'54.41"	61°30'51"	241°30'51"	97.08
30	31	83°12'50.50"	19°31'55.88"	168°04'45"	348°04'45"	60.1
31	32	83°12'50.90"	19°31'53.96"	200°08'29"	20°08'29"	24.21
32	33	83°12'50.61"	19°31'53.23"	173°45'06"	353°45'06"	45.58
33	34	83°12'50.76"	19°31'51.75"	148°03'09"	328°03'09"	69.38
34	35	83°12'51.99"	19°31'49.83"	97°22'07"	277°22'07"	57.08
35	36	83°12'53.93"	19°31'49.56"	149°07'23"	329°07'23"	17.09
36	37	83°12'54.22"	19°31'49.08"	108°55'29"	288°55'29"	24.47
37	38	83°12'55.01"	19°31'48.82"	87°30'38"	267°30'38"	30.46
38	39	83°12'56.06"	19°31'48.85"	94°26'28"	274°26'28"	68.34
39	40	83°12'58.39"	19°31'48.64"	142°16'08"	322°16'08"	184.83
40	41	83°13'02.20"	19°31'43.84"	110°37'45"	290°37'45"	119.16
41	42	83°13'06.01"	19°31'42.43"	75°32'36"	255°32'36"	174.87
42	43	83°13'11.84"	19°31'43.78"	22°57'15"	202°57'15"	122.12
43	44	83°13'13.52"	19°31'47.42"	54°02'22"	234°02'22"	122.03
44	45	83°13'16.94"	19°31'49.70"	179°57'18"	359°57'18"	485.05
45	46	83°13'16.73"	19°31'33.94"	269°33'09"	89°33'09"	63.09
46	47	83°13'14.57"	19°31'33.95"	178°36'36"	358°36'36"	241.74
47	48	83°13'14.66"	19°31'26.09"	279°44'13"	99°44'13"	174.7
48	49	83°13'08.77"	19°31'27.12"	349°04'21"	169°04'21"	141.2
49	50	83°13'07.92"	19°31'31.64"	16°24'20"	196°24'29"	114.74
50	51	83°13'09.08"	19°31'35.20"	353°37'15"	173°37'15"	171.45
51	52	83°13'08.50"	19°31'40.75"	269°22'05"	89°22'05"	287.88
52	53	83°12'58.63"	19°31'40.77"	0°00'00"	180°00'00"	74.08
53	54	83°12'58.66"	19°31'43.18"	289°04'11"	109°04'11"	146.59
54	55	83°12'53.93"	19°31'44.79"	179°45'11"	359°45'11"	153.46

55	56	83°12'53.89"	19°31'39.80"	270°32'44"	90°32'44"	208.37
56	57	83°12'46.74"	19°31'39.96"	354°57'27"	174°57'27"	22.58
57	58	83°12'46.68"	19°31'40.69"	335°05'43"	155°05'43"	40.84
58	59	83°12'46.11"	19°31'41.90"	327°35'16"	147°35'16"	49.36
59	60	83°12'45.22"	19°31'43.26"	309°49'14"	129°49'14"	40.18
60	61	83°12'44.26"	19°31'44.05"	308°25'52"	128°25'52"	155.37
61	62	83°12'40.13"	19°31'47.24"	311°56'01"	131°56'01"	90.37
62	63	83°12'37.85"	19°31'49.23"	245°20'32"	65°20'32"	166.32
63	64	83°12'32.63"	19°31'47.05"	335°36'23"	155°36'23"	183.97
64	65	83°12'30.10"	19°31'57.53"	358°16'07"	178°16'07"	47.25
65	66	83°12'30.07"	19°31'54.07"	354°20'55"	174°20'55"	306.29
66	67	83°12'29.37"	19°32'03.99"	269°39'04"	89°39'04"	52.12
67	68	83°12'27.38"	19°32'04.00"	0°00'00"	180°00'00"	25.93
68	69	83°12'27.39"	19°32'04.84"	91°10'06"	271°10'06"	168.68
69	70	83°12'33.18"	19°32'04.66"	359°03'37"	179°03'37"	225.88
70	71	83°12'33.15"	19°32'12.01"	270°58'36"	90°58'36"	46.57
71	72	83°12'31.55"	19°32'12.05"	180°38'37"	0°38'37"	47.1
72	73	83°12'31.51"	19°32'10.52"	269°38'47"	89°38'47"	128.59
73	74	83°12'27.10"	19°32'10.55"	358°56'21"	178°56'21"	28.58
74	75	83°12'27.10"	19°32'11.48"	271°08'04"	91°08'04"	26.73
75	76	83°12'26.18"	19°32'11.51"	359°14'51"	179°14'51"	52.89
76	77	83°12'26.18"	19°32'13.22"	296°33'54"	116°33'54"	51.03
77	1	83°12'24.63"	19°32'13.99"	354°47'34"	174°47'34"	134.83

PERIMETR - 7290.96 METRS & AREA - 63.936 HA

PATCH-II

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	METRS
1	2	83°12'46.56"	19°31'24.10"	89°13'26"	269°13'26"	313.74
2	3	83°12'57.32"	19°31'24.30"	179°02'07"	359°02'07"	306.28
3	4	83°12'57.36"	19°31'14.15"	89°27'35"	269°27'35"	229.7
4	5	83°13'05.24"	19°31'14.12"	175°43'42"	355°43'42"	238.93
5	6	83°13'05.74"	19°31'06.37"	284°26'56"	104°26'56"	57.17
6	7	83°13'03.85"	19°31'06.85"	305°13'37"	125°13'37"	606.04
7	8	83°12'47.03"	19°31'18.43"	32°10'55"	212°10'55"	92.85
8	1	83°12'48.76"	19°31'20.96"	325°38'50"	145°38'50"	115.88

PERIMETR -1960.59 METRS & AREA - 12.298 HA

PATCH-III

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	METRS
1	2	83°14'15.65"	19°31'24.09"	130°22'49"	310°22'49"	44.91
2	3	83°14'16.81"	19°31'23.13"	158°17'56"	338°17'56"	112.34
3	4	83°14'18.19"	19°31'19.72"	184°51'04"	4°51'04"	35.51
4	5	83°14'18.07"	19°31'18.57"	313°24'36"	133°24'36"	87.81
5	6	83°14'15.91"	19°31'20.56"	266°25'25"	86°25'25"	76.35
6	7	83°14'13.30"	19°31'20.43"	180°21'13"	0°21'13"	118.73
7	8	83°14'13.22"	19°31'16.57"	88°53'24"	268°53'24"	136.04
8	9	83°14'17.88"	19°31'16.60"	204°46'34"	24°46'34"	118.36
9	10	83°14'16.14"	19°31'13.13"	134°46'41"	314°46'41"	61.31
10	11	83°14'17.61"	19°31'11.71"	29°37'37"	209°37'37"	25.68
11	12	83°14'18.05"	19°31'12.43"	130°40'14"	310°40'14"	79.06
12	13	83°14'20.09"	19°31'10.73"	183°28'33"	3°28'33"	13.76
13	14	83°14'20.05"	19°31'10.28"	194°20'14"	14°20'14"	70.25
14	15	83°14'19.42"	19°31'08.08"	304°35'43"	124°35'43"	389.2
15	16	83°14'08.54"	19°31'15.40"	222°22'12"	42°22'12"	258.57
16	17	83°14'02.48"	19°31'09.26"	209°23'25"	29°23'25"	170.09
17	18	83°13'59.55"	19°31'04.48"	359°19'44"	179°19'44"	346.79
18	19	83°13'59.57"	19°31'15.76"	91°17'44"	271°17'44"	150.48
19	20	83°14'05.03"	19°31'15.57"	30°54'42"	210°54'42"	174.9

20	21	83°14'07.28"	19°31'19.03"	269°05'54"	89°05'54"	116.86
21	22	83°14'03.27"	19°31'19.01"	356°48'54"	176°48'54"	91.03
22	23	83°14'03.14"	19°31'21.97"	88°28'43"	268°28'43"	114.92
23	24	83°14'07.08"	19°31'22.02"	130°25'35"	310°25'35"	95.13
24	1	83°14'09.54"	19°31'19.99"	53°59'17"	233°59'17"	218.52

PERIMETR -3065.54 METRS & AREA - 13.082 HA

CO-ORDINATES OF BOUNDARY PILLARS OF CA LAND IN VILLAGE NAKRUNDI

PATCH-I

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	METERS
1	2	83°09'11.00"	19°33'02.71"	69°55'05"	249°55'05"	52.398
2	3	83°09'17.69"	19°33'03.28"	46°28'45"	226°28'45"	52.543
3	4	83°09'14.01"	19°33'04.44"	38°20'49"	218°20'49"	30.007
4	5	83°09'14.66"	19°33'05.20"	90°08'57"	270°08'57"	215.207
5	6	83°09'22.04"	19°33'05.09"	187°00'50"	7°00'50"	50.727
6	7	83°09'21.81"	19°33'03.46"	167°12'36"	347°12'36"	427.865
7	8	83°09'24.88"	19°32'49.85"	177°31'01"	357°31'01"	238.19
8	9	83°09'25.13"	19°32'42.11"	89°31'15"	269°31'15"	300.068
9	10	83°09'35.42"	19°32'42.07"	179°22'01"	359°22'01"	110.732
10	11	83°09'35.41"	19°32'38.18"	270°17'36"	90°17'36"	542.801
11	12	83°09'16.80"	19°32'38.49"	20°15'05"	200°15'05"	176.851
12	13	83°09'18.97"	19°32'43.86"	278°51'09"	98°51'09"	149.781
13	14	83°09'13.91"	19°32'44.67"	347°55'29"	167°55'29"	27.711
14	15	83°09'13.72"	19°32'45.55"	9°18'07"	189°18'07"	31.101
15	16	83°09'13.90"	19°32'46.55"	7°48'56"	187°48'56"	16.159
16	17	83°09'13.94"	19°32'47.07"	354°12'26"	174°12'26"	18.35
17	18	83°09'13.88"	19°32'47.67"	356°46'14"	176°46'14"	21.246
18	19	83°09'13.85"	19°32'48.36"	86°47'24"	266°47'24"	144.723
19	20	83°09'18.81"	19°32'48.50"	357°27'59"	177°27'59"	149.636
20	21	83°09'18.65"	19°32'53.42"	268°18'10"	88°18'10"	147.227
21	22	83°09'13.60"	19°32'53.34"	350°24'25"	170°24'25"	13.331
22	23	83°09'13.53"	19°32'53.77"	352°44'48"	172°44'48"	29.339
23	24	83°09'13.41"	19°32'54.72"	343°50'08"	163°50'08"	38.015
24	25	83°09'13.07"	19°32'55.91"	348°12'24"	168°12'24"	24.596
25	26	83°09'12.90"	19°32'56.70"	338°40'14"	158°40'14"	29.824
26	27	83°09'12.54"	19°32'57.60"	340°57'32"	160°57'32"	63.257
27	28	83°09'11.86"	19°32'59.56"	345°40'38"	165°40'38"	38.503
28	1	83°09'11.55"	19°33'00.77"	344°07'19"	164°07'19"	61.893

PERIMETER - 3211.081 METERS & AREA - 24.8595 HA.

PATCH-II

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	IN METERS
1	2	83°08'38.30"	19°32'25.34"	44°19'42"	224°19'42"	111.7
2	3	83°08'41.01"	19°32'27.91"	113°06'07"	293°06'07"	82.768
3	4	83°08'43.60"	19°32'26.83"	98°16'50"	278°16'50"	56.95
4	5	83°08'45.52"	19°32'26.54"	96°27'09"	276°27'09"	44.733
5	6	83°08'47.05"	19°32'26.36"	96°27'51"	276°27'51"	108.108
6	7	83°08'50.73"	19°32'25.92"	101°45'11"	281°45'11"	40.267
7	8	83°08'52.07"	19°32'25.64"	90°41'25"	270°41'25"	21.962
8	9	83°08'52.83"	19°32'25.62"	84°13'32"	264°13'32"	71.004
9	10	83°08'55.25"	19°32'25.82"	81°54'44"	261°54'44"	50.776
10	11	83°08'56.98"	19°32'26.03"	77°00'19"	257°00'19"	14.216
11	12	83°08'57.46"	19°32'26.13"	162°02'43"	342°02'43"	98.629
12	13	83°08'58.46"	19°32'23.07"	51°13'10"	231°13'10"	216.393
13	14	83°09'04.30"	19°32'27.41"	140°41'53"	320°41'53"	122.354
14	15	83°09'06.91"	19°32'24.30"	91°04'51"	271°04'51"	140.254
15	16	83°09'11.72"	19°32'24.16"	23°27'10"	203°27'10"	165.91
16	17	83°09'14.05"	19°32'29.08"	103°03'12"	283°03'12"	129.763

17	18	83°09'18.37"	19°32'28.08"	57°26'14"	237°26'14"	88.738
18	19	83°09'20.96"	19°32'29.60"	5°55'05"	185°55'05"	82.984
19	20	83°09'21.29"	19°32'32.28"	89°23'35"	269°23'35"	413.574
20	21	83°09'35.47"	19°32'32.25"	179°33'31"	359°33'31"	257.58
21	22	83°09'35.43"	19°32'23.88"	256°38'38"	76°38'38"	35.161
22	23	83°09'34.25"	19°32'23.63"	178°35'35"	358°35'35"	150.876
23	24	83°09'34.31"	19°32'18.72"	269°19'32"	89°19'32"	286.221
24	25	83°09'24.50"	19°32'18.73"	296°33'54"	116°33'54"	269.782
25	26	83°09'16.28"	19°32'22.75"	227°13'34"	47°13'34"	321.737
26	27	83°09'08.08"	19°32'15.74"	180°22'12"	0°22'12"	84.007
27	28	83°09'08.03"	19°32'13.01"	111°13'18"	291°13'18"	203.933
28	29	83°09'14.51"	19°32'10.53"	47°25'55"	227°25'55"	145.499
29	30	83°09'18.23"	19°32'13.69"	96°30'03"	276°30'03"	203.317
30	31	83°09'25.15"	19°32'12.86"	179°08'09"	359°08'09"	184.717
31	32	83°09'25.16"	19°32'06.85"	269°12'14"	89°12'14"	95.755
32	33	83°09'21.88"	19°32'06.85"	180°00'00"	0°00'00"	24.474
33	34	83°09'21.87"	19°32'06.05"	157°05'52"	337°05'52"	134.278
34	35	83°09'23.61"	19°32'02.01"	92°53'29"	272°53'29"	45.838
35	36	83°09'25.18"	19°32'01.92"	179°08'09"	359°08'09"	75.778
36	37	83°09'25.18"	19°31'59.45"	88°20'16"	268°20'16"	118.583
37	38	83°09'29.25"	19°31'59.52"	132°02'27"	312°02'27"	246.444
38	39	83°09'35.45"	19°31'54.08"	89°17'34"	269°17'34"	80.373
39	40	83°09'38.21"	19°31'54.08"	18°48'00"	198°48'00"	180.624
40	41	83°09'40.28"	19°31'59.61"	89°29'16"	269°29'16"	80.458
41	42	83°09'43.04"	19°31'59.60"	173°04'09"	353°04'09"	157.962
42	43	83°09'43.63"	19°31'54.50"	216°07'36"	36°07'36"	179.509
43	44	83°09'39.93"	19°31'49.83"	268°49'21"	88°49'21"	80.488
44	45	83°09'38.89"	19°31'49.82"	221°56'26"	41°56'26"	185.047
45	46	83°09'34.59"	19°31'45.39"	259°18'28"	79°18'28"	96.26
46	47	83°09'31.34"	19°31'44.85"	359°00'18"	179°00'18"	150.988
47	48	83°09'31.31"	19°31'49.75"	268°49'21"	88°49'21"	179.939
48	49	83°09'25.14"	19°31'49.71"	178°17'38"	358°17'38"	155.512
49	50	83°09'25.23"	19°31'44.66"	233°17'46"	53°17'46"	156.954
50	51	83°09'20.88"	19°31'41.66"	274°31'51"	94°31'51"	175.836
51	52	83°09'14.87"	19°31'42.18"	274°05'04"	94°06'04"	87.868
52	53	83°09'11.87"	19°31'42.42"	290°19'23"	110°19'23"	95.225
53	54	83°09'08.82"	19°31'43.54"	255°29'09"	75°29'09"	67.302
54	55	83°09'06.58"	19°31'43.01"	256°33'05"	76°33'05"	46.928
55	56	83°09'05.01"	19°31'42.68"	277°44'41"	97°44'41"	41.722
56	57	83°09'03.60"	19°31'42.88"	326°46'06"	146°46'06"	22.933
57	58	83°09'03.17"	19°31'43.51"	22°43'47"	202°43'47"	26.535
58	59	83°09'03.54"	19°31'44.30"	22°11'44"	202°11'44"	44.65
59	60	83°09'04.13"	19°31'45.63"	28°02'10"	208°02'10"	92.176
60	61	83°09'05.65"	19°31'48.26"	32°06'53"	212°06'53"	73.41
61	62	83°09'07.02"	19°31'50.27"	318°25'26"	138°25'26"	82.232
62	63	83°09'05.17"	19°31'52.29"	90°17'38"	270°17'38"	158.911
63	64	83°09'10.62"	19°31'52.20"	90°17'38"	270°17'38"	124.845
64	65	83°09'14.90"	19°31'52.13"	112°41'07"	292°41'07"	95.725
65	66	83°09'17.92"	19°31'50.89"	40°26'52"	220°26'52"	216.383
66	67	83°09'22.80"	19°31'56.19"	351°56'11"	171°56'11"	160.737
67	68	83°09'22.10"	19°32'01.37"	277°27'42"	97°27'42"	235.664
68	69	83°09'14.10"	19°32'02.46"	317°23'45"	137°21'45"	142.964
69	70	83°09'10.82"	19°32'05.92"	357°42'34"	177°42'34"	132.398
70	71	83°09'10.70"	19°32'10.22"	270°00'00"	90°00'00"	78.052
71	72	83°09'08.02"	19°32'10.25"	268°57'52"	88°57'52"	152.260
72	73	83°09'02.80"	19°32'10.23"	357°30'38"	177°30'38"	80.091
73	74	83°09'02.71"	19°32'12.83"	267°11'45"	87°11'45"	244.12
74	75	83°08'54.35"	19°32'12.54"	183°16'14"	3°16'14"	46.378

75	76	83°08'54.24"	19°32'11.04"	223°19'20"	43°19'20"	223.667
76	77	83°08'48.90"	19°32'05.81"	179°19'46"	359°19'46"	314.25
77	78	83°08'48.90"	19°31'55.59"	286°12'52"	106°12'52"	116.073
78	79	83°08'45.09"	19°31'56.69"	287°28'44"	107°28'44"	81.484
79	80	83°08'42.43"	19°31'57.57"	291°15'51"	111°15'51"	72.043
80	81	83°08'40.14"	19°31'58.39"	357°13'47"	177°13'47"	41.058
81	82	83°08'40.09"	19°31'59.73"	339°53'54"	159°53'54"	68.324
82	83	83°08'39.31"	19°32'01.82"	348°47'57"	168°47'57"	68.105
83	84	83°08'38.89"	19°32'04.00"	9°02'51"	189°02'51"	52.579
84	85	83°08'39.19"	19°32'05.69"	353°25'05"	173°25'05"	65.228
85	86	83°08'38.97"	19°32'07.80"	111°29'43"	291°29'43"	71.5
86	87	83°08'41.24"	19°32'06.92"	15°29'05"	195°29'05"	299.782
87	88	83°08'44.10"	19°32'16.28"	278°41'02"	98°41'02"	163.785
88	89	83°08'38.56"	19°32'17.15"	6°27'32"	186°27'32"	88.703
89	90	83°08'38.94"	19°32'19.99"	353°35'12"	173°35'12"	85.866
90	1	83°08'38.65"	19°32'22.77"	352°02'40"	172°02'40"	79.813

PERIMETER - 11195.588 METERS & AREA - 119.5571 HA.

CO-ORDINATES OF BOUNDARY PILLARS OF CA LAND IN VILLAGE KHANDALA

PILLARS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	METERS
1	2	83°08'24.95"	19°34'31.07"	84°20'30"	264°20'30"	115.39
2	3	83°08'28.90"	19°34'31.39"	71°24'23"	251°24'23"	362.62
3	4	83°08'40.74"	19°34'35.01"	90°39'04"	270°39'04"	23.29
4	5	83°08'41.54"	19°34'34.99"	79°55'10"	259°55'10"	24.19
5	6	83°08'42.35"	19°34'35.12"	88°34'04"	268°34'04"	74.11
6	7	83°08'44.90"	19°34'35.15"	79°53'27"	259°53'27"	34.67
7	8	83°08'46.07"	19°34'35.33"	52°25'53"	232°25'53"	21.7
8	9	83°08'46.66"	19°34'35.75"	67°26'45"	247°26'45"	71.05
9	10	83°08'48.93"	19°34'36.61"	82°42'45"	262°42'45"	272.77
10	11	83°08'58.22"	19°34'37.63"	181°44'56"	1°44'56"	28.22
11	12	83°08'58.18"	19°34'36.71"	94°30'38"	274°30'38"	114.39
12	13	83°09'02.09"	19°34'36.37"	31°22'49"	211°22'49"	43.7
13	14	83°09'02.88"	19°34'37.58"	92°33'30"	272°33'30"	124.48
14	15	83°09'07.15"	19°34'37.34"	164°19'55"	344°19'55"	22.53
15	16	83°09'07.35"	19°34'36.64"	154°01'32"	334°01'32"	68.87
16	17	83°09'08.35"	19°34'34.61"	252°04'42"	72°04'42"	42.82
17	18	83°09'06.95"	19°34'34.20"	165°52'39"	345°52'39"	155.28
18	19	83°09'08.19"	19°34'29.29"	239°46'41"	59°46'41"	78.85
19	20	83°09'05.83"	19°34'28.03"	186°09'29"	6°09'29"	126.41
20	21	83°09'05.31"	19°34'23.95"	285°58'48"	105°58'48"	156.82
21	22	83°09'00.16"	19°34'25.41"	255°52'28"	75°52'28"	687.45
22	23	83°08'37.22"	19°34'20.23"	139°00'10"	319°00'10"	103.85
23	24	83°08'39.52"	19°34'17.65"	89°48'33"	269°48'33"	297.99
24	25	83°08'49.75"	19°34'17.56"	89°42'55"	269°42'55"	297.1
25	26	83°08'59.94"	19°34'17.49"	180°37'14"	0°37'14"	432.94
26	27	83°08'59.59"	19°34'03.42"	275°59'48"	95°59'48"	299.57
27	28	83°08'49.38"	19°34'04.56"	274°26'28"	94°26'28"	101.94
28	29	83°08'45.90"	19°34'04.86"	277°05'45"	97°05'45"	80.32
29	30	83°08'43.17"	19°34'05.21"	272°36'09"	92°36'09"	14.57
30	31	83°08'42.67"	19°34'05.24"	236°33'36"	56°33'36"	21.01
31	32	83°08'42.07"	19°34'04.87"	274°05'08"	94°05'08"	27.85
32	33	83°08'41.12"	19°34'04.94"	271°19'01"	91°19'01"	28.78
33	34	83°08'40.13"	19°34'04.98"	284°43'23"	104°43'23"	93.7
34	35	83°08'37.03"	19°34'05.79"	265°09'53"	85°09'53"	100.86
35	36	83°08'33.27"	19°34'05.53"	226°07'56"	46°07'56"	59.18
36	37	83°08'31.79"	19°34'04.22"	216°59'51"	36°59'51"	89.03
37	38	83°08'29.92"	19°34'01.93"	217°54'56"	37°54'56"	123.25
38	39	83°08'27.28"	19°33'58.80"	313°34'31"	133°14'31"	141.83

39	40	83°08'23.71"	19°34'02.06"	232°20'46"	52°20'46"	67.67
40	41	83°08'21.85"	19°34'00.74"	293°16'22"	113°16'22"	66.96
41	42	83°08'19.75"	19°34'01.63"	353°07'38"	173°07'38"	309.54
42	43	83°08'18.62"	19°34'11.63"	356°20'17"	176°20'17"	198.84
43	44	83°08'18.26"	19°34'18.09"	24°53'36"	204°53'36"	409.95
44	1	83°08'24.34"	19°34'30.11"	30°30'37"	210°30'37"	34.4

AREA -106.8004 Ha. & Perimeter - 6062.74 Meters

CO-ORDINATES OF CA LAND BOUNDARY IN VILLAGE BHATAGUDA

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	METERS
1	2	83°06'13.97"	19°34'04.81"	89°16'57"	269°16'57"	476.08
2	3	83°06'30.30"	19°34'04.81"	89°34'21"	269°34'21"	225.24
3	4	83°06'38.02"	19°34'04.78"	151°10'01"	331°10'01"	149.5
4	5	83°06'40.44"	19°34'00.49"	88°37'40"	268°37'40"	84.05
5	6	83°06'43.32"	19°34'00.52"	359°17'47"	179°17'47"	143.81
6	7	83°06'43.37"	19°34'05.20"	346°57'13"	166°57'13"	124.77
7	8	83°06'42.41"	19°34'09.16"	93°31'20"	273°31'20"	66.74
8	9	83°06'44.68"	19°34'09.00"	156°27'55"	336°27'55"	139.28
9	10	83°06'46.53"	19°34'04.83"	89°11'22"	269°11'22"	199.55
10	11	83°06'53.37"	19°34'01.84"	197°39'11"	17°39'11"	160.96
11	12	83°06'51.54"	19°33'59.59"	197°24'39"	17°24'39"	171.38
12	13	83°06'49.71"	19°33'54.30"	266°12'10"	86°12'10"	253.53
13	14	83°06'41.03"	19°33'53.85"	218°24'00"	38°24'00"	75.07
14	15	83°06'39.40"	19°33'51.96"	269°34'19"	89°34'19"	148.22
15	16	83°06'34.32"	19°33'51.98"	0°16'30"	180°16'30"	97.73
16	17	83°06'34.37"	19°33'55.16"	269°17'27"	89°17'27"	599.4
17	1	83°06'13.81"	19°33'55.16"	0°09'22"	180°09'22"	296.82

PERIMETERS - 3420.63 METERS & AREA - 34.769 HA.

CO-ORDINATES OF CA LAND IN VILLAGE MADANG GUDA

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	METERS
1	2	83°05'31.64"	19°38'43.46"	145°37'11"	325°37'11"	18.27
2	3	83°05'31.99"	19°38'42.96"	143°21'16"	323°21'16"	40.56
3	4	83°05'32.80"	19°38'41.90"	162°42'27"	342°42'27"	44.06
4	5	83°05'33.23"	19°38'40.52"	158°26'39"	338°26'39"	228.34
5	6	83°05'36.02"	19°38'33.59"	170°52'19"	300°52'19"	482.56
6	7	83°05'50.13"	19°38'25.37"	128°23'12"	308°23'12"	38.99
7	8	83°05'51.17"	19°38'24.57"	140°24'46"	320°24'46"	24.94
8	9	83°05'51.71"	19°38'23.94"	139°29'25"	319°29'25"	73.9
9	10	83°05'53.33"	19°38'22.09"	131°44'17"	311°44'17"	54.25
10	11	83°05'54.70"	19°38'20.90"	134°29'45"	314°29'45"	30.26
11	12	83°05'55.44"	19°38'20.21"	148°52'11"	328°52'11"	62.44
12	13	83°05'56.52"	19°38'18.45"	168°14'36"	348°14'36"	53.24
13	14	83°05'56.87"	19°38'16.76"	113°31'05"	293°31'05"	62.33
14	15	83°05'58.82"	19°38'15.92"	112°15'05"	292°15'05"	80.59
15	16	83°06'01.37"	19°38'14.90"	210°47'21"	30°47'21"	88.67
16	17	83°05'59.78"	19°38'12.44"	274°35'58"	94°35'58"	449.84
17	18	83°05'44.41"	19°38'13.80"	178°33'56"	358°33'56"	201.48
18	19	83°05'44.50"	19°38'07.25"	127°39'59"	307°39'59"	209.89
19	20	83°05'50.14"	19°38'03.01"	177°46'59"	357°46'59"	378.66
20	21	83°05'50.49"	19°37'50.70"	278°01'54"	98°01'54"	217.77
21	22	83°05'43.10"	19°37'51.78"	306°36'25"	126°36'25"	288.4
22	23	83°05'35.23"	19°37'57.46"	84°43'56"	264°43'56"	187.32
23	24	83°05'41.64"	19°37'57.95"	3°31'32"	183°31'32"	130.83
24	25	83°05'41.99"	19°38'02.48"	272°03'50"	92°03'50"	146.94
25	26	83°05'36.95"	19°38'02.71"	350°10'22"	170°10'22"	142.41
26	27	83°05'36.18"	19°38'07.28"	89°33'50"	269°33'50"	38.52
27	28	83°05'37.50"	19°38'07.28"	358°59'32"	178°59'32"	96.74

28	29	83°05'37.48"	19°38'10.42"	269°07'13"	89°07'13"	36.04
29	30	83°05'36.25"	19°38'10.42"	0°27'44"	180°27'44"	29.3
30	31	83°05'36.27"	19°38'11.37"	0°27'44"	180°27'44"	90.32
31	32	83°05'36.33"	19°38'14.31"	268°28'06"	88°28'06"	46.47
32	33	83°05'34.73"	19°38'14.20"	1°43'52"	181°43'52"	127.74
33	34	83°05'34.92"	19°38'18.44"	291°25'36"	111°25'36"	286.38
34	35	83°05'25.82"	19°38'21.94"	301°14'28"	121°14'28"	196.44
35	36	83°05'20.10"	19°38'25.32"	265°57'22"	85°57'22"	154.16
36	37	83°05'14.87"	19°38'25.03"	350°34'09"	170°34'09"	314.47
37	38	83°05'13.18"	19°38'35.14"	359°17'47"	179°17'47"	219.62
38	39	83°05'13.18"	19°38'42.28"	85°22'37"	265°22'37"	88.05
39	40	83°05'16.19"	19°38'42.47"	358°15'20"	178°15'20"	73.28
40	41	83°05'16.15"	19°38'44.86"	114°15'14"	294°15'14"	26.41
41	42	83°05'16.97"	19°38'44.49"	98°17'56"	278°17'56"	120.7
42	43	83°05'21.06"	19°38'43.88"	94°59'15"	274°59'15"	125.25
43	44	83°05'25.34"	19°38'43.48"	89°54'59"	269°54'59"	118.51
44	1	83°05'29.40"	19°38'43.43"	88°36'10"	268°36'10"	65.11

PERIMETERS - 5999.45 METERS & AREA -86.687 HA.

O-ORDINATES OF CA LAND IN VILLAGE NUNRESH

PATCH-I

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	83°05'36.44"	19°33'56.46"	42°06'37"	222°06'37"	391.42
2	3	83°05'45.56"	19°34'05.79"	110°51'06"	290°51'06"	93.7
3	4	83°05'48.55"	19°34'04.67"	79°00'27"	259°00'27"	93.66
4	5	83°05'51.71"	19°34'05.22"	172°48'03"	352°48'03"	63.34
5	6	83°05'51.96"	19°34'03.17"	186°25'43"	6°25'43"	47.26
6	7	83°05'51.76"	19°34'01.65"	171°24'32"	351°24'32"	92.99
7	8	83°05'52.19"	19°33'58.65"	193°12'04"	13°12'04"	55.03
8	9	83°05'51.74"	19°33'56.91"	180°18'24"	0°18'24"	10.71
9	10	83°05'51.73"	19°33'56.57"	186°20'25"	6°20'25"	5.99
10	11	83°05'51.71"	19°33'56.37"	196°15'37"	16°15'37"	82.68
11	12	83°05'50.88"	19°33'53.80"	168°10'43"	348°10'43"	29.06
12	13	83°05'51.07"	19°33'52.88"	158°48'21"	338°48'21"	34.76
13	14	83°05'51.49"	19°33'51.82"	169°02'45"	349°02'45"	62.66
14	15	83°05'51.87"	19°33'49.81"	174°17'22"	354°17'22"	26.59
15	16	83°05'51.95"	19°33'48.95"	139°50'04"	319°50'04"	56.61
16	17	83°05'53.19"	19°33'47.53"	145°14'02"	325°14'02"	296.96
17	18	83°05'58.89"	19°33'39.53"	68°11'55"	248°11'55"	79.79
18	19	83°06'01.45"	19°33'40.46"	67°14'56"	247°14'56"	53.37
19	20	83°06'03.14"	19°33'41.12"	67°07'10"	247°07'10"	62.6
20	21	83°06'05.13"	19°33'41.88"	84°46'40"	264°46'40"	98.83
21	22	83°06'08.51"	19°33'42.14"	80°16'21"	260°16'21"	75.16
22	23	83°06'11.06"	19°33'42.52"	81°18'49"	261°18'49"	38.54
23	24	83°06'12.37"	19°33'42.69"	179°33'45"	359°33'45"	277.29
24	25	83°06'12.32"	19°33'33.68"	268°38'23"	88°38'23"	401.22
25	26	83°05'58.56"	19°33'33.53"	269°13'45"	89°13'45"	216.01
26	27	83°05'51.15"	19°33'33.52"	0°57'54"	180°57'54"	48.71
27	28	83°05'51.20"	19°33'35.10"	270°43'13"	90°43'13"	386.94
28	29	83°05'37.93"	19°33'35.42"	179°36'37"	359°36'37"	266.34
29	30	83°05'37.88"	19°33'26.76"	88°36'16"	268°36'16"	99.59

30	31	83°05'41.30"	19°33'26.80"	44°38'35"	224°38'35"	167.6
31	32	83°05'45.39"	19°33'30.63"	131°51'37"	311°51'37"	111.02
32	33	83°05'48.19"	19°33'28.18"	179°46'02"	359°46'02"	140.03
33	34	83°05'48.15"	19°33'23.63"	179°53'37"	359°53'37"	305.77
34	35	83°05'48.04"	19°33'13.69"	88°44'27"	268°44'27"	252.82
35	36	83°05'56.71"	19°33'13.77"	246°25'22"	66°25'22"	149.83
36	37	83°05'51.98"	19°33'11.88"	151°24'39"	331°24'39"	85.42
37	38	83°05'53.35"	19°33'09.42"	80°50'38"	269°50'38"	145.65
38	39	83°05'58.35"	19°33'09.38"	179°28'28"	359°28'28"	43.26
39	40	83°05'58.34"	19°33'07.97"	224°25'37"	44°25'37"	112.26
40	41	83°05'55.61"	19°33'05.39"	161°02'16"	341°02'16"	163.66
41	42	83°05'57.37"	19°33'00.34"	296°33'54"	116°33'54"	23.96
42	43	83°05'56.64"	19°33'00.70"	304°23'56"	124°23'56"	53.39
43	44	83°05'55.14"	19°33'01.70"	320°25'01"	140°25'01"	65.4
44	45	83°05'53.73"	19°33'03.35"	327°38'32"	147°38'32"	61.55
45	46	83°05'52.63"	19°33'05.05"	309°50'20"	129°50'20"	174.7
46	47	83°05'48.07"	19°33'08.75"	355°13'33"	175°13'33"	30.04
47	48	83°05'48.00"	19°33'09.72"	315°15'59"	135°15'59"	120.67
48	49	83°05'45.12"	19°33'12.54"	327°05'41"	147°05'41"	48.22
49	50	83°05'44.24"	19°33'13.87"	300°52'31"	120°52'31"	61.92
50	51	83°05'42.43"	19°33'14.92"	359°51'48"	179°51'48"	182.27
51	52	83°05'42.49"	19°33'20.85"	270°50'33"	90°50'33"	71.84
52	53	83°05'40.03"	19°33'20.91"	178°21'02"	358°21'02"	92.85
53	54	83°05'40.08"	19°33'17.89"	266°47'53"	86°47'53"	94.74
54	55	83°05'36.84"	19°33'17.76"	177°55'51"	357°55'51"	73.77
55	56	83°05'36.90"	19°33'15.36"	259°18'13"	79°18'13"	48.47
56	57	83°05'35.26"	19°33'15.09"	324°11'32"	144°11'32"	95.72
57	58	83°05'33.37"	19°33'17.63"	1°04'03"	181°04'03"	280.39
58	59	83°05'33.67"	19°33'26.75"	268°24'36"	88°24'36"	97.86
59	60	83°05'30.31"	19°33'26.70"	347°53'44"	167°53'44"	260.5
60	61	83°05'28.55"	19°33'35.00"	44°42'40"	224°42'40"	120.3
61	62	83°05'31.48"	19°33'37.75"	358°53'43"	178°53'43"	192.12
62	63	83°05'31.44"	19°33'43.99"	88°29'19"	268°29'19"	243.26
63	64	83°05'39.78"	19°33'44.10"	359°12'35"	179°12'35"	76.74
64	65	83°05'39.78"	19°33'46.60"	89°22'29"	269°22'29"	150.33
65	66	83°05'44.93"	19°33'46.59"	359°36'13"	179°36'13"	305.87
66	1	83°05'44.99"	19°33'56.54"	268°43'35"	88°43'35"	249.36

AREA: 78.179 Ha. & Perimeter: 8501.37 Mtr.

PATCH-II

POINTS		GEOGRAPHIC CO-ORDINATES		BEARING		DISTANCE IN METERS
FROM	TO	LONGITUDE	LATITUDE	FORWARD	BACKWARD	
1	2	83°06'19.05"	19°33'23.87"	88°44'27"	268°44'27"	301.04
2	3	83°06'29.37"	19°33'23.96"	359°42'27"	179°42'27"	615.12
3	4	83°06'29.53"	19°33'43.96"	88°12'36"	268°12'36"	21.18
4	5	83°06'30.25"	19°33'43.97"	97°41'23"	277°41'23"	158.19
5	6	83°06'35.62"	19°33'43.22"	119°57'13"	299°57'13"	45.04
6	7	83°06'36.95"	19°33'42.48"	126°37'17"	306°37'17"	60.99
7	8	83°06'38.61"	19°33'41.27"	116°44'43"	296°44'43"	94.07

8	9	83°06'41.48"	19°33'39.86"	55°10'32"	235°10'32"	18.53
9	10	83°06'42.00"	19°33'40.20"	33°41'24"	213°41'24"	38.16
10	11	83°06'42.74"	19°33'41.23"	174°17'22"	354°17'22"	33.24
11	12	83°06'42.84"	19°33'40.15"	171°52'12"	351°52'12"	18.71
12	13	83°06'42.92"	19°33'39.55"	174°19'15"	354°19'15"	120.32
13	14	83°06'43.28"	19°33'35.65"	177°04'51"	357°04'51"	53.87
14	15	83°06'43.35"	19°33'33.90"	186°30'11"	6°30'11"	25.7
15	16	83°06'43.24"	19°33'33.07"	209°08'03"	29°08'03"	138.58
16	17	83°06'40.88"	19°33'29.16"	198°48'00"	18°48'00"	65.68
17	18	83°06'40.12"	19°33'27.15"	169°30'31"	349°30'31"	36.33
18	19	83°06'40.34"	19°33'25.98"	165°51'09"	345°51'09"	165.08
19	20	83°06'41.65"	19°33'20.76"	268°40'18"	88°40'18"	358.54
20	21	83°06'29.36"	19°33'20.64"	179°56'33"	359°56'33"	105.41
21	22	83°06'29.31"	19°33'17.21"	269°05'32"	89°05'32"	300.61
22	1	83°06'19.00"	19°33'17.18"	359°39'27"	179°39'27"	205.8

AREA : 30.613 Ha. & Perimeter: 2980.19 Mtr.

Divisional Forests Officer
Kalahandi South Division

Divisional Forest Officer
Kalahandi South Division

COST NORM FOR BALD HILL PLANTATION @ 1600 PLANTS PER HECTARE

(Labour cost @Rs 315.00 per manday)

Sl No	Item of Work	Preferable Period of execution	Manday	Labour Cost (Rs)	Material Cost (Rs)	Total Cost in (Rs)
	NURSERY COST					
1	Cost Of raising 18 months old seedling including 10% casualty @1760 seedling per hectare.	Before 2(two) year of achievement year	219.12	69022.80	20398.40	89421.20
2	Cost of 18 months old seedling for Casualty Replacement @160 plants per hectare.	Before 01 year of achievement year	19.92	6274.80	1854.41	8129.21
	Total		239.04	75297.60	22252.81	97550.41
	PREPARATORY OPERATION (0TH YEAR)					
1	Survey and demarcation	June	2	630.00	0	630.00
2	Pitting (1600 per ha) each pit-45 cm³	Nov-Dec	128	40320.00	0.00	40320.00
3	**Soil and water conservation measures** (a) Staggered trench along the contour @ 300 per ha (2.5mx0.5 m x0.5m); digging of percolation pits @ 600 per ha in lieu of staggered trenches, gully plugging and Drainage line treatment, half moon trench on the uphill side of each planting pit (100 MD for staggered trench / percolation pits and 30 MD for gully plugging, drainage line treatment and half moon trench).	Sep-Nov	130	40950.00	0.00	40950.00
	(b) Site clearance- 8 MD, alignment and staking of contour lines on ground, planting pits, contour trenches / percolation pits and check dam sites, etc.- 2 MD	July-Aug	10	3150.00	0.00	3150.00
	TOTAL 0th year		**270**	**85050.00**	**0.0**	**85050.0**
4	Monitoring & Supervision charge 5% of the total cost.			0.00	0.0	**4252.50**
	GRAND TOTAL		**270**	**85050.00**	**0.0**	**89302.50**
	PLANTING OPERATION (1ST YEAR)					
1	Transportation of 18 months old polythin bag seedling in hired truck/tractor from the permanent/mega nursery to planting site including loading and un loading (average lead of 10 Rkm) and stacking the seedling @Rs.6/- per seedling (1760 nos.)	July-Aug	0	0	10560	10560
2	Freshening of pits -64 MD, filling with fertile soil and farm yard manure (FYM)-24 MD, application of insecticide and planting of 60 cm tall saplings including carriage of plants- 21 MD	Jun-Jul	109	34335	0	**34335**
3	Cost of Fertile Soil 0.25 cft @ Rs.8 per cft/FYM 0.25 cft @ Rs.15 per cft per pit		0	0	9200	**9200**
4	Sowing of seeds on dug out earth of trench	June	6	1890	200	**2090**
5	Carriage-6MD,Planting including Casualty replacement-6 MD, fertilizer application- 5 MD, 1st weeding-7 MD, 2nd weeding -5 MD, soil working- 7 MD	Jul-Aug	36	11340	0	**11340**

6.	Cost of fertilizer and insecticide (Granular Insecticide @ 5 gms/plant @ Rs.80/- per kg=Rs.640.00, NPK 100 gms/plant in two doses @ Rs.24 per kg– 3840		0	0	4480	4480
7	Maintenance of soil and Moisture Conservation measures (20% of cost)	Oct-Dec	26	8190	0	8190
8	Closure to grazing fire and other biotic interference by engaging watch & ward	Apr-Mar	30	9450	0	9450
9	Fire tracing and control, display board construction, painting / writing, other miscellaneous cost	Jan-Feb	10	3150	360	3510
	TOTAL (1st Year)		**217**	**68355**	**24800**	**93155**
10	Monitoring & Supervision charge 5% of the total cost			0.00	0	4657.75
	GRAND TOTAL		**217**	**68355.00**	**24800.00**	**97812.75**
	MAINTENANCE OPERATION (2ND YEAR)					
1	Transportation of 18 months old polythene bag seedling in hired truck/tractor from the permanent/mega nursery to planting site including loading and un loading (average lead of 10 Rkm) and stacking the seedling @Rs.6/- per seedling (160 nos.)	July	0	0	960	960
2	Casualty replacement 6 MD	Jan-July	6	1890	0	1890
3	Soil working- 7 MD, 1st weeding-6 MD, 2nd weeding -6 MD and fertilizer application -4 MD	Aug-Oct	23	7245	0	7245
4	Cost of fertilizer @ 50 gms NPK per plant @ Rs.24/- per kg for 1600 plants –Rs.1920.00 Insecticide @ 5 gm per plant for 160 nos. of plants @ Rs. 80 per KG – Rs. 64.00		0	0	1984	1984
5	Maintenance of Soil and Moisture Conservation measures (20% of cost)	Aug-Oct	26	8190	0	8190
6	Fire tracing and control and other miscellaneous cost	Feb-Mar	10	3150	0	3150
7	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	30	9450	0	9450
	TOTAL 2nd Year		**95**	**29925**	**2944**	**32869**
8	Monitoring & Supervision charge 5% of the total cost			0.00		1643.45
	GRAND TOTAL		**95**	**29925.00**	**2944.00**	**34512.45**
	MAINTENANCE OPERATION (3RD YEAR)					
1	SMC Measures (Renovation)-26 MD and Maintenance of plantation-14 MD as per requirement	Apr-Mar	40	12600.00	0	12600.00
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5670.00	0	5670.00
	TOTAL 3rd Year		**58**	18270.00	**0**	**18270.00**
	Monitoring & Supervision charge 5% of the total cost			0.00		**913.50**
	GRAND TOTAL		**58**	18270.00	**0**	**19183.50**
	MAINTENANCE OPERATION (4TH YEAR)					
1	SMC Measures 21 MD and Maintenance of plantation 14 MD.	Apr-Mar	35	11025.00	0	11025.00
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5670.00	0	5670.00

	TOTAL 4th Year		**53**	16695.00	**0**	**16695.00**
	Monitoring & Supervision charge 5% of the total cost			0.00		**834.75**
	GRAND TOTAL		**53**	16695.00	**0**	**17529.75**
	MAINTENANCE OPERATION (5TH YEAR)					
1	SMC Measures- 21 MD and Maintenance of plantation-14 MD.	Apr-Mar	35	11025.00	0	11025.00
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5670.00	0	5670.00
	TOTAL 5th Year		**53**	16695.00	**0**	**16695.00**
	Monitoring & Supervision charge 5% of the total cost			0.00		**834.75**
	GRAND TOTAL		**53**	16695.00	**0**	**17529.75**
	MAINTENANCE OPERATION (6TH YEAR)					
1	SMC Measures- 21 MD and Maintenance of plantation-14 MD.	Apr-Mar	35	11025.00	0	11025.00
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5670.00	0	5670.00
	TOTAL 6th Year		**53**	16695.00	**0**	**16695.00**
	Monitoring & Supervision charge 5% of the total cost			0.00		**834.75**
	GRAND TOTAL		**53**	16695.00	**0**	**17529.75**
	MAINTENANCE OPERATION (7TH YEAR)					
1	SMC Measures- 21 MD and Maintenance of plantation-14 MD.	Apr-Mar	35	11025.00	0	11025.00
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5670.00	0	5670.00
	TOTAL 7th Year		**53**	16695.00	**0**	**16695.00**
	Monitoring & Supervision charge 5% of the total cost			0.00		**834.75**
	GRAND TOTAL		**53**	16695.00	**0**	**17529.75**
	MAINTENANCE OPERATION (8TH YEAR)					
1	SMC Measures- 21 MD and Maintenance of plantation-14 MD.	Apr-Mar	35	11025.00	0	11025.00
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5670.00	0	5670.00
	TOTAL 8th Year		**53**	16695.00	**0**	**16695.00**
	Monitoring & Supervision charge 5% of the total cost			0.00		**834.75**
	GRAND TOTAL		**53**	16695.00	**0**	**17529.75**
	MAINTENANCE OPERATION (9TH YEAR)					
1	SMC Measures- 21 MD and Maintenance of plantation-14 MD.	Apr Mar	35	11025.00	0	11025.00
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5670.00	0	5670.00
	TOTAL 9th Year		**53**	16695.00	**0**	**16695.00**
	Monitoring & Supervision charge 5% of the total cost			0.00		**834.75**
	GRAND TOTAL		**53**	16695.00	**0**	17529.75
	MAINTENANCE OPERATION (10TH YEAR)					
1	SMC Measures- 21 MD and Maintenance of plantation-14 MD.	Apr-Mar	35	11025.00	0	11025.00

2	Closure to grazing, fire and other biotic interference by engaging watch and ward	Apr-Mar	18	5670.00	0	5670.00
	TOTAL 10th Year		**53**	16695.00	**0**	**16695.00**
2	Monitoring & Supervision charge 5% of the total cost			0.00		834.75
	GRAND TOTAL		**53**	16695.00	**0**	**17529.75**

ABSTRACT

Sl. No.	Year	No. Person Day	Labour cost @ Rs 315.00 per day	Material cost (Rs)	Monitoring & Supervision charge 5% of the total cost	Total cost in (Rs)
1	(-2) years	219.12	69022.80	20398.40	0	89421.20
2	(-1) years	19.92	6274.80	1854.41	0	8129.21
3	0th Year	270	85050.0	0	4252.50	89302.00
4	1st Year	217	68355.0	24800.0	4657.75	97812.75
5	2nd Year	95	29925.0	2944.0	1643.45	34512.45
6	3rd Year	58	18270.00	0	913.50	19183.50
7	4th Year	53	16695.00	0	834.75	17529.75
8	5th Year	53	16695.00	0	834.75	17529.75
9	6th Year	53	16695.00	0	834.75	17529.75
10	7th Year	53	16695.00	0	834.75	17529.75
11	8th Year	53	16695.00	0	834.75	17529.75
12	9th Year	53	16695.00	0	834.75	17529.75
13	10th Year	53	16695.00	0	834.75	17529.75
	Total	**1250.040**	**393762.600**	**49996.810**	**17310.450**	**461069.360**

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Divisional Forest Officer
Kalahandi South Division

COST NORM FOR ANR PLANTATION @ 400 PLANTS PER HECTARE
WAGE RATE Rs. 315.00/- PER MD-DAY

A. ESTIMATE OF COST FOR 1.00 HA. UNDER ANR PLANTATION MODEL

0th year (Advance work) Pre-planting operation.

Sl No	Item of work	Preferable period of execution	person days	Labour (Rs)	Material (Rs)	Total (Rs)
	NURSERY COST					
1	Cost Of raising 18 months old seedling including 10% casualty @440 seedling per hectare.	Before 2(two) year of achievement year	54.78	17255.70	5099.64	22355.34
2	Cost of 18 months old seedling for Casually Replacement @40 plants per hectare.	Before 01 year of achievement year	4.98	1568.70	463.60	2032.30
	Total		**59.76**	**18824.40**	**5563.24**	**24387.64**
	0th year					
1	Survey demarcation and pillar posting, GPS reading with mapping	Nov/Dec	2	630.0	0	630.0
2	Site Preparation	Nov/Dec	2	630.0	0	630.0
3	Silviculture Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan/Feb	5	1575.0	0	1575.0
4	Contingency and unforeseen expenditure		0	0	165.00	165.00
	Sub Total		**9**	**2835.00**	**165.00**	**3000.00**
5	Monitoring & supervision charges 5% of the total cost					150.00
	Total		**9**	**2835.00**	**165.00**	**3150.00**
	1st year					
1	Transportation of 18 months old polythin bag seedling in hired truck/tractor from the permanent/mega nursery to planting site including loading and un loading (average lead of 10 Rkm) and stacking the seedling @Rs.6/- per seedling (440 nos.)	July-Aug	0	0	2640.0	2640.0
2	Pitting 45 cm cube size	Feb/Mar	18	5670.00	0	5670.00
3	Carriage and planting including casualty replacement	Jul/Aug	10	3150.0	0	3150.0
4	Complete weeding, Soil working, manuring	Aug/Sep	12	3780.0	0	3780.0
5	Cost of vermicompost @200gms/plant @Rs. 20/- per kg=Rs. 1600.00 and Granular insecticide 5 gms/ plant @ Rs. 80 per kg=Rs.160.00	Aug/Sep	0	0	1760.00	1760.00
6	Cost of chemical fertilizer (a) Urea 70 gms/plant in two subsequent doses @ Rs.6 per kg =Rs 168.00 (b) NPK 50 gms/plant @ Rs. 24/- per kg= Rs. 480.00 as basal dose		0	0	648.00	648.00
7	Silvicultural operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4725.0	0	4725.0

8	Soil Conservation Measures (Staggered trenches of dimension 2 m x 0.5 mx 0.5 m@ 60 nos per ha) or its equivalent	Sep/Oct	20	6300.0	0	6300.0
9	Fireline Tracing and inspection path	Feb/Mar	3	945.0	0	945.0
10	Watch & ward	Aug-Mar	7	2205.0	0	2205.0
11	Contingency and unforeseen expenditure		0	0	319.00	319.00
	Sub Total		**85**	**26775.00**	**5367.00**	**32142.00**
	Monitoring & supervision charges 5% of the total cost					1607.10
	Total		**85**	**26775.00**	**5367.00**	**33749.10**
		2nd year				
1	Transportation of 18 months old polythene bag seedling in hired truck/tractor from the permanent/mega nursery to planting site including loading and un loading (average lead of 10 Rkm) and stacking the seedling @Rs.6/- per seedling (40 nos.)	July	0	0	240.0	240.0
2	Casualty replacement 2 MD	July-Aug	2	630.0	0	630.0
2	Complete weeding and cultural operations	Sep/Oct	4	1260.0	0	1260.0
3	Soil working and manuring	Sep/Oct	4	1260.0	0	1260.0
4	Cost of fertilizer and insecticide (a) Vermicompost 200 gms/plant @ Rs. 20/ per kg=Rs.1600 (b) Granular insecticide 5 gms/plant for 40 plants 200gms @ Rs. 80/- per kg=Rs.16.00	Sep/Oct	0	0	1616.00	1616.0
5	Fireline Tracing and inspection path	Feb/Mar	1	315.00	0	315.00
6	Soil conservation Measures (Renovation of staggered trenches etc.)	Sep/Oct	8	2520.00	0	2520.00
7	Watch & ward (whole year)	Apr-Mar	7	2205.00	0	2205.00
8	Contingency and unforeseen expenditure		0	0	362.00	362.00
	Sub Total		**26**	**8190.00**	**2218.00**	**10408.00**
	Monitoring & supervision charges 5% of the total cost					520.40
	Total		**26**	**8190.00**	**2218.00**	**10928.40**
		3rd Year				
1	Complete weeding and cultural operations	Aug/Sep	2	630.0	0	630.0
2	Soil working	Aug/Sep	2	630.0	0	630.0
3	Fireline Tracing and inspection path	Feb/Mar	1	315.0	0	315.0
4	Watch & ward (whole year)	Apr-Mar	7	2205.0	0	2205.0
	Sub Total		**12**	**3780.0**	**0**	**3780.0**
	Monitoring & supervision charges 5% of the total cost					189.00
	Total		**12**	**3780.00**	**0**	**3969.00**
		4th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	315.0	0	315.0
2	Watch & ward and cultural operation	Apr-Mar	2	630.0	0	630.0
	Sub-Total		3	**945.00**	**0**	**945.00**
	Monitoring & supervision charges 5% of the total cost					**47.25**
	Total			**945.00**	**0**	**992.25**
		5th year				
1	Fireline Tracing and inspection path	Feb/Mar	1	315.0	0	315.0

2	Watch & ward and cultural operation	Apr-Mar	2	630.0	0	630.0
	Sub-Total		**3**	**945.00**	**0**	**945.00**
	Monitoring & supervision charges 5% of the total cost					47.25
	Total		3	**945.00**	**0**	992.25
	6th year					
1	Fireline Tracing and inspection path	Feb/Mar	1	315.0	0	315.0
2	Watch & ward and cultural operation	Apr-Mar	2	630.0	0	630.0
	Sub-Total		**3**	**945.00**	**0**	**945.00**
	Monitoring & supervision charges 5% of the total cost					47.25
	Total		3	**945.00**	**0**	992.25
	7th year					
1	Fireline Tracing and inspection path	Feb/Mar	1	315.0	0	315.0
2	Watch & ward and cultural operation	Apr-Mar	2	630.0	0	630.0
	Sub-Total		**3**	**945.00**	**0**	**945.00**
	Monitoring & supervision charges 5% of the total cost					47.25
	Total		**3**	**945.00**	**0**	**992.25**
	8th year					
1	Fireline Tracing and inspection path	Feb/Mar	1	315.0	0	315.0
2	Watch & ward and cultural operation	Apr-Mar	2	630.0	0	630.0
	Sub-Total		**3**	**945.00**	0	**945.00**
	Monitoring & supervision charges 5% of the total cost					**47.25**
	Total		**3**	**945.00**	**0**	**992.25**
	9th year					
1	Fireline Tracing and inspection path	Feb/Mar	1	315.0	0	315.0
2	Watch & ward and cultural operation	Apr-Mar	2	630.0	0	630.0
	Sub-Total		**3**	**945.00**	**0**	**945.00**
	Monitoring & supervision charges 5% of the total cost					**47.25**
	Total		3	**945.00**	**0**	**992.25**
	10th year					
1	Fireline Tracing and inspection path	Feb/Mar	1	315.0	0	315.0
2	Watch & ward and cultural operation	Apr-Mar	2	630.0	0	630.0
	Sub-Total		**3**	**945.00**	**0**	**945.00**
	Monitoring & supervision charges 5% of the total cost					**47.25**
	Total		3	**945.00**	**0**	**992.25**

ABSTRACT

Sl. No.	Year	No. Person Day	Labour cost @ Rs 315.00 per day	Material cost (Rs)	Monitoring & Supervision charge 5% of the total cost	Total cost in (Rs)
1	(-2) years	54.78	17255.70	5099.64	0	22355.34
2	(-1) years	4.98	1568.70	463.60	0	2032.30
3	0th Year	9	2835.00	165.00	150.00	3150.00
4	1st Year	85	26775.00	5367.00	1607.10	33749.10
5	2nd Year	26	8190.00	2218.00	520.40	10928.40
6	3rd Year	12	3780.00	0	189.00	3969.00
7	4th Year	3	945.00	0	47.25	992.25
8	5th Year	3	945.00	0	47.25	992.25
9	6th Year	3	945.00	0	47.25	992.25
10	7th Year	3	945.00	0	47.25	992.25
11	8th Year	3	945.00	0	47.25	992.25
12	9th Year	3	945.00	0	47.25	992.25
13	10th Year	3	945.00	0	47.25	992.25
	Total	**212.76**	**67019.40**	**13313.24**	**2797.25**	**83129.89**

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COST NORM FOR AIDED NATURAL REGENERATION (ANR without gap) PER HECTARE

Wage rate Rs 315.00 per Day.

Sl. No.	Item of Work	Preferable period of Execution	Person days	Labour Cost (Rs)	Material Cost (Rs)	Total Cost in (Rs)
	0TH YEAR					
1	Survey, Demarcation and Pillar Posting, GPS Reading with mapping	Nov/Dec	2	630.00	0	630.00
2	Site Preparation	Nov/Dec	2	630.00	0	630.00
3	Cutting of high stumps	Nov/Dec	5	1575.00		1575.00
	SUB TOTAL		**9**	2835.00	**0**	**2835.00**
4	Monitoring & Supervision charge 5% of the total cost			0.00		141.75
	GRAND TOTAL		**9**	2835.00	**0**	**2976.75**
	1ST YEAR OPERATION					
1	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/Oct	15	4725.00	0	4725.00
2	Soil Conservation Measures (Staggered trenches of dimension 2 m X 0.5 m X 0.5 m @ 60 nos per ha) or its equivalent	Sep/Oct	20	6300.00	0	6300.00
3	Fireline Tracing and Inspection Path	Feb/Mar	3	945.00	0	945.00
4	Watch & ward	Aug-Mar	5	1575.00	0	1575.00
5	Contingency and Unforeseen Expenditures		0	0.00	500.00	500.00
	SUB TOTAL		**43**	13545.00	**500.00**	**14045.00**
6	Monitoring & Supervision charge 5% of the total cost			0.00		702.25
	GRAND TOTAL		**43**	13545.00	**500.00**	**14747.25**
	2ND YEAR OPERATION					
1	Soil Conservation Measures (Renovation of staggered trenches etc.)	Sep/Oct	8	2520.00	0	2520.00
2	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
3	Watch & ward (whole year)	Apr-Mar	7	2205.00	0	2205.00
4	Contingency and Unforeseen Expenditures		0	0.00	300.00	300.00
	SUB TOTAL		**16**	5056.00	**300.00**	**5356.00**
5	Monitoring & Supervision charge 5% of the total cost			0.00		267.80
	GRAND TOTAL		**16**	5056.00	**300.00**	**5623.80**
	3RD YEAR OPERATION					
1	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
2	Watch & ward (whole year)	Apr-Mar	7	2205.00	0	2205.00
3	Contingency and Unforeseen Expenditures		0	0.00	300.00	300.00

	SUB TOTAL		8	2520.00	**300.00**	**2820.00**
4	Monitoring & Supervision charge 5% of the total cost			0.00		141.00
	GRAND TOTAL		8	2520.00	**300.00**	**2961.00**
	4TH YEAR OPERATION					
1	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
2	Watch & ward and cultural operations	Apr-Mar	2	630.00	0	630.00
3	Contingency and Unforeseen Expenditures			0.00	100.00	100.00
	SUB TOTAL		3	945.00	**100.00**	**1045.00**
4	Monitoring & Supervision charge 5% of the total cost			0.00		52.25
	GRAND TOTAL		3	945.00	**100.00**	**1097.25**
	5TH YEAR OPERATION					
1	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
2	Watch & ward and cultural operations	Apr-Mar	2	630.00	0	630.00
3	Contingency and Unforeseen Expenditures			0.00	100.00	100.00
	SUB TOTAL		3	945.00	**100.00**	**1045.00**
4	Monitoring & Supervision charge 5% of the total cost			0.00		52.25
	GRAND TOTAL		3	945.00	**100.00**	**1097.25**
	6TH YEAR OPERATION					
1	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
2	Watch & ward and cultural operations	Apr-Mar	2	630.00	0	630.00
3	Contingency and Unforeseen Expenditures			0.00	100.00	100.00
	SUB TOTAL		3	945.00	**100.00**	**1045.00**
4	Monitoring & Supervision charge 5% of the total cost			0.00		52.25
	GRAND TOTAL		3	945.00	**100.00**	**1097.25**
	7TH YEAR OPERATION					
1	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
2	Watch & ward and cultural operations	Apr-Mar	2	630.00	0	630.00
3	Contingency and Unforeseen Expenditures			0.00	100.00	100.00
	SUB TOTAL		3	945.00	**100.00**	**1045.00**
4	Monitoring & Supervision charge 5% of the total cost			0.00		52.25
	GRAND TOTAL		3	945.00	**100.00**	**1097.25**
	8TH YEAR OPERATION					
1	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
2	Watch & ward and cultural operations	Apr-Mar	2	630.00	0	630.00
3	Contingency and Unforeseen Expenditures			0.00	100.00	100.00

	SUB TOTAL		3	945.00	100.00	1045.00
4	Monitoring & Supervision charge 5% of the total cost			0.00		52.25
	GRAND TOTAL		3	945.00	100.00	1097.25
	9TH YEAR OPERATION					
1	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
2	Watch & ward and cultural operations	Apr-Mar	2	630.00	0	630.00
3	Contingency and Unforeseen Expenditures			0.00	100.00	100.00
	SUB TOTAL		3	945.00	100.00	1045.00
4	Monitoring & Supervision charge 5% of the total cost			0.00		52.25
	GRAND TOTAL		3	945.00	100.00	1097.25
	10TH YEAR OPERATION					
1	Fireline Tracing and Inspection Path	Feb/Mar	1	315.00	0	315.00
2	Watch & ward and cultural operations	Apr-Mar	2	630.00	0	630.00
3	Contingency and Unforeseen Expenditures			0.00	100.00	100.00
	SUB TOTAL		3	945.00	100.00	1045.00
4	Monitoring & Supervision charge 5% of the total cost			0.00		52.25
	GRAND TOTAL		3	945.00	100.00	1097.25

ABSTRACT

SL. No.	Item of Work	No. Person Day	Labour cost @ Rs 315.00/- per day	Material cost (Rs)	Monitoring & Supervision charge 5% of the total cost	Total cost in (Rs)
1	0th Year operation	9	2835.00	0	141.75	2976.75
2	1st Year operation	43	13545.00	500.00	702.25	14747.25
3	2nd Year operation	16	5056.00	300.00	267.80	5623.80
4	3rd Year operation	8	2520.00	300.00	141.00	2961.00
5	4th Year operation	3	945.00	100.00	52.25	1097.25
6	5th Year operation	3	945.00	100.00	52.25	1097.25
7	6th Year operation	3	945.00	100.00	52.25	1097.25
8	7th Year operation	3	945.00	100.00	52.25	1097.25
9	8th Year operation	3	945.00	100.00	52.25	1097.25
10	9th year operation	3	945.00	100.00	52.25	1097.25
11	10th year operation	3	945.00	100.00	52.25	1097.25
	TOTAL	97.00	30571.00	1800.00	1618.55	33989.55

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Estimate for Loose Boulder Check Dam of length 2.5 mtr

Foundation and apron 25 cm thick.
Top width 60 cm
Height of check dam above the foundation is 90 cm.
Uphill side width 90 cm.
Downhill side width should be 180 cm.
Uphill side apron 30 cm and downhill side apron 90 cm.
Analysis of Rate

Particulars of work	No./ Quantity	Rate	Amount
Earth work in hard or gravelly soil within 50m. Initial lead and 1.5m. Initial lift including rough dressing of clods to maximum 5 cm. to 7 cm and laying in layers not exceeding 0.3 m. in depth (per 100 cum.)	43	315.00	13545.00
	Total		270.90
Mulia			13815.90
2% sundries and T & P etc.			
Rough stone dry packing in aprons and revetments with hard granite stones (15 to 30 cm size) per cum			
Granite broken stone 1 cum.	1	507.96	507.96
Mason (Special)	0.17	465.00	79.05
Stone packer	0.35	355.00	124.25
Mulia	1.04	315.00	327.60
2% sundries, T & P etc.			20.78
	Total		1059.64

Estimate for construction of Loose Boulder Check Dam
Length of Loose Boulder Check Dam 2.5 Mtr

Particulars of work	Volume	Rate in Rupees	Total amount in Rupees
Earth work in hard or gravelly soil within 50m. Initial lead and 1.5m. Initial lift including rough dressing of clods to maximum 5 cm. to 7 cm and laying in layers not exceeding 0.3 m. in depth			
Dressing the side of banks and foundation on L.S	L.S	200.00	200.00
Rough stone dry packing in aprons and revetments with hard granite stones (15 to 30 cm size) per cum Rough stone dry packing in aprons and revetments with hard granite stones (15 to 30 cm size) per cum			
Foundation 4.5 mtr x 0.25 mtr = 1.125 sq.m			
Super structure (3.3mx0.6m)/2x 0.9m=1.755 sq.m			
1.755 sq. mtr + 1.125 sq.mtr = 2.88 sq.mtr	7.2	1059.64	7629.41
Volume = 2.88 sq.mtr x 2.5 mtr = 7.2 cu.m	cu.m		
Total			**7829.41**

Cost per running meter of L.B.C.D of 90 cm height = Rs 7829.41/2.5= Rs. 3131.764 or say **Rs.3200/-**

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Details Estimate for G.I. Chain Link Mess Fencing for 1.0 Km

Sl. No.	Description of Items	No	Length	Breadth /Dia	Height	Qty	Unit	Rate	Amount
1	Site Clearance over length 1.0 Km & with 2.0 mtr.and removed the unsalable materials outsiders 22 nos. mullas @315/- per day.		1 Km	2 mtr		22	Mandays	315	6930.00
2	Cost of R.C.C. finiding post of size 6'-6"x0'-5"x0' 4" with "T" bottom of size (1'-0" x0'.4"x0'x4") including steel work shuttering, carriage loading & unloading at work site on LS over 365 nos. RCC pillar@381.36/- each Rs. 139196.4 CGST 9%- Rs. 12527.676 OGST 9%- Rs. 12527.676 Rs. 1,64,251,752 or 164250 (330 main pillar and 35 Stray pillar)					365	nos	450	164250.00
3	Digging of pits of size 0.46x0.46x0.46x365 nos. pits=35.53 Cum @138.60/Cum Rs. 4,861.92 for (330 main pillar and 35 stray pillar)	365	0.46	0.46	0.46	35.53	Cum	138.60	4924.46
4	Fixing of RCC post with plain cement concrete (1:1:5:3) using 12 mm B.H.G chips with short carriage manually from truck able poit to work site of RCC post including cost of material, labour Royalty watering etc for 330 mains pillar and 35 stay pillar 365 nos.x.46 x.46x.46+35.53 cum for ½ pits 17.76 Cum@ Rs.7,825.97/Cum	365	0.46	0.46	0.46	17.76	Cum	7825.97	138989.23
5	Cost of GI g link mess 4" x4" x 8 gauges with 1.8 mtr with delivery at work site including at work site including OGST & CGST. 1000 mtr x 1.8 mtr =1800 sqmtr @ 318.00/sqm		1000		1.8	1800	sqm	318	572400.00
6	P.C.C. work in fixing between the fix RCC pillar for fixing GI chain link mesh and MS rod with ground 330 nos. x0.2x0.2x0.02x 2 sides=5.28 cum@7825.97	330	0.2	0.2	0.2	5.28	Cum	7825.97	41321.12
7	Distribution of GI link mesh over 1.0 km & tying with RCC post by G.I. binding wire embending the MS ROD by digging of 6" depth channel along the boundary line with fixing net hooks at in interval 126 nos of adult male mulias @ 315/- each					126	Mandays	315	39690.00
8	Cost of MS rod 2.5 quintal @5171.70/Qntl.					2.5	Qtl	5171.7	12929.25

9	Miscellanneous expenditure i.e. Binding wires 8 Kg @ Rs. 80/ Kg				8	Kg	80	640
10	Labour Cess 1%							406.20
	Total Rs. 9,82,540.26 Or Say Rs. 9,82,600.00							

CHAIN LINK MESS FENCING

ANASYSIS:

Sl. No.	Description	Quantity required	Unit	Type of unit	Rate Rs.		Amount Rs.
1.	Earth work in slury soil with Initial lead 50 mtr & Initial lift 1.5 mtr etc, all complete for 100 Cum						
	DATA FOR 100 CUM						
	LABOUR						
	Man Mulia	21	Nos.	Each	315	Rs.	6615.00
	Women Mulia	23	Nos.	Each	315	Rs.	7245.00
	Total						13860.00
	Per 1 Cum						138.60
2.	Cement concrete (1:1.5:3) with 10 mm						
	DATA FOR 100 CUM						
	LABOUR						
	Man Mulia	3.2	Nos.	Each	315	Rs.	1008.00
	Women Mulia	1.4	Nos.	Each	315	Rs.	441.00
	Mason 2nd Class	0.68	Nos.	Each	405	Rs.	275.40
	MATERIAL						
	H.B. Granite stone	0.9	Cum	Cum	2483.9	Rs.	2235.51
	Sand	0.45	Cum	Cum	1111.4	Rs.	500.13
	Cement	4.79	Qtl.	Qtl.	784.6	Rs.	3365.93
							7825.97

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ANNEXURE-(J)

TOTAL COST OF THE COMPENSATORY AFFORESTATION SCHEME

Sl. No.	Item of Work	Total Estimated Cost in Rs.
1	GI chain link mesh fencing around plantation sites = Rs 9,82,600/- X 114.337 km	11,23,47,536.20
2	Bald Hill plantation over 1134.797 ha X Rs.461069.36/-	52,32,20,126.52
3	ANR with 400 plants per ha over 84.521 ha X Rs 83129.89/-	70,26,221.43
4	ANR without Gap 23.952 ha x Rs. 33989.55/-	8,14,117.70
5	Loose boulder check dam over 4000 meter @ Rs. 3200 per meter	1,28,00,000.00
	Sub-Total	65,62,08,001.85
6	Cost escalation in future 20%	13,12,41,600.37
	Total	78,74,49,602.22 or say 78,74,49,700.00

(Rupees Seventy eight crore seventy four lakh forty nine thousand seven hundred) only.

Divisional Forest Officer,
Kalahandi South Division
Divisional Forest Officer
Kalahandi South Division

Checked by me

Asst. Conservator of Forest
Kalahandi (South) Division

Technically Approved

Divisional Forest Officer,
Kalahandi South Division
Divisional Forest Officer
Kalahandi South Division

STATE FOREST HEADQUARTERS
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS & HoFF, ODISHA
ARANYA BHAWAN, CHANDRASEKHARPUR, BHUBANESWAR
E-mail: nodal.pccfhoff@odisha.gov.in

Memo No. /9F (MG) - 118/2018
Dated, Bhubaneswar the March' 2022

To

The DFO, Keonjhar Forest Division

Sub: **Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese Ore in Dubuna-Sakradihi Mines of M/s OMC Ltd in Keonjhar district, Odisha - Revision of financial outlay of CA Scheme at prevailing wage rate of Rs 315/- per manday regarding.**

Ref-: This office Memo No. 11123 dated 07.07.2021.

With reference to this office memo cited above on the captioned subject, it is to inform you that the revised financial outlay for Compensatory Afforestation Scheme over an area over **1243.27 ha** of non-forest Govt. land identified in village Uparjhabi 266.942 ha, Pokhariguda 230.00 ha, Kumjore 175.547 ha, Silet 89.316 ha, Bhataguda 34.769 ha, Khamdala 106.8004 ha, Madanguda 86.687 ha, Nakarundi 144.4166 ha, and Semikhal 108.792 ha under Thuamul-Rampur Tahasil of Kalahandi District under Kalahandi (South) Forest division pertaining to the above project has been approved by CCF(FD & Nodal Officer, FC Act) at prevailing wage rate of Rs 315/- per manday amounting to **Rs 78,34,38,300/-** (Rupees seventy eight crores thirty four lakhs thirty-eight thousand and three hundred) only.

1. An amount of Rs 78,34,38,300/- towards CA needs to be demanded to the user agency for payment of the same in CA Head.
2. The approved financial outlay for CA Scheme is enclosed herewith for information and necessary action.

You are requested to raise demand on the user agency for payment of the said amount through web portal of MoEF & CC and submit the deposit particulars of the amount paid. Further, you are also requested to furnish the statement of funds towards compensatory levies deposited by the user agency in the prescribed CAMPA format duly signed by you alongwith the updated Stage-I compliance.

Encl - Revised financial outlay

Chief Conservator of Forests
(Forest Diversion and Nodal Officer, FC Act)

P.T.O

Memo No. _____ ___Dt

Copy forwarded to the RCCF, Rourkela Circle for information & necessary action in continuation to this office memo no. 11126 dated 07.07.2021.

Chief Conservator of Forests
(Forest Diversion and Nodal Officer, FC Act)

Memo No. _____ _____Dt

Copy alongwith a copy of the revised financial outlay forwarded to the DFO, Kalahandi(South) Forest Division for information & necessary action in continuation to this office memo no. 11127 dated 07.07.2021.

Chief Conservator of Forests
(Forest Diversion and Nodal Officer, FC Act)

Memo No. 5035 /Dt. 16.03.2022

Copy forwarded to the Managing Director, OMC, OMC House, Bhubaneswar for information and necessary action.

Chief Conservator of Forests
(Forest Diversion and Nodal Officer, FC Act)

Revised Financial Outlay for Site Specific Compensatory Afforestation Scheme over an area of 1343.27 ha of non-forest Govt. land identified in village Uparjhabi 266.942 ha, Pokhriguda 230.00 ha, Kumjore 125.542 ha, Silel 89.416 ha, Bhatiguda 34.769 ha, Chhindiju 106.900 ha, Mudangudu 86.082 ha, Sukurmudi 143.4166 ha and Semilibal 108.792 ha under Thuamul-Rampur Tahasil under Kalahandi District in Kalahandi (S) Division against diversion of 1343.27 ha of forest land for Dubuna-Sukrudihi Iron & Manganese Ore lease in Koonjhar District, Odisha by M/s Odisha Mining Corporation Ltd.(OMC)

(Wage Rate @ Rs.315/- per MD)

Sl. No.	Description	Amount (Rs.)
1	Cost of Hill Plantation 1,141.784 ha @ 1600 Plants per ha with 18 months seedlings @ Rs.4,30,100.37 without provision for fencing with 10 years maintenance	47,81,65,807.00
2	ANR with gap plantation @ 600 plants per ha with 18 months old seedlings over 227.849 ha @ Rs.95,864.73 per ha with cost for 10 years maintenance	21,12,763.00
3	ANR with gap plantation @ 400 plants per ha with 18 months old seedlings over 84.521 ha @ Rs.75,039.93 per ha With cost for 10 years maintenance	63,42,450.00
4	ANR without gap plantation over 29.956 ha @ Rs.33,922.67 per ha with 10 years maintenance	8,47,824.00
	Total	48,74,68,844.00
	Add Escalation Cost (20%)	9,74,93,769.00
	Total	58,49,62,613.00
6	Cost of Angle Iron & Chain Link Wire Mesh fencing over 1118.729 Kms @ Rs.1677.32 per RMT with 10 years maintenance (As per approved one time cost norm for CA)	19,84,75,598.00
	Grand Total	78,34,38,211.00 Or rounded off to 78,34,38,300.00

(Rupees Seventy eight Crores thirty four lakhs thirty eight thousand three hundred) only

Approved

Chief Conservator of Forests
Forest Diversion & Nodal Officer, FC Act

Chief Conservator of Forests
Forest Diversion & Nodal Officer, FC Act

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION
Phone No- 06766-254315, email ID- dfo.keonjhar@odisha.gov.in

No. 2061 /Mining/98/2021
Dated, Keonjhar, the 21 March, 2022

To

The Executive Director, F&E,
M/s OMC Ltd, OMC House,
Bhubaneswar- 751001

Sub: Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese ore in Dubuna–Sakradihi Mines in favour of Odisha Mining Corporation Ltd in Keonjhar District of Odisha.

X-Sub: Demand of revised Scheme for Compensatory Afforestation at the current wage rate @Rs. 315.00/- per Mandays.

Ref: Memo No.5032 dated 16.03.2022 of CCF, FD&NO, FC Act, O/o- the PCCF, Odisha, Bhubaneswar & this office letter No.628 dated 25.01.2022.

Sir

With reference to the aforementioned memos on the captioned subject, the Chief Conservator of Forests, FD&NO, FC Act, O/o- the PCCF, Odisha, Bhubaneswar has revised the CA Scheme over 1243.27 ha (as stipulated in condition No. A.1(i) of the Stage- I approval dated 06.05.2021 of the MoEF&CC, GoI) at the current wage rate @Rs. 315.00/- per Mandays with maintenance of 10 years with a total financial outlay of Rs.78,34,38,300/-. You are requested to deposit the approved amount of **Rs.78,34,38,300.00** (Rupees seventy-eight crore thirty-four lakh thirty eight thousand three hundred) only towards Scheme for Compensatory Afforestation scheme through **e-portal** of MoEF&CC as provided in the **https://parivesh.nic.in/** and the proof/evidence of the deposit of fund be submitted to this office for further necessary action at this end.

Condition No.	Particulars	Amount to be deposited (Rs)
A.1.(i)	Compensatory Afforestation Scheme over 1243.27 ha non-forest land identified in village Uparjhabi, Pokharipuda, Kumjore, Silet, Nakrundi, Khandala, Bhataguda, Madang guda & Nunresh under Thuamul- Rampur Tahasil in Kalahandi (South) Division.	**78,34,38,300.00**
	Total	**78,34,38,300.00**

(Rupees seventy-eight crore thirty-four lakh thirty eight thousand three hundred) only.

Further, this is to intimate that, the demand letter issued vide this office letter No.628 dated 25.01.2022 is hereby cancelled.

Yours faithfully,
21/03/22
Divisional Forest Officer,
Keonjhar Division.

Memo No. 2062 **Dated.** 21.03.2022

Copy forwarded to the Regional Chief Conservator of Forests, Rourkela Circle, Rourkela/Chief Conservator of Forests, Forest Diversion and Nodal Officer, FC Act, O/o the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action with reference to this office memo No. 629 dated 25.01.2022.

21/03/22

AGENCY COPY

यूनियन बैंक Union Bank of India

आन्ध्रा Andhra

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349175
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
Address.	OMC HouseKhordha
Amount(in Rs)	783438300/-

Amount in Words :Seventy-Eight Crore Thirty-Four Lakh Thirty-Eight Thousand Three Hundred Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	150825830349175 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank of India

आन्ध्रा Andhra

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 28-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349175
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Location.	ORRISA
Address:	OMC House Khordha
Amount(In Rs)	783438300/-

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Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

After making successful payment, User Agencies may send a line of confirmation through Email: helpdeskcampa@corpbank.co.in

Note:After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date to Email: cb0371@unionbankofindia.com

UBINJ220894 1715

30/03/2022

Dr. Sandhya Nigam

30/03/2022

S. Mohapatra

Dy. General Manager (FI

Schedule I - Form No. 99-A (Revised)

ଖତିୟାନ

ମୌଜା ମତାଙ୍ଗାମୁଣ୍ଡା ଉପଖଣ୍ଡ ଭୁବନେଶ୍ୱର ସଦର

ଥାନା ଭୁବନେଶ୍ୱର ସଦର ଜିଲ୍ଲା କଟକ

୧ । ପତ୍ତାଦାରଙ୍କ ନାମ ଓ ପ୍ରେସ୍ୱାଟ ବା ଖତିୟାନ ନମ୍ବର	ଓଡିଶା ଶିଳ୍ପ ନିଗମ
୨ । ଖତିୟାନର କୁମିକ ନମ୍ବର	୬୧/୧
୩ । ସ୍ୱତ୍ୱାଧିକାର ନାମ, ପିତାଙ୍କ ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ	ଭୁବନେଶ୍ୱର ମହାନଗର ନିଗମ ସାପେକ୍ଷ ଜମିଗୁଡ଼ିକୁ ଦିଆଯାଇଛି, କାହାକୁ ମଧ୍ୟ ଦିଆଯାଇନାହିଁ ।
୪ । ସ୍ୱତ୍ୱ	

	ଚତୁଃସୀମା	ଶତାଂଶ	କ୍ଷେତ୍ରଫଳ	ମିଟ୍ରିକ୍ ସେମ୍ବ ଓ ଅଚାଳୀୟ ସେମ୍ବ ଭଳି ନିମ୍ନ ଅଂଶ	ମୋଟ	୫ । ଜୁମାବର୍ତ୍ତନଶୀଳ ସତ୍ତ୍ୱାଧିକାର ବିବରଣୀ
କ । ସ୍ୱତ୍ୱ						

ଅନ୍ୟାନ୍ୟ ବିବରଣୀ

୬ । ବିଶେଷ ଅନୁସଙ୍ଗ, ଯଦି କିଛି ଥାଏ

BLANK SPACE FOR STAMPING

ଘର ନମ୍ବର ଓ ପଲ୍ଲୀ ନାମ	ଜିରଣ	ଦିବାର କ୍ଷୁଧାରତ ଓଠାରୁ ଚେରାଏଁ	ଉତ୍ତରା				ଦେଉନ
			ଉତ୍ତ:	ପ: ନି:	ଏକତ୍ର	ଚେଷ୍ଟାମିତ୍ର	
୩	୨	୧	୧୫		୧୪		୧୩
୧୫/୪୪୨	୩୦୩				୧	୩୬	ଚଉଦ୍ଦେଶର ଗୋଟିଏ ଅ/୩୨୩୦
୨୪/୪୧୯	୩୦୩				୮	୫୦	ଦ୍ୱା.ଚ୍ଚ-ଚ୍ଚ-୨୦୩୦ ଜି ଗ୍ଲା.ଟ
୫୫/୪୪୦	୩୦୩				୭	୧୭	ଦୁଇଛତ୍ରଦାଦୁଲି ଅ.ଗ. ଗୋ.ନଂ ୬୦୨ ଦୁଇ-୧/୪୪୮
୧୬/୪୪୧	୩୦୩				୨୮	୩୮	୨୦୧୦ ଚ.ଚ୍ଚ.ଚ୍ଚ. ଦୁଇ ଦି ୬/୪୫୦
୧୬/୪୪୧	୩୦୩				୨୪	୨୯	୬୨୫୦. ଦୁଇ ଦି ୧୬/୪୪୧
୨୪/୪୪୬	୩୦୩				୩୫	୨୦	୬୨୧୨. ଦୁଇ ଦି ୧୬/୪୪୬
୨୪/୪୪୬	୩୦୩				୩୪	୩୩	୬୨୨୦, ଦୁଇ ଦି ୧୬/୪୪୬
୨୪/୪୪୬	୩୦୩				୩୪	୩୩	୬୨୨୦, ଦୁଇ ଦି ୨୨/୪୪୬
୨୪/୪୪୬	୩୦୩				୩୬	୦୧	୬୨୨୦, ଦୁଇ ଦି ୨୨/୪୪୬
୨୪/୪୪୬	୩୦୩				୨.୦	୬୪	୬୨୨୦, ଦୁଇ ଦି ୨୨/୪୪୬
୨୪/୪୪୬	୩୦୩				୧୩	୦୩	୬୨୨୦, ଦୁଇ ଦି ୨୨/୪୪୬
୨୪/୪୪୬	୩୦୩				୬	୧୩	୬୨୨୦, ଦୁଇ ଦି ୨୨/୪୪୬
୨୪/୪୪୬	୩୦୩				୩୦	୧୪	୬୨୨୦, ଦୁଇ ଦି ୨୨/୪୪୬
୧୧					୬୧୪	୬୧	୬୨୨୦, ଦୁଇ ଦି ୨୨/୪୪୬

Schedule I—Form No. 39-A (Revised)



ମୌଜା ଫୁଲ୍ଲାପୁଡ଼ା ତହସିଲ ପୁରୀଜୁକଣ୍ଡପୁର

ଥାନା ପୁରୀଜୁକଣ୍ଡପୁର ଜରିପ ନମ୍ବର ୧୪୮

ଥାନା ନମ୍ବର ୧୪୮ ଜିଲ୍ଲା କଟକ

ଜମିଦାରଙ୍କ ନାମ ଓ ସେହାଙ୍କ ବା ଖତିୟାନ ନମ୍ବର } ଓଡିମା ଫୁଲ୍ଲାପୁଡ଼ା ୧

୧ । ଖତିୟାନର କ୍ରମିକ ନମ୍ବର } ୧୩/୧

୨ । ପ୍ରଜାଙ୍କ ନାମ, ପିତାଙ୍କ ନାମ, ଜାତି ଓ ଅବସ୍ଥାନ } ନିମାଇ ଓ ସହିଦେଇ ନିଶୁଣ ସାକିନ ବଲରାମପୁର ଦୈନାମାଝି, ଜାତିରେ ଦଳିଆ ବଲରାମପୁର ।

୩ । ଭୂଇଁ

	ଉତ୍ତରର	ଖଜଣା	ଓସାହ	ନିଷ୍କର ସେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ସେସ୍ ଯଦି କିଛି ଥାଏ	ମୋଟ	୪ । ପ୍ରମାଣ ଜମିର ଖଜଣାର ବିବରଣୀ
କ । ସେୟ						

୫ । ବିଶେଷ ଅନୁସନ୍ଧାନ, ଯଦି କିଛି ଥାଏ }

BLANK SPACE FOR STAMPING

୧	୨	୩	୪	୫	୬	୭
ବିବରଣୀ	ଦିବସର ବିଭାଜିତ ବିବରଣୀ ଓ ବୌଦ୍ଧତି	ଜଳବା				ପୂର୍ବ ଦାୟର ଓ ବର୍ତ୍ତମାନ ଦାୟ
		ଟଙ୍କା	ଅ: ପି:	ଏକର	ଡେସିମିଲ୍	
		୪	୫	୬		୭
ପ୍ରତିଦିନ				୨୨	୫୦	୨୯
ପ୍ରତିଦିନ				୨୬	୪୦	୩୫
ପ୍ରତିଦିନ				୧୫	୪୮	୨୨୭/୧୪୦
ପ୍ରତିଦିନ				୧୬	୪୫	୨୪୨/୨୧୭
ପ୍ରତିଦିନ				୧୨	୦୦	୧୪୬/୧୪୨
				୮୫	୨୯	

OGP(Forms) CTP-85-8,00,000-08-01-2018

Schedule I—Form No. 39-A (Revised)



ମୌଜା ମୁକ୍ତାପୁର ବଡ଼ଖିଲ ପୂ. ରାମପୁର
ଥାନା ପୂ. ରାମପୁର ତହସିଲ ନଗର ଏକ
ଥାନା ନମ୍ବର ଏକ ଜିଲ୍ଲା ଜଗତସିଂହପୁର

ଜମିଦାରଙ୍କ ନାମ ଓ ଖେୱାଟ ବା ଝଡ଼ିଆଳ ନମ୍ବର	ଓଡ଼ିଶା ସରକାର-୧
୧ । ଖତିୟାନର ଜୁମିକ ନମ୍ବର	୭୨/୨
୨ । ପ୍ରଜାଙ୍କ ନାମ, ପିତାଙ୍କ ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ	ଜମାରୁ ବନ୍ଦୋବସ୍ତ ଜିଲ୍ଲା, ଓଡ଼ିଶା ସରକାର ଲାଭେଟ ଜଗତସିଂହପୁର ତହସିଲ, ପଲିଚ ଜଗତସିଂହପୁର ଅଞ୍ଚଳ

୩ । ସ୍ୱତ୍ୱ

	ଜଳଉର	ଖାଉଣା	ଖେତ	ଚିତ୍ତାର ଖେତ୍ ଓ ଅନ୍ୟାନ୍ୟ ଖେତ, ଯଦି ଥିଲେ ଥାଏ	ମୋଟ୍	୪ । ଭୂମଜଦ୍ଧନଶୀଳ ଖତଣାର ବିବରଣୀ
୪ । ଚଉଥ						

Binding Space

ଚକୁଲୋକ ଖେତ ୮/୭୦୫୧ ଜଳୁଥି ସାଲଙ୍କ ଆସନ୍ତେ ୮ ଜଣ ଏଗାରୀଙ୍କ ଜଣ ଜଣ ଜଣ

ପ୍ଲଟ ନମ୍ବର ଓ ଚଉହଦ ନାମ	କିସମ	କିସମର ବିସ୍ତାରିତ ବିବରଣୀ ଓ ତୌଜିହି	ଜଳକଡା				ମନ୍ତବ୍ୟ
			ହେକ୍ଟର	ଏ. ମି.	ଏକର	ଡେସିମିଲ୍	
୨	୮	୯	୧୦		୧୧		୧୨
୬୮/୨୨୬	ଚାଷଜମି				୮	୮୮	
୬୦/୨୬୨	ଚାଷଜମି				୦	୪୪	
୬୬/୨୫୮	ଚାଷଜମି				୬୫	୩୬	
୬୭	ଚାଷଜମି				୧୫	୦୦	
୬୮/୨୬୨	ଚାଷଜମି				୨୮	୩୫	
୬୪	ଚାଷଜମି				୬୫	୪୦	
୭୫	ଚାଷଜମି				୬୫	୫୮	
୭୩	ଚାଷଜମି				୬୫	୪୦	
୭୪/୨୭୦	ଚାଷଜମି				୧୫	୬୨	
୭୫/୨୭୧	ଚାଷଜମି				୧୫	୬୬	
୭୭/୨୭୭	ଚାଷଜମି				୧୫	୧୩	
୭୦/୨୭୩	ଚାଷଜମି				୧୫	୧୩	
୮୧/୨୭୪	ଚାଷଜମି				୪	୭୨	
୮୨/୨୭୫	ଚାଷଜମି				୧୫	୦୨	
୮୩/୨୭୬	ଚାଷଜମି				୩	୩୩	
୮୪/୨୭୭	ଚାଷଜମି				୧୫	୪୭	
୮୫/୨୭୮	ଚାଷଜମି				୧୫	୪୦	
୮୬/୨୭୯	ଚାଷଜମି				୧୫	୦୦	
୮୭/୨୮୦	ଚାଷଜମି				୧୫	୧୦	
୮୮/୨୮୧	ଚାଷଜମି				୧୫	୦୦	
୮୯/୨୮୨	ଚାଷଜମି				୧୫	୦୦	
୯୦/୨୮୩	ଚାଷଜମି				୧୫	୦୦	

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ମୌଜା ଓ ମହୁଲିଆ
ଥାନା ଥୁଆମୁଳ ରାମପୁର
ଥାନା ନମ୍ବର ୧୦୧

ତହସିଲ ଥୁଆମୁଳ ରାମପୁର
ତହସିଲ ନମ୍ବର ୧୦୧
ଜିଲ୍ଲା ଜଜପୁର

ଜମିଦାରଙ୍କ ନାମ ଓ ଖେୱଟ ବା ଖତିୟାନ ନମ୍ବର } ଉତ୍କଳ ସୁରକାର୍ଯ୍ୟ ଖେତ୍ରୀୟ ନଂ - ୧

୧ । ଖତିୟାନର କ୍ରମିକ ନମ୍ବର } ୧୦୮୨

୨ । ପ୍ରଜାଙ୍କ ନାମ, ପିତାଙ୍କ ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ } ଜଜପୁର ପରିବେଶ ବିଭାଗ, ଉତ୍କଳ ସୁରକାର୍ଯ୍ୟ ମାଲିକ ଜନସାଧୁ ଅଧିକାରୀ କଲ୍ୟାଣୀ, ଜମିନ ଜନସାଧୁ, ଓକାଲୀ ପାଠେ।

୩ । ସ୍ୱତ୍ୱ }

	କଳଜଗ	ଖଜିଣା	ସେସ୍	ନିସ୍ତାର ସେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ଚେସ୍, ଯଦି କିଛି ଥାଏ	ଗୋଟ	୪ । ଭୁମବର୍ଦ୍ଧନଶୀଳ ଖଜଣାର ବିବରଣୀ
୪ । ଦେୟ	—	—	—	—	—	

Binding Space

୬ । ବିଶେଷ ଅନୁଭବ, ଯଦି କିଛି ଥାଏ } ଏହି ନକ୍ସର ବଙ୍କା ନଂ - ୬/୨୦୨୫ ତା - ୨୬.୦୫.୨୦ ଜିଲ୍ଲା ଗାଇ ନଂ ଚ ଚ:ଦା:ନଂ ଗା.ଚ.୮୫୧୯ ଖାଜନା: ଥୁଆମୁଳ ୧୫୩୦.୨୩, ୨ ଥୁ ୪୭୦.୧୯, ୪ ଥୁ ୪୭୬.୨୮, ୨୦ ଥୁ ୪୭୬.୨୪ ୨୪ ଥୁ ୪୧୧.୬୮, ୬୪ ଥୁ ୪୮୮.୪୪, ୮୫ ଥୁ ୦.୮୩, ୮୭ ଥୁ ୪୭୦. ୧୦୮ ଥୁ ୪୭୦.୧୬, ୧୧୧ ଥୁ ୪୭୬.୦୬, ୧୧୨ ଥୁ ୪୭୬.୨୪, ୧୨୫ ଥୁ ୪୭୦.୨୨, ୧୨୭ ଥୁ ୪୭୦.୨୫, ୧୩୩ ଥୁ ୪୭୦.୨୫, ୧୩୪ ଥୁ ୪୭୦.୨୫, ୧୩୫ ଥୁ ୪୭୦.୨୫, ୧୩୬ ଥୁ ୪୭୦.୨୫, ୧୩୭ ଥୁ ୪୭୦.୨୫, ୧୩୮ ଥୁ ୪୭୦.୨୫, ୧୩୯ ଥୁ ୪୭୦.୨୫, ୧୪୦ ଥୁ ୪୭୦.୨୫, ୧୪୧ ଥୁ ୪୭୦.୨୫, ୧୪୨ ଥୁ ୪୭୦.୨୫, ୧୪୩ ଥୁ ୪୭୦.୨୫, ୧୪୪ ଥୁ ୪୭୦.୨୫, ୧୪୫ ଥୁ ୪୭୦.୨୫, ୧୪୬ ଥୁ ୪୭୦.୨୫, ୧୪୭ ଥୁ ୪୭୦.୨୫, ୧୪୮ ଥୁ ୪୭୦.୨୫, ୧୪୯ ଥୁ ୪୭୦.୨୫, ୧୫୦ ଥୁ ୪୭୦.୨୫, ୧୫୧ ଥୁ ୪୭୦.୨୫, ୧୫୨ ଥୁ ୪୭୦.୨୫, ୧୫୩ ଥୁ ୪୭୦.୨୫, ୧୫୪ ଥୁ ୪୭୦.୨୫, ୧୫୫ ଥୁ ୪୭୦.୨୫, ୧୫୬ ଥୁ ୪୭୦.୨୫, ୧୫୭ ଥୁ ୪୭୦.୨୫, ୧୫୮ ଥୁ ୪୭୦.୨୫, ୧୫୯ ଥୁ ୪୭୦.୨୫, ୧୬୦ ଥୁ ୪୭୦.୨୫, ୧୬୧ ଥୁ ୪୭୦.୨୫, ୧୬୨ ଥୁ ୪୭୦.୨୫, ୧୬୩ ଥୁ ୪୭୦.୨୫, ୧୬୪ ଥୁ ୪୭୦.୨୫, ୧୬୫ ଥୁ ୪୭୦.୨୫, ୧୬୬ ଥୁ ୪୭୦.୨୫, ୧୬୭ ଥୁ ୪୭୦.୨୫, ୧୬୮ ଥୁ ୪୭୦.୨୫, ୧୬୯ ଥୁ ୪୭୦.୨୫, ୧୭୦ ଥୁ ୪୭୦.୨୫, ୧୭୧ ଥୁ ୪୭୦.୨୫, ୧୭୨ ଥୁ ୪୭୦.୨୫, ୧୭୩ ଥୁ ୪୭୦.୨୫, ୧୭୪ ଥୁ ୪୭୦.୨୫, ୧୭୫ ଥୁ ୪୭୦.୨୫, ୧୭୬ ଥୁ ୪୭୦.୨୫, ୧୭୭ ଥୁ ୪୭୦.୨୫, ୧୭୮ ଥୁ ୪୭୦.୨୫, ୧୭୯ ଥୁ ୪୭୦.୨୫, ୧୮୦ ଥୁ ୪୭୦.୨୫, ୧୮୧ ଥୁ ୪୭୦.୨୫, ୧୮୨ ଥୁ ୪୭୦.୨୫, ୧୮୩ ଥୁ ୪୭୦.୨୫, ୧୮୪ ଥୁ ୪୭୦.୨୫, ୧୮୫ ଥୁ ୪୭୦.୨୫, ୧୮୬ ଥୁ ୪୭୦.୨୫, ୧୮୭ ଥୁ ୪୭୦.୨୫, ୧୮୮ ଥୁ ୪୭୦.୨୫, ୧୮୯ ଥୁ ୪୭୦.୨୫, ୧୯୦ ଥୁ ୪୭୦.୨୫, ୧୯୧ ଥୁ ୪୭୦.୨୫, ୧୯୨ ଥୁ ୪୭୦.୨୫, ୧୯୩ ଥୁ ୪୭୦.୨୫, ୧୯୪ ଥୁ ୪୭୦.୨୫, ୧୯୫ ଥୁ ୪୭୦.୨୫, ୧୯୬ ଥୁ ୪୭୦.୨୫, ୧୯୭ ଥୁ ୪୭୦.୨୫, ୧୯୮ ଥୁ ୪୭୦.୨୫, ୧୯୯ ଥୁ ୪୭୦.୨୫, ୨୦୦ ଥୁ ୪୭୦.୨୫, ୨୦୧ ଥୁ ୪୭୦.୨୫, ୨୦୨ ଥୁ ୪୭୦.୨୫, ୨୦୩ ଥୁ ୪୭୦.୨୫, ୨୦୪ ଥୁ ୪୭୦.୨୫, ୨୦୫ ଥୁ ୪୭୦.୨୫, ୨୦୬ ଥୁ ୪୭୦.୨୫, ୨୦୭ ଥୁ ୪୭୦.୨୫, ୨୦୮ ଥୁ ୪୭୦.୨୫, ୨୦୯ ଥୁ ୪୭୦.୨୫, ୨୧୦ ଥୁ ୪୭୦.୨୫, ୨୧୧ ଥୁ ୪୭୦.୨୫, ୨୧୨ ଥୁ ୪୭୦.୨୫, ୨୧୩ ଥୁ ୪୭୦.୨୫, ୨୧୪ ଥୁ ୪୭୦.୨୫, ୨୧୫ ଥୁ ୪୭୦.୨୫, ୨୧୬ ଥୁ ୪୭୦.୨୫, ୨୧୭ ଥୁ ୪୭୦.୨୫, ୨୧୮ ଥୁ ୪୭୦.୨୫, ୨୧୯ ଥୁ ୪୭୦.୨୫, ୨୨୦ ଥୁ ୪୭୦.୨୫, ୨୨୧ ଥୁ ୪୭୦.୨୫, ୨୨୨ ଥୁ ୪୭୦.୨୫, ୨୨୩ ଥୁ ୪୭୦.୨୫, ୨୨୪ ଥୁ ୪୭୦.୨୫, ୨୨୫ ଥୁ ୪୭୦.୨୫, ୨୨୬ ଥୁ ୪୭୦.୨୫, ୨୨୭ ଥୁ ୪୭୦.୨୫, ୨୨୮ ଥୁ ୪୭୦.୨୫, ୨୨୯ ଥୁ ୪୭୦.୨୫, ୨୩୦ ଥୁ ୪୭୦.୨୫, ୨୩୧ ଥୁ ୪୭୦.୨୫, ୨୩୨ ଥୁ ୪୭୦.୨୫, ୨୩୩ ଥୁ ୪୭୦.୨୫, ୨୩୪ ଥୁ ୪୭୦.୨୫, ୨୩୫ ଥୁ ୪୭୦.୨୫, ୨୩୬ ଥୁ ୪୭୦.୨୫, ୨୩୭ ଥୁ ୪୭୦.୨୫, ୨୩୮ ଥୁ ୪୭୦.୨୫, ୨୩୯ ଥୁ ୪୭୦.୨୫, ୨୪୦ ଥୁ ୪୭୦.୨୫, ୨୪୧ ଥୁ ୪୭୦.୨୫, ୨୪୨ ଥୁ ୪୭୦.୨୫, ୨୪୩ ଥୁ ୪୭୦.୨୫, ୨୪୪ ଥୁ ୪୭୦.୨୫, ୨୪୫ ଥୁ ୪୭୦.୨୫, ୨୪୬ ଥୁ 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୧	୨	୩	୪	୫	୬	୭
ଷ୍ଟକ ନମ୍ବର ଓ ଅଙ୍କିତ ମୂଲ୍ୟ	ବିବରଣ	ଭିତରୁ ବିସ୍ତାରିତ ବିବରଣୀ ଓ ପରୀକ୍ଷା	ପରିମାଣ			ମନ୍ତବ୍ୟ
			ଟନ୍	କ୍ୱି. ମି.	ଏକର	ଡେସିମିଲ୍
			୧୦		୧୧	୧୨
୧	ଦଖଲ				୭୩	୬୯
୨	ଦଖଲ				୭୮	୬୮
୩	ଦଖଲ				୭୬	୬୫
୪/୩୨୯	ଦଖଲ				୭୫	୬୫
୫/୩୨୫	ଦଖଲ				୭୫	୬୫
୬/୩୨୫	ଦଖଲ				୭୫	୬୫
୭/୩୨୫	ଦଖଲ				୭୫	୬୫
୮/୩୨୫	ଦଖଲ				୭୫	୬୫
୯/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୦/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୧/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୨/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୩/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୪/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୫/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୬/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୭/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୮/୩୨୫	ଦଖଲ				୭୫	୬୫
୧୯/୩୨୫	ଦଖଲ				୭୫	୬୫
୨୦/୩୨୫	ଦଖଲ				୭୫	୬୫

Binding Space

ଖତିଆନ (ଚଲତ)

ଖତିଆନର ନମ୍ବର

ପ୍ଲଟ ନମ୍ବର ଓ ଜଳର ନାମ	ଶ୍ରେଣୀ	କ୍ଷିତ୍ରମର ବିସ୍ତାରିତ ବିବରଣୀ ଓ ଚୌହଦି	ରକ୍ଷବା				ମନ୍ତବ୍ୟ
			ହେକ୍ଟର	ବ. ମି.	ଏକର	ଡେସିମିଲ୍	
୨	୮	୯	୧୦		୧୧		୧୨
୫୭୪/୮୦୨	ଚାଷଜମି				୦୫	୬୧	
୫୭୪/୮୧୦	ଚାଷଜମି				୨୪	୪୧	
୫୭୬	ଚାଷଜମି				୧୭	୧୫	
୫୭୭/୮୧୧	ଚାଷଜମି				୦୪	୩୭	
୬୨୨/୮୭	ଚାଷଜମି				୧୭	୪୪	
୭୧୦/୮୩୩	ଚାଷଜମି				୪୧	୨୪	
୭୨୧/୮୪୪	ଚାଷଜମି				୧୮	୭୬	
ଜମାଟ ୨୯ ପ୍ଲଟ					୬୪୧	୬୩	

ଉପଜିଲ୍ଲାପାଳ, ଖୋର୍ଦ୍ଧା

Binding Space

Schedule I--Form No. 39-A (Revised)

ଖତିଆନ

ମୌଜା ଶ୍ରୀକ୍ଷେତ୍ର
ଥାନା ସୁଆମ୍ବଳି ରାମପୁର
ଥାନା ନମ୍ବର ୨୨୩

ତହସିଲ ସୁଆମ୍ବଳି ରାମପୁର
ତହସିଲ ନମ୍ବର ୨୨୩
ଜିଲ୍ଲା ଜାଜପୁରି

କମିବାରଜ ଢାମ ଓ ଖେୱାଟ ବା ଖତିଆନ ନମ୍ବର	ଚେଡିଆ। ସୁରଜୋଇ - ୧
୧ । ଖତିଆନର କ୍ରମିକ ନମ୍ବର	୩୬/୧
୨ । ପ୍ରଜାଙ୍କ ନାମ, ପିତାଙ୍କ ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ	ଉତ୍କଳ ଚନ୍ଦ୍ର ପଟ୍ଟନାୟକ ଜିହାନ, ସାକିନ ବଦନପୁର ଅଧିକାରୀ, ଜାଜପୁରି, ଯାଜପୁର ବଦନପୁର.
୩ । ସ୍ୱତ୍ୱ	

	ଜଳକର	ଖଜଣା	ସେସ୍	ଜିଲ୍ଲାର ସେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ସେସ୍, ଯଦି କିଛି ଥାଏ	ମୋଟ୍	୫ । କ୍ରମବର୍ଦ୍ଧନଶୀଳ ଜରଣାର ବିବରଣୀ
୪ । ଦେୟ						

Binding Space

ସଜିଦନିସ୍ତାର ଲୋକ ୩/୧୫୩ ଗା ୬୫ । ଏଥାରେ ଥିବା ଆ.ମଉଜା ଏବଂ ନମ୍ବର ସହିତ ପୂର୍ଣ୍ଣ ୧/୩୦ ୦.୫୪, ୨/୩୧୨ ୨୬.୨୦.୫୪ ପୂର୍ଣ୍ଣ ୩/୩୧୩ ୨୬୭୩.୦୩, ୫/୩୧୪ ୨ ୬.୧୫.୫୪, ୪/୩୧୫ ୨୬ ୧୫.୧୫, ୬/୩୧୬ ୨୬.୨୫.୨୦, ୭/୩୧୭ ୨୬.୨.୩୭, ୮/୩୧୮ ୬ ୧୧.୮୩, ୧୧/୩୧୯ ୨୬ ୫.୧୨, ୧୨/୩୨୦ ୨୬ ୧୭.୮, ୧୩/୩୨୧ ୨୬.୨୫.୨୦.୩୩, ୧୭/୩୨୨ ୨୬ ୧୦.୩୭ ୨୧୫/୩୩୩ ୨୬ ୧୬.୭୪ ପୂର୍ଣ୍ଣ ୨୧୬/୨ ୬.୧୫.୪୮ ମୋଟ୍ ଏତାଦ୍ଧାରା ଏହାଙ୍କୁ ଏହାଙ୍କ ଅଧିକାରଭୁକ୍ତ ଜମିଗୁଡ଼ିକ ଦେଖାଇବା ପାଇଁ ଏହି ଖତିଆନ ଦିଆଗଲା। (ଡିକ୍ଲନା ଲେଖିବାକୁ ଆବଶ୍ୟକ ହେଉ ଅଟେ ସାକ୍ଷୀଙ୍କର ଦେଉ ଅଟେ ଲେଖିବାକୁ ହେବ)

ପ୍ଲଟ ନମ୍ବର ଓ ଜଳର ନାମ	କିସମ	କିସମର ବିସ୍ତାରିତ ବିବରଣୀ ଓ ଚୌହଦ୍ଦି	ଜରିପ				ମନ୍ତବ୍ୟ
			ଏ:	ଡ: ମି:	ସରକାର	ବେସରକାର	
୨	୮	୯	୧୦		୧୧		୧୨
୧/୩୧୧	ଏକ୍ସର				୮	୦୫	
୨/୩୧୨	ଏକ୍ସର				୨୦	୫୫	
୩/୩୧୩	ଏକ୍ସର				୨୩	୦୩	
୪/୩୧୪	ଏକ୍ସର				୧୪	୬୫	
୫/୩୧୫	ଏକ୍ସର				୧୨	୧୮	
୬/୩୧୬	ଏକ୍ସର				୨୬	୨୦	
୭/୩୧୭	ଏକ୍ସର				୨	୩୭	
୮/୩୧୮	ଏକ୍ସର				୧୧	୮୨	
୧୧/୩୧୨	ଏକ୍ସର				୪	୧୨	
୧୨/୩୨୦	ଏକ୍ସର				୧୭	୮	
୧୩/୩୨୧	ଏକ୍ସର				୧୭	୨୪	
୧୫	ଏକ୍ସର				୨୦	୩୩	
୧୨/୩୨୨	ଏକ୍ସର				୧୭	୦୭	
୨୧୫/୩୨୩	ଏକ୍ସର				୧୬	୨୪	
୨୧୬/୩୨୪	ଏକ୍ସର				୧୫	୪୮	
ଏହିପରି ପୃଷ୍ଠା					୨୨୦	୨୨	

Binding Space

OGP(Forms) CTP--85--8,00,000--08-01-2018

Schedule I–Form No. 39-A (Revised)

TAHASIL RECORD ROOM ★ TH.RAMPUR ★

ମୌଜା ମାକଡ଼ୁଣ୍ଡି ୧
ଥାନା ଝୁଟିଆ ଲୁକଡୁଣପୁଟ୍
ଥାନା ନମ୍ବର ୨୦୧

ତହସିଲ ଝୁଟିଆ ଲୁକଡୁଣପୁଟ୍
ତହସିଲ ନମ୍ବର ୨୦୧
ଜିଲ୍ଲା ଜେଲ୍ଲା ନାମ୍ବୁ

ଜମିଦାରଙ୍କ ନାମ ଓ ଖେୱାଟ ର। ଖତିୟାନ ନମ୍ବର	ଓଡ଼ିଶା ସରକାର ୧
୧ । ଖତିୟାନର କ୍ରମିକ ନମ୍ବର	୭୨/୧
୨ । ପ୍ରଜାଙ୍କ ନାମ, ପିତାଙ୍କ ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ	ଜିଲ୍ଲାପାଳ ଓ ଅତିରିକ୍ତ ଜିଲ୍ଲାପାଳ ମାନଙ୍କ ଜରିଆରେ ଅତିରିକ୍ତ ଜିଲ୍ଲାପାଳ, ଜେଲ୍ଲାନାମ୍ବୁ, ଦକ୍ଷିଣ ଜଜପୁର ।
୩ । ସ୍ୱତ୍ୱ	

	ଜଳଜମି	ଖଡ଼ଜମି	ବେସ୍	ନିଷ୍କାର ବେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ବେସ, ଯଦି କିଛି ଥାଏ	ମୋଟ୍	୪ । କ୍ରମାବର୍ଦ୍ଧନୀୟ ଖଜଣାର ବିବରଣୀ
୪ । ବେସ୍						

୬ । ବିଶେଷ ଅନୁସୂଚି, ଯଦି କିଛି ଥାଏ

BLANK SPACE FOR STAMPING

Binding Space

ତଲ୍ଲେଖିତ ଖେ.ନ. ଏ୨/୧୮ ମା. ୩୧-୧୨-୧୯ ଜମାବନ୍ଦୀରେ ଅନ୍ତର୍ଭୁକ୍ତ ଥିବା ୨୩୫୭ ଭାଗ ନ. ୨୩୧ (ଖା. ଦେ.) ଓ ୨୩୫୫ ଭାଗ ନ. ୨୩୫୫

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ମୌଜା ବୁଢ଼ାଲା ତହସିଲ ବୁଢ଼ାମୂଳମୁଣ୍ଡପୁର

ଥାନା ବୁଢ଼ାମୂଳମୁଣ୍ଡପୁର ତହସିଲ ନମ୍ବର ୨୦୧

ଥାନା ନମ୍ବର ୨୦୧ ଜିଲ୍ଲା କଳାହାଣ୍ଡି

କୀୟାଙ୍କ ନାମ
ଓ
ଖୋଷ୍ଟାର ବା ଖତିୟାନ ନମ୍ବର } ଓଡିଆ ସୂଚନା ୧

୨ । ଖତିୟାନର କ୍ରମିକ ନମ୍ବର } ୧୦/୨

୩ । ପ୍ରକାଶ ନାମ, ପିତାର ନାମ,
ଜାତି ଓ ବାସସ୍ଥାନ } ଚଣ୍ଡାଳୁ ଓ ପାଟୁବେଣ କିଷାଣ ମାଝିଙ୍କ ବଂଶଜ ବିଧବା ମାଙ୍କୁଡି
ମେଲ୍ଲାଣ୍ଡୁ , ଦଳିତ ବଂଶଜ ,

୪ । ସ୍ୱତ୍ୱ ।

	ଜନ୍ମାଜର	ଖଜଣା	ସେସ୍	ବିତ୍ତାର ସେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ସେସ୍ ଯଦି କିଛି ଥାଏ	ମୋଟ୍	୫ । ଜମାବନ୍ଦିକାରୀଙ୍କ ସ୍ୱତ୍ୱରୁ ବିଚ୍ୟୁତି
୪ । ମୋଟ୍						

୬ । ବିଶେଷ ଅନୁସନ୍ଧ, ଯଦି କିଛି ଥାଏ }

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Binding Space

୧	୨	୩	୪	୫	୬	୭	୮
୧	୨୩୬	୦୨୫/୨୯	୦୪	୪୨			
୨	୨୩୬	୨୨/୧୫	୦୬	୪୧			
୩	୨୩୬	୨୪/୧୩	୦୪	୪୫			
୪	୨୩୬	୨୫/୧୦	୦୫	୪୬			
୫	୨୩୬	୨୬/୧୨	୦୬	୪୬			
୬	୨୩୬	୨୭/୧୪	୦୭	୪୭			
୭	୨୩୬	୨୮/୧୫	୦୮	୪୮			
୮	୨୩୬	୨୯/୧୬	୦୯	୪୯			
୯	୨୩୬	୩୦/୧୭	୧୦	୫୦			
୧୦	୨୩୬	୩୧/୧୮	୧୧	୫୧			
୧୧	୨୩୬	୩୨/୧୯	୧୨	୫୨			
୧୨	୨୩୬	୩୩/୨୦	୧୩	୫୩			
୧୩	୨୩୬	୩୪/୨୧	୧୪	୫୪			
୧୪	୨୩୬	୩୫/୨୨	୧୫	୫୫			
୧୫	୨୩୬	୩୬/୨୩	୧୬	୫୬			
୧୬	୨୩୬	୩୭/୨୪	୧୭	୫୭			
୧୭	୨୩୬	୩୮/୨୫	୧୮	୫୮			
୧୮	୨୩୬	୩୯/୨୬	୧୯	୫୯			
୧୯	୨୩୬	୪୦/୨୭	୨୦	୬୦			
୨୦	୨୩୬	୪୧/୨୮	୨୧	୬୧			
୨୧	୨୩୬	୪୨/୨୯	୨୨	୬୨			
୨୨	୨୩୬	୪୩/୩୦	୨୩	୬୩			
୨୩	୨୩୬	୪୪/୩୧	୨୪	୬୪			
୨୪	୨୩୬	୪୫/୩୨	୨୫	୬୫			
୨୫	୨୩୬	୪୬/୩୩	୨୬	୬୬			
୨୬	୨୩୬	୪୭/୩୪	୨୭	୬୭			
୨୭	୨୩୬	୪୮/୩୫	୨୮	୬୮			
୨୮	୨୩୬	୪୯/୩୬	୨୯	୬୯			
୨୯	୨୩୬	୫୦/୩୭	୩୦	୭୦			
୩୦	୨୩୬	୫୧/୩୮	୩୧	୭୧			

ଖତିଆନ (ଚଳନ)

ମୌଜା : ଧବଲପୁର

ଖତିଆନର ନମ୍ବର - ୧୦/୨

ପ୍ଲଟ ନମ୍ବର ଓ ଜଳର ନାମ	ଜିସମ	ଜିସମାର ଚିହ୍ନାଙ୍କିତ ବିବରଣୀ ଓ ତୌହଦି	ଜଳବା				ମନ୍ତବ୍ୟ
			ହେକ୍ଟର	କ. ମି.	ଏକର	ଡେସିମିଲ୍	
୨	୮	୯	୧୦		୧୧		୧୨
୮୦/୧୦୧	ପତିତ				୩	୨୨	
୮୧/୧୦୨	ପତିତ				୧୩	୦୪	
୮୮/୧୦୩	ପତିତ				୧୩	୨୧	
୧.୨					୬୬୩	୨.୧	

Binding Space

Schedule I--Form No. 39-A (Revised)



ମୌଜା ପୋକାମୁଣ୍ଡା
ଥାନା. ପୁଷ୍ପାମୁଣ୍ଡା ରାମଗୁହ
ଥାନା ନମ୍ବର ୧୦୩

ନିବନ୍ଧକ ପୁଷ୍ପାମୁଣ୍ଡା ରାମଗୁହ
ଅବସ୍ଥିତ ନମ୍ବର ୧୦୩
ଜିଲ୍ଲା କାଳାହାଣ୍ଡି

ଜମିଦାରଙ୍କ ନାମ
ଓ
ଖୋଜାତ ବା ଖୁଟିଆଣ ନମ୍ବର } ଓଡିଶା ସରକାର ଖୋଜାତ ନଂ-୧

୧। ଖରିଆଣର ଭୂମିତ ନମ୍ବର } ୪୦/୧

୨। ପ୍ରଜାଙ୍କ ନାମ, ପିତାଙ୍କ ନାମ,
ଜାତି ଓ ବାସସ୍ଥାନ } ଜଳସେଚ ଓ ପରିଚେଷା ବିଭାଗ, ଓଡିଶା ସରକାର ପକ୍ଷରୁ ସାର୍ଦ୍ଧ ଜଳଧୁ ଖଡ଼ୁଆଳୀ, କଲାହାଣ୍ଡି, ଘସି ସିଂଚାଘୁ, ଭୁଆନୀପାଟଣା

୩। ପଟ୍ଟ }

	ଜଳକର	ଖାଜଣା	ପେସ୍	ନିସ୍ତାର ପେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ପେସ, ଯଦି କିଛି ଥାଏ	ମୋଟ୍	୫। ପ୍ରମାଣଦର୍ଶନକାରୀଙ୍କ ସ୍ୱାକ୍ଷରର ବିବରଣୀ
୪। ପେସ୍	—	—	—	—	—	

୬। ବିଶେଷ ଅନୁଧ୍ୟାନ, ଯଦି କିଛି ଥାଏ } ଜମିପେଚ୍ଛନ ପେଚ୍ଛନ- ୫।୨୦୨୦ ତା. ୨.୨.୨୦ ଖଡ଼ୁଆଳୀ,କଲାହାଣ୍ଡି ଦାବୀ କି ୯।-୫.୮-୨୧ ଥାଏ: ଫୁଲ୍ଲ. ୧୭୫ ୪୪୫.୭୮, ୧୯୭.୫୫ , ୭୭.୫୫ , ୭୩୭ ୪୪୫.୨୫ , ୭୩୦ ୪୪୫.୨୫ , ୭୩୧ ୪୪୫.୨୫ , ୭୩୨ ୪୪୫.୨୫ , ୭୩୩ ୪୪୫.୨୫ , ୭୩୪ ୪୪୫.୨୫ , ୭୩୫ ୪୪୫.୨୫ , ୭୩୬ ୪୪୫.୨୫ , ୭୩୭ ୪୪୫.୨୫ , ୭୩୮ ୪୪୫.୨୫ , ୭୩୯ ୪୪୫.୨୫ , ୭୪୦ ୪୪୫.୨୫ , ୭୪୧ ୪୪୫.୨୫ , ୭୪୨ ୪୪୫.୨୫ , ୭୪୩ ୪୪୫.୨୫ , ୭୪୪ ୪୪୫.୨୫ , ୭୪୫ ୪୪୫.୨୫ , ୭୪୬ ୪୪୫.୨୫ , ୭୪୭ ୪୪୫.୨୫ , ୭୪୮ ୪୪୫.୨୫ , ୭୪୯ ୪୪୫.୨୫ , ୭୫୦ ୪୪୫.୨୫ , ୭୫୧ ୪୪୫.୨୫ , ୭୫୨ ୪୪୫.୨୫ , ୭୫୩ ୪୪୫.୨୫ , ୭୫୪ ୪୪୫.୨୫ , ୭୫୫ ୪୪୫.୨୫ , ୭୫୬ ୪୪୫.୨୫ , ୭୫୭ ୪୪୫.୨୫ , ୭୫୮ ୪୪୫.୨୫ , ୭୫୯ ୪୪୫.୨୫ , ୭୬୦ ୪୪୫.୨୫ , ୭୬୧ ୪୪୫.୨୫ , ୭୬୨ ୪୪୫.୨୫ , ୭୬୩ ୪୪୫.୨୫ , ୭୬୪ ୪୪୫.୨୫ , ୭୬୫ ୪୪୫.୨୫ , ୭୬୬ ୪୪୫.୨୫ , ୭୬୭ ୪୪୫.୨୫ , ୭୬୮ ୪୪୫.୨୫ , ୭୬୯ ୪୪୫.୨୫ , ୭୭୦ ୪୪୫.୨୫ , ୭୭୧ ୪୪୫.୨୫ , ୭୭୨ ୪୪୫.୨୫ , ୭୭୩ ୪୪୫.୨୫ , ୭୭୪ ୪୪୫.୨୫ , ୭୭୫ ୪୪୫.୨୫ , ୭୭୬ ୪୪୫.୨୫ , ୭୭୭ ୪୪୫.୨୫ , ୭୭୮ ୪୪୫.୨୫ , ୭୭୯ ୪୪୫.୨୫ , ୭୮୦ ୪୪୫.୨୫ , ୭୮୧ ୪୪୫.୨୫ , ୭୮୨ ୪୪୫.୨୫ , ୭୮୩ ୪୪୫.୨୫ , ୭୮୪ ୪୪୫.୨୫ , ୭୮୫ ୪୪୫.୨୫ , ୭୮୬ ୪୪୫.୨୫ , ୭୮୭ ୪୪୫.୨୫ , ୭୮୮ ୪୪୫.୨୫ , ୭୮୯ ୪୪୫.୨୫ , ୭୯୦ ୪୪୫.୨୫ , ୭୯୧ ୪୪୫.୨୫ , ୭୯୨ ୪୪୫.୨୫ , ୭୯୩ ୪୪୫.୨୫ , ୭୯୪ ୪୪୫.୨୫ , ୭୯୫ ୪୪୫.୨୫ , ୭୯୬ ୪୪୫.୨୫ , ୭୯୭ ୪୪୫.୨୫ , ୭୯୮ ୪୪୫.୨୫ , ୭୯୯ ୪୪୫.୨୫ , ୮୦୦ ୪୪୫.୨୫ , ୮୦୧ ୪୪୫.୨୫ , ୮୦୨ ୪୪୫.୨୫ , ୮୦୩ ୪୪୫.୨୫ , ୮୦୪ ୪୪୫.୨୫ , ୮୦୫ ୪୪୫.୨୫ , ୮୦୬ ୪୪୫.୨୫ , ୮୦୭ ୪୪୫.୨୫ , ୮୦୮ ୪୪୫.୨୫ , ୮୦୯ ୪୪୫.୨୫ , ୮୧୦ ୪୪୫.୨୫ , ୮୧୧ ୪୪୫.୨୫ , ୮୧୨ ୪୪୫.୨୫ , ୮୧୩ ୪୪୫.୨୫ , ୮୧୪ ୪୪୫.୨୫ , ୮୧୫ ୪୪୫.୨୫ , ୮୧୬ ୪୪୫.୨୫ , ୮୧୭ ୪୪୫.୨୫ , ୮୧୮ ୪୪୫.୨୫ , ୮୧୯ ୪୪୫.୨୫ , ୮୨୦ ୪୪୫.୨୫ , ୮୨୧ ୪୪୫.୨୫ , ୮୨୨ ୪୪୫.୨୫ , ୮୨୩ ୪୪୫.୨୫ , ୮୨୪ ୪୪୫.୨୫ , ୮୨୫ ୪୪୫.୨୫ , ୮୨୬ ୪୪୫.୨୫ , ୮୨୭ ୪୪୫.୨୫ , ୮୨୮ ୪୪୫.୨୫ , ୮୨୯ ୪୪୫.୨୫ , ୮୩୦ ୪୪୫.୨୫ , ୮୩୧ ୪୪୫.୨୫ , ୮୩୨ ୪୪୫.୨୫ , ୮୩୩ ୪୪୫.୨୫ , ୮୩୪ ୪୪୫.୨୫ , ୮୩୫ ୪୪୫.୨୫ , ୮୩୬ ୪୪୫.୨୫ , ୮୩୭ ୪୪୫.୨୫ , ୮୩୮ ୪୪୫.୨୫ , ୮୩୯ ୪୪୫.୨୫ , ୮୪୦ ୪୪୫.୨୫ , ୮୪୧ ୪୪୫.୨୫ , ୮୪୨ ୪୪୫.୨୫ , ୮୪୩ ୪୪୫.୨୫ , ୮୪୪ ୪୪୫.୨୫ , ୮୪୫ ୪୪୫.୨୫ , ୮୪୬ ୪୪୫.୨୫ , ୮୪୭ ୪୪୫.୨୫ , ୮୪୮ ୪୪୫.୨୫ , ୮୪୯ ୪୪୫.୨୫ , ୮୫୦ ୪୪୫.୨୫ , ୮୫୧ ୪୪୫.୨୫ , ୮୫୨ ୪୪୫.୨୫ , ୮୫୩ ୪୪୫.୨୫ , ୮୫୪ ୪୪୫.୨୫ , ୮୫୫ ୪୪୫.୨୫ , ୮୫୬ ୪୪୫.୨୫ , ୮୫୭ ୪୪୫.୨୫ , ୮୫୮ ୪୪୫.୨୫ , ୮୫୯ ୪୪୫.୨୫ , ୮୬୦ ୪୪୫.୨୫ , ୮୬୧ ୪୪୫.୨୫ , ୮୬୨ ୪୪୫.୨୫ , ୮୬୩ ୪୪୫.୨୫ , ୮୬୪ ୪୪୫.୨୫ , ୮୬୫ ୪୪୫.୨୫ , ୮୬୬ ୪୪୫.୨୫ , ୮୬୭ ୪୪୫.୨୫ , ୮୬୮ ୪୪୫.୨୫ , ୮୬୯ ୪୪୫.୨୫ , ୮୭୦ ୪୪୫.୨୫ , ୮୭୧ ୪୪୫.୨୫ , ୮୭୨ ୪୪୫.୨୫ , ୮୭୩ ୪୪୫.୨୫ , ୮୭୪ ୪୪୫.୨୫ , ୮୭୫ ୪୪୫.୨୫ , ୮୭୬ ୪୪୫.୨୫ , ୮୭୭ ୪୪୫.୨୫ , ୮୭୮ ୪୪୫.୨୫ , ୮୭୯ ୪୪୫.୨୫ , ୮୮୦ ୪୪୫.୨୫ , ୮୮୧ ୪୪୫.୨୫ , ୮୮୨ ୪୪୫.୨୫ , ୮୮୩ ୪୪୫.୨୫ , ୮୮୪ ୪୪୫.୨୫ , ୮୮୫ ୪୪୫.୨୫ , ୮୮୬ ୪୪୫.୨୫ , ୮୮୭ ୪୪୫.୨୫ , ୮୮୮ ୪୪୫.୨୫ , ୮୮୯ ୪୪୫.୨୫ , ୮୯୦ ୪୪୫.୨୫ , ୮୯୧ ୪୪୫.୨୫ , ୮୯୨ ୪୪୫.୨୫ , ୮୯୩ ୪୪୫.୨୫ , ୮୯୪ ୪୪୫.୨୫ , ୮୯୫ ୪୪୫.୨୫ , ୮୯୬ ୪୪୫.୨୫ , ୮୯୭ ୪୪୫.୨୫ , ୮୯୮ ୪୪୫.୨୫ , ୮୯୯ ୪୪୫.୨୫ , ୯୦୦ ୪୪୫.୨୫ , ୯୦୧ ୪୪୫.୨୫ , ୯୦୨ ୪୪୫.୨୫ , ୯୦୩ ୪୪୫.୨୫ , ୯୦୪ ୪୪୫.୨୫ , ୯୦୫ ୪୪୫.୨୫ , ୯୦୬ ୪୪୫.୨୫ , ୯୦୭ ୪୪୫.୨୫ , ୯୦୮ ୪୪୫.୨୫ , ୯୦୯ ୪୪୫.୨୫ , ୯୧୦ ୪୪୫.୨୫ , ୯୧୧ ୪୪୫.୨୫ , ୯୧୨ ୪୪୫.୨୫ , ୯୧୩ ୪୪୫.୨୫ , ୯୧୪ ୪୪୫.୨୫ , ୯୧୫ ୪୪୫.୨୫ , ୯୧୬ ୪୪୫.୨୫ , ୯୧୭ ୪୪୫.୨୫ , ୯୧୮ ୪୪୫.୨୫ , ୯୧୯ ୪୪୫.୨୫ , ୯୨୦ ୪୪୫.୨୫ , ୯୨୧ ୪୪୫.୨୫ , ୯୨୨ ୪୪୫.୨୫ , ୯୨୩ ୪୪୫.୨୫ , ୯୨୪ ୪୪୫.୨୫ , ୯୨୫ ୪୪୫.୨୫ , ୯୨୬ ୪୪୫.୨୫ , ୯୨୭ ୪୪୫.୨୫ , ୯୨୮ ୪୪୫.୨୫ , ୯୨୯ ୪୪୫.୨୫ , ୯୩୦ ୪୪୫.୨୫ , ୯୩୧ ୪୪୫.୨୫ , ୯୩୨ ୪୪୫.୨୫ , ୯୩୩ ୪୪୫.୨୫ , ୯୩୪ ୪୪୫.୨୫ , ୯୩୫ ୪୪୫.୨୫ , ୯୩୬ ୪୪୫.୨୫ , ୯୩୭ ୪୪୫.୨୫ , ୯୩୮ ୪୪୫.୨୫ , ୯୩୯ ୪୪୫.୨୫ , ୯୪୦ ୪୪୫.୨୫ , ୯୪୧ ୪୪୫.୨୫ , ୯୪୨ ୪୪୫.୨୫ , ୯୪୩ ୪୪୫.୨୫ , ୯୪୪ ୪୪୫.୨୫ , ୯୪୫ ୪୪୫.୨୫ , ୯୪୬ ୪୪୫.୨୫ , ୯୪୭ ୪୪୫.୨୫ , ୯୪୮ ୪୪୫.୨୫ , ୯୪୯ ୪୪୫.୨୫ , ୯୫୦ ୪୪୫.୨୫ , ୯୫୧ ୪୪୫.୨୫ , ୯୫୨ ୪୪୫.୨୫ , ୯୫୩ ୪୪୫.୨୫ , ୯୫୪ ୪୪୫.୨୫ , ୯୫୫ ୪୪୫.୨୫ , ୯୫୬ ୪୪୫.୨୫ , ୯୫୭ ୪୪୫.୨୫ , ୯୫୮ ୪୪୫.୨୫ , ୯୫୯ ୪୪୫.୨୫ , ୯୬୦ ୪୪୫.୨୫ , ୯୬୧ ୪୪୫.୨୫ , ୯୬୨ ୪୪୫.୨୫ , ୯୬୩ ୪୪୫.୨୫ , ୯୬୪ ୪୪୫.୨୫ , ୯୬୫ ୪୪୫.୨୫ , ୯୬୬ ୪୪୫.୨୫ , ୯୬୭ ୪୪୫.୨୫ , ୯୬୮ ୪୪୫.୨୫ , ୯୬୯ ୪୪୫.୨୫ , ୯୭୦ ୪୪୫.୨୫ , ୯୭୧ ୪୪୫.୨୫ , ୯୭୨ ୪୪୫.୨୫ , ୯୭୩ ୪୪୫.୨୫ , ୯୭୪ ୪୪୫.୨୫ , ୯୭୫ ୪୪୫.୨୫ , ୯୭୬ ୪୪୫.୨୫ , ୯୭୭ ୪୪୫.୨୫ , ୯୭୮ ୪୪୫.୨୫ , ୯୭୯ ୪୪୫.୨୫ , ୯୮୦ ୪୪୫.୨୫ , ୯୮୧ ୪୪୫.୨୫ , ୯୮୨ ୪୪୫.୨୫ , ୯୮୩ ୪୪୫.୨୫ , ୯୮୪ ୪୪୫.୨୫ , ୯୮୫ ୪୪୫.୨୫ , ୯୮୬ ୪୪୫.୨୫ , ୯୮୭ ୪୪୫.୨୫ , ୯୮୮ ୪୪୫.୨୫ , ୯୮୯ ୪୪୫.୨୫ , ୯୯୦ ୪୪୫.୨୫ , ୯୯୧ ୪୪୫.୨୫ , ୯୯୨ ୪୪୫.୨୫ , ୯୯୩ ୪୪୫.୨୫ , ୯୯୪ ୪୪୫.୨୫ , ୯୯୫ ୪୪୫.୨୫ , ୯୯୬ ୪୪୫.୨୫ , ୯୯୭ ୪୪୫.୨୫ , ୯୯୮ ୪୪୫.୨୫ , ୯୯୯ ୪୪୫.୨୫ , ୧୦୦୦ ୪୪୫.୨୫ , ୧୦୦୧ ୪୪୫.୨୫ , ୧୦୦୨ ୪୪୫.୨୫ , ୧୦୦୩ ୪୪୫.୨୫ , ୧୦୦୪ ୪୪୫.୨୫ , ୧୦୦୫ ୪୪୫.୨୫ , ୧୦୦୬ ୪୪୫.୨୫ , ୧୦୦୭ ୪୪୫.୨୫ , ୧୦୦୮ ୪୪୫.୨୫ , ୧୦୦୯ ୪୪୫.୨୫ , ୧୦୧୦ ୪୪୫.୨୫ , ୧୦୧୧ ୪୪୫.୨୫ , ୧୦୧୨ ୪୪୫.୨୫ , ୧୦୧୩ ୪୪୫.୨୫ , ୧୦୧୪ ୪୪୫.୨୫ , ୧୦୧୫ ୪୪୫.୨୫ , ୧୦୧୬ ୪୪୫.୨୫ , ୧୦୧୭ ୪୪୫.୨୫ , ୧୦୧୮ ୪୪୫.୨୫ , ୧୦୧୯ ୪୪୫.୨୫ , ୧୦୨୦ ୪୪୫.୨୫ , ୧୦୨୧ ୪୪୫.୨୫ , ୧୦୨୨ ୪୪୫.୨୫ , ୧୦୨୩ 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, ୧୦୯୫ ୪୪୫.୨୫ , ୧୦୯୬ ୪୪୫.୨୫ , ୧୦୯୭ ୪୪୫.୨୫ , ୧୦୯୮ ୪୪୫.୨୫ , ୧୦୯୯ ୪୪୫.୨୫ , ୧୧୦୦ ୪୪୫.୨୫ , ୧୧୦୧ ୪୪୫.୨୫ , ୧୧୦୨ ୪୪୫.୨୫ , ୧୧୦୩ ୪୪୫.୨୫ , ୧୧୦୪ ୪୪୫.୨୫ , ୧୧୦୫ ୪୪୫.୨୫ , ୧୧୦୬ ୪୪୫.୨୫ , ୧୧୦୭ ୪୪୫.୨୫ , ୧୧୦୮ ୪୪୫.୨୫ , ୧୧୦୯ ୪୪୫.୨୫ , ୧୧୧୦ ୪୪୫.୨୫ , ୧୧୧୧ ୪୪୫.୨୫ , ୧୧୧୨ ୪୪୫.୨୫ , ୧୧୧୩ ୪୪୫.୨୫ , ୧୧୧୪ ୪୪୫.୨୫ , ୧୧୧୫ ୪୪୫.୨୫ , ୧୧୧୬ ୪୪୫.୨୫ , ୧୧୧୭ ୪୪୫.୨୫ , ୧୧୧୮ ୪୪୫.୨୫ , ୧୧୧୯ ୪୪୫.୨୫ , ୧୧୨୦ ୪୪୫.୨୫ , ୧୧୨୧ ୪୪୫.୨୫ , ୧୧୨୨ ୪୪୫.୨୫ , ୧୧୨୩ ୪୪୫.୨୫ , ୧୧୨୪ ୪୪୫.୨୫ , ୧୧୨୫ ୪୪୫.୨୫ , ୧୧୨୬ ୪୪୫.୨୫ , ୧୧୨୭ ୪୪୫.୨୫ , ୧୧୨୮ ୪୪୫.୨୫ , ୧୧୨୯ ୪୪୫.୨୫ , ୧୧୩୦ ୪୪୫.୨୫ , ୧୧୩୧ ୪୪୫.୨୫ , ୧୧୩୨ ୪୪୫.୨୫ , ୧୧୩୩ ୪୪୫.୨୫ , ୧୧୩୪ ୪୪୫.୨୫ , ୧୧୩୫ ୪୪୫.୨୫ , ୧୧୩୬ ୪୪୫.୨୫ , ୧୧୩୭ ୪୪୫.୨୫ , ୧୧୩୮ ୪୪୫.୨୫ , ୧୧୩୯ ୪୪୫.୨୫ , ୧୧୪୦ ୪୪୫.୨୫ , ୧୧୪୧ ୪୪୫.୨୫ , ୧୧୪୨ ୪୪୫.୨୫ , ୧୧୪୩ ୪୪୫.୨୫ , ୧୧୪୪ ୪୪୫.୨୫ , ୧୧୪୫ ୪୪୫.୨୫ , ୧୧୪୬ ୪୪୫.୨୫ , ୧୧୪୭ ୪୪୫.୨୫ , ୧୧୪୮ ୪୪୫.୨୫ , ୧୧୪୯ ୪୪୫.୨୫ , ୧୧୫୦ ୪୪୫.୨୫ , ୧୧୫୧ ୪୪୫.୨୫ , ୧୧୫୨ ୪୪୫.୨୫ , ୧୧୫୩ ୪୪୫.୨୫ , ୧୧୫୪ ୪୪୫.୨୫ , ୧୧୫୫ ୪୪୫.୨୫ , ୧୧୫୬ ୪୪୫.୨୫ , ୧୧୫୭ ୪୪୫.୨୫ , ୧୧୫୮ ୪୪୫.୨୫ , ୧୧୫୯ ୪୪୫.୨୫ , ୧୧୬୦ ୪୪୫.୨୫ , ୧୧୬୧ ୪୪୫.୨୫ , ୧୧୬୨ ୪୪୫.୨୫ , ୧୧୬୩ ୪୪୫.୨୫ , ୧୧୬୪ ୪୪୫.୨୫ , ୧୧୬୫ ୪୪୫.୨୫ , ୧୧୬୬ ୪୪୫.୨୫ , ୧୧୬୭ ୪୪୫.୨୫ , ୧୧୬୮ ୪୪୫.୨୫ , ୧୧୬୯ ୪୪୫.୨୫ , ୧୧୭୦ ୪୪୫.୨୫ , ୧୧୭୧ ୪୪୫.୨୫ , ୧୧୭୨ ୪୪୫.୨୫ , ୧୧୭୩ ୪୪୫.୨୫ , ୧୧୭୪ ୪୪୫.୨୫ , ୧୧୭୫ ୪୪୫.୨୫ , ୧୧୭୬ ୪୪୫.୨୫ , ୧୧୭୭ ୪୪୫.୨୫ , ୧୧୭୮ ୪୪୫.୨୫ , ୧୧୭୯ ୪୪୫.୨୫ , ୧୧୮୦ ୪୪୫.୨୫ , ୧୧୮୧ ୪୪୫.୨୫ , ୧୧୮୨ ୪୪୫.୨୫ , ୧୧୮୩ ୪୪୫.୨୫ , ୧୧୮୪ ୪୪୫.୨୫ , ୧୧୮୫ ୪୪୫.୨୫ , ୧୧୮୬ ୪୪୫.୨୫ , ୧୧୮୭ ୪୪୫.୨୫ , ୧୧୮୮ ୪୪୫.୨୫ , ୧୧୮୯ ୪୪୫.୨୫ , ୧୧୯୦ ୪୪୫.୨୫ , ୧୧୯୧ ୪୪୫.୨୫ , ୧୧୯୨ ୪୪୫.୨୫ , ୧୧୯୩ ୪୪୫.୨୫ , ୧୧୯୪ ୪୪୫.୨୫ , ୧୧୯୫ ୪୪୫.୨୫ , ୧୧୯୬ ୪୪୫.୨୫ , ୧୧୯୭ ୪୪୫.୨୫ , ୧୧୯୮ ୪୪୫.୨୫ , ୧୧୯୯ ୪୪୫.୨୫ , ୧୨୦୦ ୪୪୫.୨୫ , ୧୨୦୧ ୪୪୫.୨୫ , ୧୨୦୨ ୪୪୫.୨୫ , ୧୨୦୩ ୪୪୫.୨୫ , ୧୨୦୪ ୪୪୫.୨୫ , ୧୨୦୫ ୪୪୫.୨୫ , ୧୨୦୬ ୪୪୫.୨୫ , ୧୨୦୭ ୪୪୫.୨୫ , ୧୨୦୮ ୪୪୫.୨୫ , ୧୨୦୯ ୪୪୫.୨୫ , ୧୨୧୦ ୪୪୫.୨୫ , ୧୨୧୧ ୪୪୫.୨୫ , ୧୨୧୨ ୪୪୫.୨୫ , ୧୨୧୩ ୪୪୫.୨୫ , ୧୨୧୪ ୪୪୫.୨୫ , ୧୨୧୫ ୪୪୫.୨୫ , ୧୨୧୬ ୪୪୫.୨୫ , ୧୨୧୭ ୪୪୫.୨୫ , ୧୨୧୮ ୪୪୫.୨୫ , ୧୨୧୯ ୪୪୫.୨୫ , ୧୨୨୦ ୪୪୫.୨୫ , ୧୨୨୧ ୪୪୫.୨୫ , ୧୨୨୨ ୪୪୫.୨୫ , ୧୨୨୩ ୪୪୫.୨୫ , ୧୨୨୪ ୪୪୫.୨୫ , ୧୨୨୫ ୪୪୫.୨୫ , ୧୨୨୬ ୪୪୫.୨୫ , ୧୨୨୭ ୪୪୫.୨୫ , ୧୨୨୮ ୪୪୫.୨୫ , ୧୨୨୯ ୪୪୫.୨୫ , ୧୨୩୦ ୪୪୫.୨୫ , ୧୨୩୧ ୪୪୫.୨୫ , ୧୨୩୨ ୪୪୫.୨୫ , ୧୨୩୩ ୪୪୫.୨୫ , ୧୨୩୪ ୪୪୫.୨୫ , ୧୨୩୫ ୪୪୫.୨୫ , ୧୨୩୬ ୪୪୫.୨୫ , ୧୨୩୭ ୪୪୫.୨୫ , ୧୨୩୮ ୪୪୫.୨୫ , ୧୨୩୯ ୪୪୫.୨୫ , ୧୨୪୦ ୪୪୫.୨୫ , ୧୨୪୧ ୪୪୫.୨୫ , ୧୨୪୨ ୪୪୫.୨୫ , ୧୨୪୩ ୪୪୫.୨୫ , ୧୨୪୪ ୪୪୫.୨୫ , ୧୨୪୫ ୪୪୫.୨୫ , ୧୨୪୬ ୪୪୫.୨୫ , ୧୨୪୭ ୪୪୫.୨୫ , ୧୨୪୮ ୪୪୫.୨୫ , ୧୨୪୯ ୪୪୫.୨୫ , ୧୨୫୦ ୪୪୫.୨୫ , ୧୨୫୧ ୪୪୫.୨୫ , ୧୨୫୨ ୪୪୫.୨୫ , ୧୨୫୩ ୪୪୫.୨୫ , ୧୨୫୪ ୪୪୫.୨୫ , ୧୨୫୫ ୪୪୫.୨୫ , ୧୨୫୬ ୪୪୫.୨୫ , ୧୨୫୭ ୪୪୫.୨୫ , ୧୨୫୮ ୪୪୫.୨୫ , ୧୨୫୯ ୪୪୫.୨୫ , ୧୨୬୦ ୪୪୫.୨୫ , ୧୨୬୧ ୪୪୫.୨୫ , ୧୨୬୨ ୪୪୫.୨୫ , ୧୨୬୩ ୪୪୫.୨୫ , ୧୨୬୪ ୪୪୫.୨୫ , ୧୨୬୫ ୪୪୫.୨୫ , ୧୨୬୬ ୪୪୫.୨୫ , ୧୨୬୭ ୪୪୫.୨୫ , ୧୨୬୮ ୪୪୫.୨୫ , ୧୨୬୯ ୪୪୫.୨୫ , ୧୨୭୦ ୪୪୫.୨୫ , ୧୨୭୧ ୪୪୫.୨୫ , ୧୨୭୨ ୪୪୫.୨୫ , ୧୨୭୩ ୪୪୫.୨୫ , ୧୨୭୪ ୪୪୫.୨୫ , ୧୨୭୫ ୪୪୫.୨୫ , ୧୨୭୬ ୪୪୫.୨୫ , ୧୨୭୭ ୪୪୫.୨୫ , ୧୨୭୮ ୪୪୫.୨୫ , ୧୨୭୯ ୪୪୫.୨୫ , ୧୨୮୦ ୪୪୫.୨୫ , ୧୨୮୧ ୪୪୫.୨୫ , ୧୨୮୨ ୪୪୫.୨୫ , ୧୨୮୩ ୪୪୫.୨୫ , ୧୨୮୪ ୪୪୫.୨୫ , ୧୨୮୫ ୪୪୫.୨୫ , ୧୨୮୬ ୪୪୫.୨୫ , ୧୨୮୭ ୪୪୫.୨୫ , ୧୨୮୮ ୪୪୫.୨୫ , ୧୨୮୯ ୪୪୫.୨୫ , ୧୨୯୦ ୪୪୫.୨୫ , ୧୨୯୧ ୪୪୫.୨୫ , ୧୨୯୨ ୪୪୫.୨୫ , ୧୨୯୩ ୪୪୫.୨୫ , ୧୨୯୪ ୪୪୫.୨୫ , ୧୨୯୫ ୪୪୫.୨୫ , ୧୨୯୬ ୪୪୫.୨୫ , ୧୨୯୭ ୪୪୫.୨୫ , ୧୨୯୮ ୪୪୫.୨୫ , ୧୨୯୯ ୪୪୫.୨୫ , ୧୩୦୦ ୪୪୫.୨୫ , ୧୩୦୧ ୪୪୫.୨୫ , ୧୩୦୨ ୪୪୫.୨୫ , ୧୩୦୩ ୪୪୫.୨୫ , ୧୩୦୪ ୪୪୫.୨୫ , ୧୩୦୫ ୪୪୫.୨୫ , ୧୩୦୬ ୪୪୫.୨୫ , ୧୩୦୭ ୪୪୫.୨୫ , ୧୩୦୮ ୪୪୫.୨୫ , ୧୩୦୯ ୪୪୫.୨୫ , ୧୩୧୦ ୪୪୫.୨୫ , ୧୩୧୧ ୪୪୫.୨୫ , ୧୩୧୨ ୪୪୫.୨୫ , ୧୩୧୩ ୪୪୫.୨୫ , ୧୩୧୪ ୪୪୫.୨୫ , ୧୩୧୫ ୪୪୫.୨୫ , ୧୩୧୬ ୪୪୫.୨୫ , ୧୩୧୭ ୪୪୫.୨୫ , ୧୩୧୮ ୪୪୫.୨୫ , ୧୩୧୯ ୪୪୫.୨୫ , ୧୩୨୦ ୪୪୫.୨୫ , ୧୩୨୧ ୪୪୫.୨୫ , ୧୩୨୨ ୪୪୫.୨୫ , ୧୩୨୩ ୪୪୫.୨୫ , ୧୩୨୪ ୪୪୫.୨୫ , ୧୩୨୫ ୪୪୫.୨୫ , ୧୩୨୬ ୪୪୫.୨୫ , ୧୩୨୭ ୪୪୫.୨୫ , ୧୩୨୮ ୪୪୫.୨୫ , ୧୩୨୯ ୪୪୫.୨୫ , ୧୩୩୦ ୪୪୫.୨୫ , ୧୩୩୧ ୪୪୫.୨୫ , ୧୩୩୨ ୪୪୫.୨୫ , ୧୩୩୩ ୪୪୫.୨୫ , ୧୩୩୪ ୪୪୫.୨୫ , ୧୩୩୫ ୪୪୫.୨୫ , ୧୩୩୬ ୪୪୫.୨୫ , ୧୩୩୭ ୪୪୫.୨୫ , ୧୩୩୮ ୪୪୫.୨୫ , ୧୩୩୯ ୪୪୫.୨୫ , ୧୩୪୦ ୪୪୫.୨୫ , ୧୩୪୧ ୪୪୫.୨୫ , ୧୩୪୨ ୪୪୫.୨୫ , ୧୩୪୩ ୪୪୫.୨୫ , ୧୩୪୪ ୪୪୫.୨୫ , ୧୩୪୫ ୪୪୫.୨୫ , ୧୩୪୬ ୪୪୫.୨୫ , ୧୩୪୭ ୪୪୫.୨୫ , ୧୩୪୮ ୪୪୫.୨୫ , ୧୩୪୯ ୪୪୫.୨୫ , ୧୩୫୦ ୪୪୫.୨୫ , ୧୩୫୧ ୪୪୫.୨୫ , ୧୩୫୨ ୪୪୫.୨୫ , ୧୩୫୩ ୪୪୫.୨୫ , ୧୩୫୪ ୪୪୫.୨୫ , ୧୩୫୫ ୪୪୫.୨୫ , ୧୩୫୬ ୪୪୫.୨୫ , ୧୩୫୭ ୪୪୫.୨୫ , ୧୩୫୮ ୪୪୫.୨୫ , ୧୩୫୯ ୪୪୫.୨୫ , ୧୩୬୦ ୪୪୫.୨୫ , ୧୩୬୧ ୪୪୫.୨୫ , ୧୩୬୨ ୪୪୫.୨୫ , ୧୩୬୩ ୪୪୫.୨୫ , ୧୩୬୪ ୪୪୫.୨୫ , ୧୩୬୫ ୪୪୫.୨୫ , ୧୩୬୬ ୪୪୫.୨୫ , ୧୩୬୭ ୪୪୫.୨୫ , ୧୩୬୮ ୪୪୫.୨୫ , ୧୩୬୯ ୪୪୫.୨୫ , ୧୩୭୦ ୪୪୫.୨୫ , ୧୩୭୧ ୪୪୫.୨୫ , ୧୩୭୨

ଖତିୟାନ ନମ୍ବର ଓ ଜରିପ ନମ୍ବର	କିସ୍ମ	କିସମତ ବିସ୍ତାରିତ ବିବରଣୀ ଓ ମୌଜାଦି	ଖଜଣା:				ମନ୍ତବ୍ୟ
			ଟଙ୍କା	ଜ. ପି.	ଏକର	ଡେସିମିଲ	
୧	୮	୯	୧୦		୧୧		୧୨
୧୫୫/୧୫୫	ଚାଷଜମି				୧୫	୭୮	
୧୫୬/୧୫୬	ଚାଷଜମି				୭୦	୪୨	
୧୫୭/୧୫୭	ଚାଷଜମି				୧୫	୫୫	
୧୫୮/୧୫୮	ଚାଷଜମି				୨୪	୨୪	
୧୫୯/୧୫୯	ଚାଷଜମି				୨୬	୮୧	
୧୫୦/୧୫୦	ଚାଷଜମି				୦୫	୪୮	
୧୫୧/୧୫୧	ଚାଷଜମି				୨୫	୧୦	
୧୫୨/୧୫୨	ଚାଷଜମି				୨୬	୮୫	
୧୫୩/୧୫୩	ଚାଷଜମି				୦୦	୬୭	
୧୫୪/୧୫୪	ଚାଷଜମି				୧୫	୭୩	
୧୫୫/୧୫୫	ଚାଷଜମି				୧୦	୫୬	
୧୫୬/୧୫୬	ଚାଷଜମି				୧୬	୧୭	
୧୫୭/୧୫୭	ଚାଷଜମି				୧୦	୨୨	
୧୫୮/୧୫୮	ଚାଷଜମି				୩୫	୧୬	
୧୫୯/୧୫୯	ଚାଷଜମି				୧୫	୭୩	

Binding Space

ଖତିୟାନ (ଛେଉ)

ଖତିୟାନର ନମ୍ବର ୩୩୧୧

ପୁରା ନମ୍ବର ଓ ଜରିପ ନାମ	କିସମ	ଜିପଗାର ବିସ୍ତାରିତ ବିବରଣୀ ଓ ଚୌହଦ୍ଦି	ଉଦ୍ଧବା				ମନ୍ତବ୍ୟ
			ହେକ୍ଟର	ବ. ମି.	ଏକର	ଡେସିମିଲ୍	
୫	୮	୯	୧୦		୧୧		୧୨
୮୪୪/୭୨୦	ଚାଷୀ				୧୩	୧୮	
୮୪୪/୭୭୧	ଚାଷୀ				୧୧	୦୧	
୮୪୪/୭୨୯	ଚାଷୀ				୦୫	୨୧	
୮୭୩/୭୦୩	ଚାଷୀ				୦୦	୩୮	
୮୭୩/୭୨୪	ଚାଷୀ				୨୫	୩୩	
୮୭୩/୭୨୫	ଚାଷୀ				୧୫	୩୫	
୮୭୩/୭୭୨	ଚାଷୀ				୦୭	୨୫	
୮୭୩/୭୭୫	ଚାଷୀ				୧୬	୨୬	
୮୮୧/୭୭୮	ଚାଷୀ				୨୮	୧୫	
୮୮୧/୭୭୯	ଚାଷୀ				୧୭	୨୫	
୮୮୧/୭୭୭	ଚାଷୀ				୧୦	୨୫	
୮୮୧/୭୭୬	ଚାଷୀ				୦୫	୩୫	
୮୮୧/୭୭୪	ଚାଷୀ				୦୫	୩୫	
୮୮୧/୭୭୩	ଚାଷୀ				୦୫	୩୫	
୮୮୧/୭୭୨	ଚାଷୀ				୦୫	୩୫	

Schedule I—Form No. 39-A (Revised)

ଓଡ଼ିଶା

TAHASIL RECORD ROOM
TH. RAMPUR

ମୌଜା ଝିଙ୍କାମୋର ତହସିଲ ପ୍ରଧାନମୁନ୍ଦା ଛାମୁଣ୍ଡା
ଥାନା ପ୍ରଧାନମୁନ୍ଦା ଛାମୁଣ୍ଡା ଜିଲ୍ଲା କଳାହାଣ୍ଡି
ଥାନା ନମ୍ବର ୧୦୪

ଜମିଦାରଙ୍କ ନାମ ଓ ମୌଜାଟି ବା ଖତିଆନ ନମ୍ବର	ଚଉତା ସାହୁଜୀଉଙ୍କ ଖତିୟାନ ନଂ ୧
୧ । ଖତିଆନର ଖୁମ୍ପିର ନମ୍ବର	୮୯/୧
୨ । ପ୍ରଜାଙ୍କ ନାମ, ପିତାଙ୍କ ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ	ଜିଲ୍ଲାପାଳ ଓ ଚଉକିଦାର ବିଭାଗ, ଚଉତା ସାହୁକାର ସାମିଲ ଜରିଆତ୍ମ ଅଞ୍ଚଳାନ୍ତ୍ର, କାଲାହାଣ୍ଡି, ପଲିଟିକାଲ ଏଜେନ୍ସୀ ଆଡ଼ତା।
୩ । ସ୍ୱତ୍ୱ	

	ଜଳକର	ଥଳକର	ଘରେଖ	ନିସ୍ତାର ଗଛ ଓ ଅନ୍ୟାନ୍ୟ ଗଛ ଯଦି କିଛି ଥାଏ	ମୋଟ୍	୫ । ପ୍ରମାଣଜନକଶାଲ ଖାଜଣାର ବିବରଣୀ
୪ । ଦେୟ	—	—	—	—	—	

୬ । ବିଶେଷ ଅନୁପଲ୍ଲ, ଯଦି କିଛି ଥାଏ

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Binding Space

ଖୁଚୁରା ଦ୍ରବ୍ୟର ନାମ ଓ ପ୍ରକାର ନାମ	ଓଜନ	ବିକ୍ରୟର ବିବରଣୀ ଓ ପ୍ରୋହଦି	ବିକ୍ରୟ				ମନ୍ତବ୍ୟ
			ଗ୍ରେ:	କି.ଗ୍ରା:	ଏକର	ଡେସିମିଲ୍	
୧	୨	୩	୧୦		୧୧		୧୨
୧ / ୫୨୩	ଦୁଇଚକ				୪୭	୪୧	
୨ / ୫୨୮	ଦୁଇଚକ				୪୪	୨୯	
୩୧ / ୫୨୮	ଦୁଇଚକ				୭୮	୮୪	
୪୩ / ୫୭୦	ଦୁଇଚକ				୧	୮୭	
୪୩ / ୫୭୧	ଦୁଇଚକ				୪୬	୮୬	
୪୧୧ / ୫୭୩	ଦୁଇଚକ				୭	୮୩	
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୪୧୨ / ୫୭୬	ଦୁଇଚକ				୩୪	୮୪	
୪୧୪ / ୫୭୬	ଦୁଇଚକ				୪୬	୪୪	
୪୧୪ / ୫୭୭	ଦୁଇଚକ				୪୪	୩୪	
୪୧୪ / ୫୭୮	ଦୁଇଚକ				୪୭	୩୧	
୪୧୪ / ୫୭୯	ଦୁଇଚକ				୧	୧୬	
ଜମାରୁ ଏହା ପୃଷ୍ଠାକୁ					୫୩୩	୭୧	

ଏହି କେସ୍ରେ ଜଲ୍ଲ୍ୟ ୫/୨୦୨୦ ତା.୨୭.୧୦.୨୦ ଜିଲ୍ଲାପାଲ୍ଲାଗାଡ଼ିକ
ଓ ତା.୨୩.୫.୨୧ ଆଦେଶାନୁସାରେ ପୁଲିସ୍.ଏ ଲୁ ୪୪୭.୫୧,
୨ ଲୁ ୪୫.୨୬, ୨୧ ଲୁ ୬୮.୫୪, ୫୮ ଲୁ ୬୧.୮୭, ୫୩ ଲୁ ୬୪.୮୬,
୧୫୫ ଲୁ ୭.୮୬, ୫୮୧ ଲୁ ୨୫.୦୮, ୧୮୮ ଲୁ ୩୧.୬୬, ୧୮୨
ଲୁ ୪୩୮.୮୪, ୨୦୨ ଲୁ ୪୭.୪୪, ୨୫୪ ଲୁ ୪୪.୩୧, ୩୧୧ ଲୁ
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୪୩୩.୨୧ ଖାଉଲ ମୋଟ ମାପ୍ରୋକ୍ଷ ୬୮ ଟ୍ରୁ ମାସ୍ତିଥିଲା
(ସୂଚନା ଅନୁଯାୟୀ ଦିମ୍ପୁଦନ ୦୫ ମାଣ୍ଡାଦନ
ଉତ୍ତ ମାଣ୍ଡାଦନ ଏଦାଦ୍ଦୁଦ୍ଦ)

ଅଧିକାରୀଙ୍କ ସ୍ୱାକ୍ଷର

ଅଧିକାରୀଙ୍କ ସ୍ୱାକ୍ଷର

OGF(Forms) DTP--114--2,00,000--07-08-dtp

Binding Space

ANNEXURE-II

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION

Phone No- 06766-254315, email ID- dfo.keonjhar@odisha.gov.in

No. 643 /Mining-
Dated. Keonjhar, the 25-01- 2021

To

The Executive Director, F&R,
M/s OMC Ltd, OMC House,
Bhubaneswar- 751001

Sub: Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese ore in Dubuna–Sakradihi Mines in favour of Odisha Mining Corporation Ltd in Keonjhar District of Odisha.

X-Sub: **Demand of balance amount of NPV over 87.434 ha.**

Ref: F. No. 8-26/2019-FC dated 06.05.2021 of MoEF&CC, Govt. of India.

Sir

You are requested to deposit balance amount of **Rs. 8,21,00,526/- (Rupees eight crore twenty-one lakh five hundred twenty-six)** only towards Net Present Value (NPV) at the rate of Rs. 9,39,000/- per ha (Eco value Class- I, Canopy Density- 0.55) as the mining lease area is coming within Naibuga & Pedipokhari RF, the density of the said RF is 40-70% of forest growth. Hence, the average density taken into consideration is 0.55 for the balance forest land over 87.434 ha in respect of Dubuna–Sakradihi Mines of M/s OMC Ltd in compliance to the condition No. A(2) of the aforementioned Stage-I approval order dated 06.05.2021 of MoEF&CC, Govt. of India. The above demanded amount has to be deposited in Orissa CAMPA Account only through e-portal **(https://parivesh.nic.in/)** within 30 days from the date of issue of this letter and the proof/evidence of the deposit of fund be submitted to this office for further necessary action at this end.

Yours faithfully,

25/01/22

Divisional Forest Officer,
Keonjhar Division.

Memo No. 644 / **Dated.** 25-01-2022.

Copy forwarded to the Regional Chief Conservator of Forests, Rourkela Circle, Rourkela/ Principal Chief Conservator of Forests, Forest Diversion and Nodal Officer, FC Act. O/o the Principal Chief Conservator of Forests & HoFF, Odisha, Bhubaneswar for favour of kind information and necessary action.

25/01/22

Divisional Forest Officer,
Keonjhar Division.

AGENCY COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 23-02-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349999
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
Address.	OMC HouseKhordha
Amount(In Rs)	82100526/-

Amount In Words :Eight Crore Twenty-One Lakh Five Hundred and Twenty-Six Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	150825830349999 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 23-02-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349999
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
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IFSC Code:	UBIN0903710
Pay to Account No.	150825830349999 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

After making successful payment, User Agencies may send a line of confirmation through
Email: helpdeskcampa@corpbank.co.in

Note:After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date to
Email: cb0371@unionbankofindia.com

UTR = UBINJ22055064629

23/2/2022
DR. Sandhya Mishra
AGM, Gr. IV(TS-2)
OMC Ltd.

24/02/2022
S. Mohapatra
Dy. General Manager (Fin)

(14) 19

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION.

No. 5169 /Dt. 26-8-06

To

The Deputy General Manager (F & E),
Orissa Mining Corporation Ltd,
Bhubaneswar.

AM (F&E)
29/8

Sub:- Proposal for diversion of 795.294 ha. of Forest land for Iron and Manganese Mining in Dhuna-Nehrubhi Hillocks by M/s. O.M.C. Ltd. in Keonjhar District. – Payment of N.P.V.

Sir,

You are requested to please deposit the Net Present value for the Forest land proposed for diversion for the above mining project immediately as per decision of Govt. of Orissa, Forest & Environment Department vide No.10F(Cons.)114/2001-4953/F&E. dated 22.03.2006.

i) Virgin area 542.065 ha. x 7.50 lakhs = Rs.40,65,48,750.00
ii) Broken up area 253.229 ha. x 5.50 lakhs = Rs.14,08,72,820.00
Total :- Rs.55,74,21,570.00

(Rupees fifty five crore thirty four lakhs twenty one thousand five hundred seventy) only.

Yours faithfully,

Divisional Forest Officer,
Keonjhar Division.

Memo No. _____ /Dt.

Copy forwarded to the Regional Manager, M/s. O.M.C. Ltd., At/P.O. Barbil, Dist. Keonjhar for information and necessary action.

Divisional Forest Officer,
Keonjhar Division.

Memo No. _____ /Dt.

Copy forwarded to the Chief Conservator of Forests (Nodal), O/O. the Principal Chief Conservator of Forests, Orissa, Bhubaneswar/ Conservator of Forests, Rourkela Circle, Rourkela for favour of information.

Divisional Forest Officer,
Keonjhar Division.

1

1337 16

Cable: ORMINCORP, Bhubaneswar

Tel: +0674 2393431, 2395689, 2393389 (EPABX), 2392747 (Dir)
Fax: 0674-2391629, 2396889, 2394772

The Orissa Mining Corporation Ltd.
(A Government of Orissa Undertaking)
OMC HOUSE, BHUBANESWAR -751001

No 18182 /OMC/F&E/06

Date: 11.09.2006.

To,

The Divisional Forest Officer,
Keonjhar Forest Division,
At/P.o: Keonjhar
Dist: Keonjhar

Sub: Payment of NPV towards diversion of 253.229 ha. of Broken up forest land in Dubna-Sakradihi (Iron & Manganese) Mining Lease of Keonjhar District of OMC Ltd.

Ref: Your office letter No. 5169 dtd. 26/08/06 and letter No. 10 F (Cons) 53/ 2006 - 15056/F&E dated 05.09.06 of Dy. Secretary to Govt; F&E Dept ; Govt. of Orissa (enclosed).

Sir,

In inviting a reference to the above cited letters, we are depositing herewith a sum of Rs.14,68,72,820/- (Rupees Fourteen Core Sixty Eight lakh Seventy Two thousand Eight hundred Twenty) only towards Net Present Value (NPV) for diversion of 253.229 hectares of Broken up forest area in Dubna-Sakradihi (Iron & Manganese) Mining Lease of Keonjhar District of OMC Ltd. under reference :

a) Issuing Branch :- Andhra Bank, BBSR
b) Drawee Branch :- Corporation Bank of India, Lodhi Road, New Delhi (A/c No.1585)
c) Amount :- Total Rs. Rs.14,68,72,820/- (Rupees Fourteen Core Sixty Eight lakh Seventy Two thousand Eight hundred Twenty) only.
d) Demand Draft No.:- 717200 to 717347 (Rs.9,90,000/-each) & 717348 (Rs.3,52,820/-) dt.09/09/06.

You are requested to acknowledge the same and please send the letter of confirmation to the undersigned for office record.

Yours faithfully,

Dy.General Manager(G)F&E

Encl: Drafts in original No. 717200 to 717348/ dtd.09/09/06 of Corporation Bank, Lodhi Road, New Delhi

O/C 12/9/06

Received original DDs no. 717200 to 717348 of dt. 9-9-06 for Rs. 14,68,72,820/-

11/9/06

Divisional Forest Officer
Keonjhar Division

RDwl-3kd.

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION

Ph.No. 06766-254315, FAX 06766-254041; email: olsdp_kjr@rediffmail.com

Office Order No. 208 /Mining

Dated, Keonjhar the 16/6/ , 2010.

01. Whereas M/s OMC Ltd has applied for RML under Section- 2 of F.C. Act ove: 1322.998 ha. of land for their Dubuna- Sakradihi Iron. & Mn. Mines. out of which 1155.836 ha. is forest land as per the following classification:

i. Reserve Forest	-	753.274 ha
ii. Revenue Forest	-	21.267 ha.
iii D.L.C.		381.295 ha.
Total	-	1155.836 Ha.

02. Whereas the Apex Court on the recommendation of Central Empowered Committee have issued order for recovery of NPV for the entire forest area deducting the amount of NPV already paid.

03 Whereas the Divisional Forest Officer is vested with the authority by the Apex Court to issue Demand by 24th of June, 2010 at the appropriate rate depending on Eco-value class and the canopy density of the forest area in question.

04. Whereas the forest area in question falls under Class – I of Eco-value class and 0.3 canopy density for which NPV for Rs. 65,89,03,110/- is to be charged at the rate of Rs.7,30,000/- per ha, over 902.607 ha (1155.836 ha.- 253.229 ha)

05. Whereas the lessee has already paid an amount of Rs. 14,68,72,820/- towards NPV in respect of forest land over 253.229 ha

06. Now therefore the undersigned by virtue of authority vested by the Apex Court, hereby issue demand notice for payment of Rs. 65,89,03,110/- towards NPV within 30 days of issue of this order, failing which the interest is to be charged. The above amount be deposited in **shape of Demand Draft drawn in favour of Compensatory Afforestation Fund (CAF) Orissa, Account No. CA-1585 in Corporation Bank Lodhi Road, New Delhi.**

It is further ordered that in the event of upward revisions of NPV, an undertaking to pay the differential is to be submitted by the lessee.

Sd/-
(S.K.Mohanty,IFS)
Divisional Forest Officer,
Keonjhar Division.

Memo No 4816 /Dated. 16/6/2010

Copy forwarded to the Regional Manager, M/s OMC Ltd Daiki Iron & Mn. Mines, At/ o- Barbil, Dist- Keonjhar for information and necessary action.

16-6-10
Divisional Forest Officer,
Keonjhar Division.

Memo No /Dated.

Copy forwarded to the Asst. Conservator of Forests, I/c Champua Range Range for information and necessary action.

Divisional Forest Officer,
Keonjhar Division.

Cable: ORMINCORP, Bhubaneswar

Tel: +0674 2393431, 2395689, 2393389 (EPABX), 2392747(Dir)
Fax: 0674-2391629 , 2396889, 2394772

The Orissa Mining Corporation Ltd.

(A Government of Orissa Undertaking)

OMC HOUSE, BHUBANESWAR –751001

OMC

No.14194 /OMC/F&E/10

Date.22.07.2010

To

The Divisional Forest Officer
Keonjhar Forest Division,

Sub: Payment of NPV in respect of **Dubna-Sakradih Iron & Manganese Ore Mines** of O.M.C.Ltd.

Ref: Your Office Order No.208/Mining,dt 16.06.2010.

Sir

In inviting a kind reference to the letter and subject cited above we are enclosing herewith a demand draft amounting **Rs 65,89,03,110.00** (Rupees sixty five crore eighty nine lakhs three thousand one hundred and ten) only, bearing DD No.650829/dt 22.07.2010 drawn in favour of Compensatory Afforestation Fund (CAF) Orissa,Account No.CA-1585 in Corporation Bank,Lodhi Road,New Delhi.

An undertaking to pay the differential amount in case of upward revision of NPV duly signed is enclosed for necessary action.

Further it is requested, if the total forest area will not be cleared under the Forest Clearance (FC) or Environmental Clearance (EC) the balance NPV may,kindly be refunded.

This is for favour of kind information and necessary action.

Yours faithfully

Encls.Original DD Bearing No.650829/dt 22.07.2010,
S.B.I.,Bhubaneswar Main Branch

Dy. General Manager (Geology)
Power of attorney holder

Memo No.14195 /OMC/F&E/10, dt 22.07.2010

Copy to the Regional Chief Conservator of Forests,Rourkela/ CCF (Nodal),O/o the PCCF,Orissa,Bhubaneswar for kind information and necessary action.

Dy. General Manager (Geology)
Power of attorney holder

Memo No.14196 /OMC/F&E/10, dt 22.07.2010

Copy to the Regional Manager,Barbil/ Manager (Acts),H.O.for kind information and necessary action.

Dy. General Manager (Geology)
Power of attorney holder

O/C

25

कम्प्यूटर द्वारा मुद्रित होने पर ही वैध VALID ONLY IF COMPUTER PRINTED

केवल छः महीनों के लिये ही वैध VALID FOR SIX MONTHS ONLY

State Bank of India

जारी करने वाली शाखा
Issuing Branch:BHUBANESWAR MAIN BRANCH
कोड नं /CODE No: 00041
Tel No. 674-2530894

मांग पत्र
DEMAND DRAFT

दिनांक /DATE 22/07/2010
Key: VAKCAN
Sr. No: 935100

मांगे जाने पर ON DEMAND PAY COMP. AFFOR.FUND(CAF),ORISSA A/C NO.CA-1585 IN CORPN. BANK*****

*****COMP. AFFOR.FUND(CAF),ORISSA A/C NO.CA-1585 IN CORPN. BANK*****

या उसके आदेश पर OR ORDER

रुपये RUPEES	SIX	FIVE	NINE	NINE	ZERO	THREE	ONE	ONE	ZERO
	LAKHS	CRORES	MILLIONS	LAKHS	THOUS	HUNDS	TENS	UNITS	

RS. 5599310/-

ONLY ZERO ONLY

AMOUNT BELOW 55993(10)(6/9)

मूल्य प्राप्त VALUE RECEIVED

शाखा प्रबंधक / BRANCH MANAGER
हस्ताक्षर प्राधिकृत के / SIG. NO.

भारतीय स्टेट बैंक
STATE BANK OF INDIA
अर्थयकर्ता शाखा / DRAWEE BRANCH:SERVICE BRANCH, NEW DELHI
कोड नं , /CODE No: 07607
IOI 000107650629 Key: VAKCAN Sr. No: 935100

M- 5655

JAGADISH RATH
SS No.-R-0779

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Regd. Post with AD

21/2/2014

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION

Ph. No.06766-254315, FAX 06766-254041, email; ofsdp_kjr@rediffmail.com

Diary Section

No. 838 /Mining. Dated, Keonjhar the 03 February, 2014

To

The Senior Manager (Geo)
M/s OMC Ltd, OMC House
Bhubaneswar- 751001

Sub: **Interest on belated payment of Net Present Value (NPV) in respect of Dubuna-Sakradihi Iron & Mn. Mines of M/s OMC Ltd.**

Ref:
1. This office Letter No. 4816 dt. 16.06.2010
2. Your Letter No. 14194 dt. 22.07.2010.
3. Letter No.10F (L) 91/2012/9857/F&E dt.9.5.2013 of the Forest & Environment Department, Govt. of Odisha addressed to the PCCF, Odisha, copy communicated to this office vide Memo No. 6656 dt. 15.05.2013 of the CCF (Nodal), Bhubaneswar.

Sir,

Whereas demand was raised for payment of Rs. 65,89,03,110/- as NPV vide this office Letter No. 4816 dt. 16.06.2010, in pursuance of orders of the Hon'ble Supreme Court of India read with clarification of CEC on actionable points following the meeting held on 25.05.2010 and Letter No. 9803/F&E dt. 28.05.2010 of Govt. of Odisha, Forest & Environment Department within a period of 30 days from 16.06.2010, i.e., (within 15.07.2010).

Whereas you have paid an amount of Rs. 65,89,03,110/- on dt. 22.07.2010 which was deposited in Adhoc CAMPA on dt. 22.07.2010.

Whereas Govt. of Odisha in Forest & Environment Department Letter No.10F (L) 91/2012/9857/F&E dt.9.5.2013 have issued direction to charge interest for belated payment at the rate of 9% per annum.

Whereas there has been a time lapse of 0 months, 6 days (Total 6 days) only in between the due date of payment and actual date of payment.

Now, therefore, the undersigned, in pursuance of the aforesaid direction of State Government, charges the following amount towards interest as per the calculation below for payment within 30 days of date of demand.

	Date on which the payment was due	15.07.2010
	Date on which the payment was made	22.07.2010
	The time that has elapsed	6 days
	Interest due	₹9,74,816/-

Contd.2...

Should you fail to deposit the aforesaid amount of ₹9,74,816/- within the stipulated time, you will not be allowed to continue mining till the payment as due is deposited fully as well as any other action as deemed proper under rules/ law.

You are requested to deposit the above interest amount within 30 days, and submit the original proof of the issuing Bank to this office for taking further action at this end.

Yours faithfully,

Divisional Forest Officer,
Keonjhar Division

Memo No. /Dated

Copy forwarded to the Addl. Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, F.C. Act' O/O the P.C.C.F., Odisha, Bhubaneswar for favour of kind information.

Divisional Forest Officer,
Keonjhar Division

Memo No. /Dated

Copy forwarded to the Regional Chief Conservator of Forests, Rourkela Circle, Rourkela for favour of kind information.

Divisional Forest Officer,
Keonjhar Division

Copy to concerned ML file

ISO: 9001: 2000 Certified
Cable: ORMINCORP, Bhubaneswar Tel: +0674-2535324(Dir), (EPABX) 2393431, 2395689, 2393389
Fax (:0674) 2535324, 2391629, 2396889, 2390972, 2394772

The Orissa Mining Corporation Ltd.

(A Government of Orissa Undertaking)

OMC HOUSE, BHUBANESWAR-751001

RTGS FUNDS TRANSFER APPLICATION FORM

Date: 07.03.2014

Andhra Bank, OMC Campus Branch.

Applicant (Remitter) Details:

Account Title	ORISSA MINING CORPORATION LIMITED,BHUBANESWAR
Debit Account No.	105911011000001
Account Type	CURRENT ACCOUNT

Beneficiary Details:

Beneficiary Name	COMPENSATORY AFFORESTATION FUND MANAGEMENT AND PLANNING AUTHORITY (CAMPA)
Credit Account No.	3449020105428
Centre(Location)	NEW DELHI
Bank	UNION BANK OF INDIA
Branch	SUNDER NAGAR
Account Type	
IFSC Code	UBIN0534498
Contact No.	9437919676

Remittance Details:

Amount(in figures)	Rs.9,74,816/-
Amount (in words)	Rupees NINE LAC SEVENTY FOUR THOUSAND EIGHT HUNDRED SIXTEEN only
Remarks/narration	Immediate transfer of fund vide Ch. No. 183162 DT.07.03.2014 ON AB,OMC

Please remit the amount as per the aforesaid details, by debiting my/our Account for the amount of remittance plus your charges.

I/we declare that I/we are authorized to request for the Andhra Bank RTGS facility and all the persons authorized to operate the above mentioned Accounts are also authorized, as per the present mode of operation, to present the RTGS Funds Transfer Application Form to Andhra Bank, OMC Campus Branch, Bhubaneswar.

I/we undertake to keep AB OMC Campus Branch informed of any changes in the mode of operation of my of the above Accounts.

I/we hereby confirmed having read the terms and conditions pertaining to Andhra Bank RTGS facility on http://www.andhrabank.com/wholesale/smc/popup_rtg.htm (hereinafter the "Terms and Conditions") and agree that OMC LTD,Bhubaneswar (entity's name) use of the Andhra Bank RTGS facility shall be subject to and be governed by the Terms and Conditions.

I/we are aware of the fees and/or other charges which are currently to be levied by Andhra Bank for providing access to or allowing the use of the Andhra Bank RTGS facility. I/we further, undertake to keep ourselves aware of any revision made by Andhra Bank of the fees and/or other charges levied for providing access to or allowing the use of the Andhra Bank RTGS facility. I/we are aware that the same shall be notified to us by hosting the same on http://www.andhrabank.com/wholesale/smc/real_time_gross_settlement_fees.htm.

Yours sincerely,

ANDB0140625900006

7/3/14

Stamp and Signature of Authorized Signatory

Manager (Finance)
The Orissa Mining Corporation Ltd.

For Banks Use Only

Account Debited by	
Debit authorized by	
Entered into UTGS	

Annexure-III

PROFORMA FOR VERIFICATION OF DEPOSITS IN COMPENSATORY AFFORESTATION FUND

1.	Name of Office			Bhubaneswar
2.	State/District/Forest Division to which the proposal relates			Odisha/ Keonjhar/ Keonjhar Forest Division
3.	Name of User Agency, nature of proposal			M/s Odisha Mining Corporation Limited (A Govt. of Odisha Undertaking),
4.	Nature and category of proposal			Mining
5.	Proposal number			FP/OR/MIN/30349/2017 (Dubna Sakradihi Iron and Manganese Ore Mines)
6.	Extent of forest area involved			1243.27 Hectare
7.	Whether original or extension			Original
8.	If extension of lease, please clarify if proposal involves additional forest area and if so, specify			-
9.	Date of 1st Stage clearance			Dt 06.05.2021
10.	**Extent of CAMPA charges, head wise viz.:**			
	(a) Compensatory Afforestation			Rs. 78,34,38,300/-
	(b) Additional Compensatory Afforestation			-
	(c) Penal Compensatory Afforestation			-
	(d) Catchment Area Treatment			Nil
	(e) Wildlife Management Plan			
		i)	Site Specific Wildlife Conservation Plan	Rs. 6,00,86,700/-
		ii)	Regional Wildlife Management Plan	Rs.10,92,25,558/-
	(f) Additional charges for diversion of area failing under notified/ protected areas			Nil
	(g) Net Present Value			Rs. 88,78,76,456/- (Rs. 14,68,72,820/- + Rs. 65,89,03,110/- + Rs. 8,21,00,526/-)
	(h) Any other charges/levies (Please specify)			
		i)	Penal NPV	-
		ii)	Interest on belated payment of NPV	Rs. 9,74,816/-
		iii)	Safety Zone	-
		iv)	1.5 times Safety Zone	Rs. 1,38,53,900/-
		v)	Scheme on gap planting and SMC measures	Rs. 2,59,42,300/-
			Total	**Rs. 188,13,98,030/-**
11.	Whether payment made through challan or otherwise. In case of online payment, details of challan.			

12. Details of deposits

Sl. No.	Type of deposit (NPV/CA/IWMP/ Others (specify))	Whether by RTGS/DD/ NEFT (Specify)	UTR/DD No.	Amount deposited (Rs.)	Date of deposit	Name of Bank from which amount transferred to account of CAF	Bank Account of CAF managed by CAMPA in which fund deposited
i)	NPV	DD	717200 to 717347 (Rs. 9,90,000/- each) and 717348 (Rs. 3,52,820/-)	Rs. 14,68,72,820/-	09.09.2006	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c. No. CA-1585, Corporation Bank, Lodhi Road, New Delhi
		DD	650829	Rs. 65,89,03,110/-	22.07.2010	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c. No.- CA-1585, Corporation Bank, Lodhi Road, New Delhi.
		Online payment	UBINJ22055064629	Rs. 8,21,00,526/-	24.02.2022	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c No. 150825830349999, Union Bank of India, Lodhi Complex Branch, Block-11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003.
ii)	Interest on belated payment of NPV	RTGS	ANDBN 140675960006	Rs. 9,74,816/-	07.03.2014	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c No. 344902010105428, Union Bank of India, Sundar Nagar, New Delhi-110003, IFSC Code-UBIN0534498
iii)	Compensatory Afforestation	Online payment	UBINJ2208941715	Rs. 78,34,38,300/-	30.03.2022	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c No. 150825830349175, Union Bank of India, Lodhi Complex Branch, Block-11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003.
vi)	1.5 Times Safety zone	Online payment	UBINJ22076649463	Rs. 1,38,53,900/- (Part of deposit of Rs. 20,91,08,458/-)	17.03.2022	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c No. 150825830349994, Union Bank of India, Lodhi Complex Branch, Block-11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003.
vii)	SSWLCP	Online payment	UBINJ22076649463	Rs. 6,00,86,700/- (Part of deposit of Rs. 20,91,08,458/-)	17.03.2022	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c No. 150825830349994, Union Bank of India, Lodhi Complex Branch, Block-11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003.
viii)	RWLMP	Online payment	UBINJ22076649463	Rs. 10,92,25,558/- (Part of deposit of Rs. 20,91,08,458/-)	17.03.2022	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c No. 150825830349994, Union Bank of India, Lodhi Complex Branch, Block-11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003.
ix)	Scheme for Gap plantation and Soil & Moisture Conservation activities	Online payment	UBINJ22076649463	Rs. 2,59,42,300/- (Part of deposit of Rs. 20,91,08,458/-)	17.03.2022	A/c. No. 105911011000001 of Andhra Bank, OMC Campus Branch, Bhubaneswar	A/c No. 150825830349994, Union Bank of India, Lodhi Complex Branch, Block-11, CGO Complex, Phase-I, Lodhi Road, New Delhi-110003.

Date:
Place: Keonjhar

Divisional Forest Officer
Keonjhar Forest Division

Chief Conservator of Forests (Nodal)
Odisha

OMC | ODISHA NEW OPPORTUNITIES

ANNEXURE - IV (UT-A)

UNDERTAKINGS

[As per condition No. A [4, 5 (i, ii, iii, iv, v), 7, 8 (i, iii, v), 9, 10] of the stage-I grant order No. 8-26/2019-FC dt 06.05.2021 issued by MoEF & CC, Govt. of India pertaining to Dubna-Sakradih Iron and Manganese ore mines for diversion of 1243.27 ha of forest area]

I Dr. Suman Krishna Sit, General Manager (Geology), Authorized Signatory of Odisha Mining Corporation Limited do hereby undertake the following for furtherance of the Forest Diversion Proposal for grant of 1243.27 ha of forest land included within the Dubna-Sakradih Iron and Manganese Ore mines of OMC coming under Keonjhar Forest Division of Keonjhar district, Odisha:

Sl. No.	Condition No.	Undertakings by OMC
A. ***Conditions which need to be complied prior to handing over of forest land by the State Forest Department and compliance are to be submitted prior to Stage-II approval.***		
1	4	To ensure that rehabilitation of evicted persons, if any, do not encroach upon the forest land.
2	5 (i)	To implement the scheme of Mitigation measures to minimize soil erosion and choking of stream at the approved financial outlay in the lease area by OMC under the supervision of the State Forest Department within a period of three years with effect from the date of issue of Stage-II forest clearance.
3	5 (ii)	To implement the scheme for Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion at the approved financial outlay in the lease area by OMC under the supervision of the State Forest Department.
4	5 (iii)	To implement the scheme for Construction of check dams and retention/toe walls to arrest sliding down of the excavated material along the contour at the approved financial outlay in the lease area by OMC under the supervision of the State Forest Department.
5	5 (iv)	To implement the scheme of Stabilizing the overburden dumps by appropriate grading/ benching so as to ensure that angles of repose at any given place is less than 28° at the approved financial outlay in the lease area by OMC under the supervision of the State Forest Department.
6	5 (v)	To implement the scheme of top soil management so that no damage shall be caused to the top-soil at the approved financial outlay in the lease area by OMC under the supervision of the State Forest Department.
7	7	To implement the scheme for regular desilting of existing village tanks located within 5 km from the ML boundary so as to mitigate the impact of siltation of such tanks/water bodies as per the approved financial outlay by OMC in consultation with the State Forest Department.

Sl. No.	Condition No.	Undertakings by OMC
8	8 (i)	To implement the scheme for demarcation of safety zone and its fencing, protection and regeneration by erecting adequate number of 6 feet high RCC boundary pillars inscribed with DGPS coordinates with barbed wire fencing and deploying adequate number of watchers as per the approved financial outlay by OMC under the supervision of the State Forest Department
9	8 (iii)	To implement the scheme for maintenance of safety zone as green belt around mining lease and to ensure dense canopy in the area and regeneration to be taken up in this area of afforestation as per the approved financial outlay by OMC under the supervision of the State Forest Department.
10	8 (v)	To ensure that the safety zone is maintained as per the prescribed norms.
11	9	To deposit the cost of felling of trees with the State Forest Department by OMC.
12	10	To implement the recommendation by ICFRE on the pilot study which can explore a model of use of the degraded forests within the mining lease for more product biological uses (e.g. raising short rotation forestry crops) for intermittent perio during the currency of mining lease period in a way that the ecological services continue to flow in an augmented manner and at the same time mining activities are not adversely affected as per the approved financial outlay by OMC within ML area under the supervision of the State Forest Department.

[Dr. Suman Krishna Sit]
General Manager (Geo)
Authorized signatory

Suman Krishna Sit
General Manager (Geo)
Power of Attorney holder
Tata Steel Limited

ANNEXURE J

SCHEME FOR

APPROPRIATE MITIGATIVE MEASURES TO MINIMIZE SOIL EROSION AND CHOKING OF STREAMS

AT

DUBNA-SAKRADIH IRON AND MANGANESE ORE MINES UNDER KEONJHAR FOREST DIVISION

OF

M/S ODISHA MINING CORPORATION LTD.

(A GOVT.OF ODISHA UNDERTAKING)
OMC HOUSE, BHUBANESWAR-751001

(As per condition No. A.5 (i) of the stage-I Forest Clearance granted by MoEF & CC, Govt. of India vide F.No.8-26/2019-FC dt 06.05.2021)

(ON ONE TIME COST NORM BASIS)

0

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /3F-1033 /2021. Date: 23.12.2021

To

The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of Iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

APPROPRIATE MITIGATIVE MEASURES TO MINIMIZE SOIL EROSION AND CHOKING OF STREAMS

1. INTRODUCTION.

Stage-I Forest Clearance for diversion of 1243.27 ha of forest land for non-forest purpose for Dubna-Sakradih Iron and Manganese Ore mines has been accorded vide F.No. 8-26/2019-FC, Dt. 06.05.2021 of Ministry of Environment, Forests & Climate Change subject to fulfilment of certain conditions. The condition No. A.5 (i) is read as under:

"Mitigative measures to minimize soil erosion and choking of stream shall be implemented within a period of three year with effect from the issue of Stage-II clearance in accordance with the approved Plan in consultation with the State Forest Department."

In compliance with this condition, a comprehensive scheme @ Rs. 315.00/- per man day was prepared for implementation of the same in 1332.019 Ha of ML area of the said mining lease and the scheme has been approved by RCCF, Rourkela vide letter dt. 19.07.2021.

2. LOCATION OF THE ML AREA

Dubna-Sakradih Iron and Manganese Ore Mines of M/s Odisha Mining Corporation (OMC) Limited, a State Government Undertaking, is a mining project for exploitation of iron ore. The mining lease (ML) area over 1332.019 Hectares (ha) is confined within the Latitudes: 21^0 51' 52.019" – 21^0 48' 37.356" North and Longitudes: 85^0 22' 17.839" – 85^0 24' 26.478" East, indicated in the Survey of India Topo sheet bearing No. F 45 N 5 on 1:50,000 scale. The key plan showing Dubna-Sakradih Iron and Manganese Ore ML area is enclosed as **Plate No. I**. It is located at a distance of 23 KM from Joda town to the South via. Bamebari-Kalimatti road. The area exhibits an undulated topography with varying elevations from 540 m to 900 m above Mean Sea Level (MSL).

The mining and ancillary activities will convert this area prone to intensive soil erosion by creating reels and gullies on mined out pit benches, on the surface of OB dump, on the shoulder of haul roads, on the surface of the surface-soil deposit and on the bank of the natural streams. Such gullies eventually may widen and occupy large tract of the slope and cause heavy soil loss and flooding the valley bottom with heavy siltation. This results the virgin forest area prone to soil erosion. During rains, the exposed soil will not allow percolation of rainwater to charge the groundwater table. Consequently the seasonal streams will be dried up. Therefore, it is essential to treat the area with strategic soil and moisture conservation measures to mitigate the adverse impact of mining.

3. DRAINAGE

There is no perennial nala inside the lease area. Few seasonal nala flows from west to east during rainy season. Drainage of the lease area is towards eastern side which ultimately drain into Seasonal Nala and then into Baitarani river.

4. FACTORS RESPONSIBLE FOR SOIL EROSION AND CHOKING OF STREAMS

The mining activities, sub grade dumps and overburden dumps are the major factors impacting adversely to any drainage system in the mining areas. The forms of erosion observed in this region include mainly rill and gully erosion. The storm water runoffs from the hills, mine faces, sub-grade dumps and OB dump slope areas carry substantial amounts of solids in the lower order streamlets and choke the higher order streams. These lower order streamlets and gullies have high erosion capacity due to steep gradient and transportation of rock fragments with high velocity of the stream and deposition of same in the connecting high order streams due to velocity drop. Streams can also erode by undercutting their banks resulting in mass-wasting processes like slumps or slides. When the undercut material falls into the stream, the fragments are transported and deposited in the stream bed. The other mode of sediment transportation is very nominal.

5. OBJECTIVE OF THE SCHEME:

The objectives of the proposed scheme are as follows:

1. To comply condition No. A.5 (i) of the Stage – I approval of GoI, MoEF & CC.
2. Prevention of erosion of loose materials from OB dump & erosion of top soil in non- working area which will be chance to chocking the natural streams as well as the effect in agriculture.
3. Prevention of obstruction of natural water sources.
4. Proper Management of overburden materials so as to prevent siltation in the streams
5. Prevention of overflow of eroded soils from the mining areas to the cultivable lands, natural streams and inhabitations.
6. Prevention of overflow of eroded soils from the mining areas to the cultivable lands, natural streams and inhabitations.

6. PROPOSED METHODOLOGY

To achieve the above objectives it has been proposed to take up both biological and structural works for soil and water conservation. The vegetative measures are to be adopted mostly in the upper reaches & around O.B dumping sites whereas the structural works are suggested in the lower reaches such as in the drain & critical points around O.B. dumps. As per the current practice, check dams are constructed across the contour seasonal streams arising from the up-slope areas to arrest the sediment

load to prevent choking of streams followed by de-silting before monsoon. The following activities are proposed to be taken up to mitigate soil erosion and choking of streams:

1. There is only one seasonal stream inside the M.L boundary. However, due to mining activities in future, there is chance of heavy run-off with silts and sediments during monsoon. To minimize the hazard as well as to reduce the flow velocity of water flown from overburden dump, mining pits, stock piles, haul roads as well as areas clear of vegetation, check dams are to be constructed at suitable location.

2. Periodic Sediment/silt removal/De-silting jobs will be undertaken in those proposed check dam points as well as from garland drains and subsequently plantation will be carried out on these de-silted materials.

3. Along with the above sedimentation control measures erosion from O.B. dump slope areas will be controlled by providing retaining wall, garland drain, loose boulders structures, settling tanks etc. The main purpose of the works is to control soil erosion from OB dump and minerals stock piles etc. and prevent chocking of natural stream flow.

7. MEASURES PROPOSED

A. Biological Measures

a) Plantation

Soil erosion and sediment control in areas covered with forests are minimum. As the area is covered with vegetation, there is no scope of taking up of plantation within ML area.

b) Grass Seeding

As the area will be back-filled for reclamation, there will be very small overburden dump. Due to want of suitable area, there is no scope for grass seeding.

B. Structural Measures

Vegetative means of erosion control are the most feasible and economic measures. But there is no scope for such work in the mine. Structural measures serve as supplementary to vegetative measures. The objective behind building mechanical structures is to reduce the degree and length of the slope, reducing run-off and consequently, reducing soil erosion.

a) Construction of Loose Boulder Structure: The User Agency has planned to construct 3117 RMT of loose boulder structure across the proposed garland drain. 3117 RMT of Loose Boulder Check Dams will be constructed across seasonal stream and eroded areas. These loose boulder structure will help in stabilization of silt & sediment as well as prevention of soil erosion & enrichment of vegetation & greenery development.

b) Construction of Garland drain: A shallow trench (2.0 m wide x 1 m deep) for draining surface water before it release to the vacant land or natural water course. 233.0 RMT of garland drain will be

constructed around Dump and along the haul road. The work has been included in a separate scheme prepared as per condition no. A.5 (iii) stipulated in Stage-I approval. Hence extra fund is not required for the work.

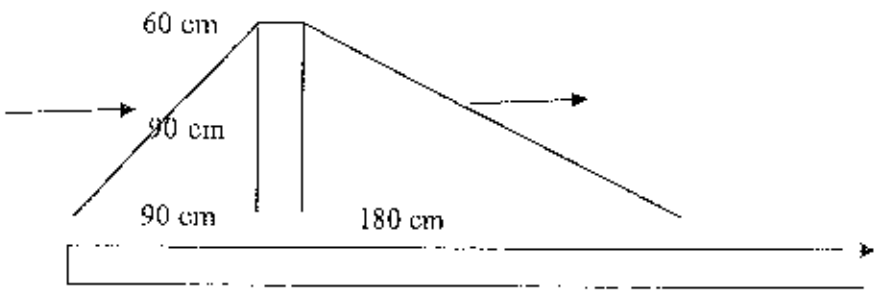
c) **Terracing of OB Dump Slope:** It is proposed to construct berm & terraces over a length of 200 m and breadth of 20 m on the extended portion of O.B. dump during lease period. Considering the volume of OB materials & the area earmarked for dumping. The slope of individual terrace should be within the permissible range considering the angle of repose of the soil and space available, thereby maintaining the angle of repose to be around 28^0. The terracing will be done continuously through the internal resources by deploying the operating mining equipment along with progress of mine. Hence no separate fund for this work is provided.

d) **Retaining Walls/Toe Walls around OB Dumps:** A retaining wall is a structure designed and constructed to resist the lateral pressure of soil when there is a designed change in ground elevation that exceeds the angle of repose of the soil. The proposed Retaining walls will be constructed around dump is 3117.0 RMT. The work has been included in a separate scheme prepared as per condition no. A.5 (iii) stipulated in Stage-I approval. Hence extra fund is not required for the work in this scheme.

8. **Execution of work:** Only Loose Boulder Check Dams will be constructed over a total length of 3117.0 mtrs.

- Series of check dams should be constructed on the gullies. Bottom level of Check Dam situated on higher slope and top level of the Check Dam located downstream should be same.
- Check Dam or any Soil Conservation Measure should start from the top where the erosion starts and move downwards.
- Check Dam should be constructed where the gully or nala is narrowest and the bank is strong. The tendency of constructing big check dams at wide and accessible points should be avoided.
- For construction of loose boulder check dams as big stones as possible to fit the design should be used and small stones may be used to fill interstices to make the structure stable.
- If possible the construction of loose boulder check dams should be done before plantation is taken up in the area to prevent damage of planted seedlings.

The following simple design should be followed for loose boulder check dams.



Foundation and apron should be 25 cm thick.

Height of check dam above the foundation should be 90 cm or height of the bank whichever is higher. Uphill side width should be same as that of height of the dam.

Downhill side width should be twice that of height of the dam.

Uphill side apron should be 30 cm and downhill side apron should be 90 cm.

Spillway of 1 mtr long and 30 cm deep may be provide on top of check dam for flowing of excess water.

Volume of stone work will be Cross section of check dam is sq.mtr x length of check dam in mtr.
For example, as per the drawing shown above, the volume calculation for a 2.5 mtr long check dam will be: -

Cross section: 4.5 mtr x 0.25 mtr = 1.125 sq.mtr

Foundation: (3.3m x 0.6 m)/2 x 0.9m= 1.755 sq.mtr

Super structure 1.755 sq. mtr + 1.125 sq.mtr = 2.88 sq.mtr

Volume = 2.88 sq.mtr x 2.5 mtr = 7.2 cu.m

Volume of stone for a 2.5 mtr long loose boulder check dam is 7.2 cu.m.

Volume of check dams of different lengths can be calculated accordingly.

Estimate of a standard loose boulder check dam is furnished at **Annexure-I.**

Top width of the check dam will be 60 cm

The bank should be dressed vertically and base area should be level. The earth should be kept for filling interstices of the check dam.

The length of check dam should be 50 cm longer than the width of the nala so that 25 cm on each side should be dovetailed into the bank.

Cross-section of the proposed dam should be marked on the vertical nala bank and the stones should be set properly.

9. INSPECTION, MONITORING AND EVALUATION

For successful implementation of the above Mitigative measures, intensive inspection and technical guidance from concerned technical wing is required. Sufficient fuel/ conveyance charges for technical experts shall be provided by the user agency for proper execution of these programmes. Budgetary provision of 15% of the total project cost has been earmarked on this score.

10. EXECUTING AGENCY

The works in the present Scheme shall be executed by the User Agency having specialized departments headed by qualified persons with outsourced man and machinery. To facilitate this, the user agency shall establish its own executing and supervision cells along with required infrastructural facilities. In order to maintain the quality of work, in-house supervision through competent personnel shall be provided. The entire work shall be carried out in coordination with the Forest Department.

11.REQUIREMENT OF FUNDS

The total cost of the implementation of mitigative measures will be **Rs. 44, 16,000.00/- (Rupees forty four lakh sixteen thousand)** only for implementation of the above mitigation measures, the above expenditure will be made over the next ten years period. Therefore, budget provision will be kept by the user agency for implementation of the above mitigation measures over a period of next ten years. This budget will be subject to increase in amount considering the increase in materials and labour charges. The tentative expenditure planned for the implementation of mitigative measures is given in the following table:-

FINANCIAL FORECAST

Sl. No.	Particulars of interventions	Quantity	Financial involvement (Rs)
1	Loose Boulder Check Dams @ Rs.3200.00 per running mtr	1000 running mtr	32,00,000.00
	Inspection, monitoring and evaluation @15% of the total project cost		4,80,000.00
	Total		**36,80,000.00**
	Escalation cost 20%		**7,36,000.00**
	Grand Total		**44,16,000.00**

(Rupees forty four lakh sixteen thousand) only

Divisional Forest Officer
Keonjhar Division

Divisional Forest Officer
Keonjhar Forest Division

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

Annexure-I

Estimate for Loose Boulder Check Dam of length 2.5 mtr

Foundation and apron 25 cm thick.
Top width 60 cm
Height of check dam above the foundation is 90 cm.
Uphill side width 90 cm.
Downhill side width should be 180 cm.
Uphill side apron 30 cm and downhill side apron 90 cm.
Analysis of Rate

Particulars of work	No./ Quantity	Rate	Amount
Earth work in hard or gravelly soil within 50m. Initial lead and 1.5m. Initial lift including rough dressing of clods to maximum 5 cm. to 7 cm and laying in layers not exceeding 0.3 m. in depth (per 100 cum.)	43	315.00	13545.00
Mulia			270.90
2% sundries and T & P etc.	Total		13815.90
Rough stone dry packing in aprons and revetments with hard granite stones (15 to 30 cm size) per cum			
Granite broken stone 1 cum.	1	507.96	507.96
Mason (Special)	0.17	465.00	79.05
Stone packer	0.35	355.00	124.25
Mulia	1.04	315.00	327.60
2% sundries, T & P etc.			20.78
	Total		1059.64

Estimate for construction of Loose Boulder Check Dam

Length of Loose Boulder Check Dam 2.5 Mtr

Particulars of work	Volume	Rate in Rupees	Total amount in Rupees
Earth work in hard or gravelly soil within 50m. Initial lead and 1.5m. Initial lift including rough dressing of clods to maximum 5 cm. to 7 cm and laying in layers not exceeding 0.3 m. in depth Dressing the side of banks and foundation on L.S	L.S	200.00	200.00
Rough stone dry packing in aprons and revetments with hard granite stones (15 to 30 cm size) per cum Rough stone dry packing in aprons and revetments with hard granite stones (15 to 30 cm size) per cum			
Foundation 4.5 mtr x 0.25 mtr = 1.125 sq.m Super structure(3.3mx0.6m)/2x 0.9m= 1.755 sq.m 1.755 sq. mtr + 1.125 sq.mtr = 2.88 sq.mtr Volume = 2.88 sq.mtr x 2.5 mtr 7.2 cu.m	7.2 cu.m	1059.64	7629.41
Total			7829.41

Cost per running metre of L.B.C.D of 90 cm height = Rs 7829.41/2.5= Rs. 3131.764 or say **Rs.3200/-**

ANNEXURE-VI

SCHEME FOR

PLANTING ADEQUATE DROUGHT HARDY PLANT SPECIES AND SOWING OF SEEDS IN THE APPROPRIATE AREA WITHIN THE MINING LEASE TO ARREST SOIL EROSION

AT

DUBNA-SAKRADIH IRON AND MANGANESE ORE MINES

UNDER KEONJHAR FOREST DIVISION

OF

M/S ODISHA MINING CORPORATION LTD.

(A GOVT.OF ODISHA UNDERTAKING)

A Gold Category State PSU

OMC HOUSE, BHUBANESWAR-751001

(As per condition No. A.5 (ii) of the stage-I forest clearance granted by MoEF & CC, Govt. of India vide F.No.8-26/2019-FC dt 06.05.2021)

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /3F-1033 /2021. Date: 23.12.2021

To

The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
05	The scheme for Management of Top Soil prepared in compliance with Condition No. A.5(v) with a total financial outlay of Rs.91,90,700/-	Technically approved for Rs.91,90,700/- (Rupees ninety-one lakh ninety thousand seven hundred) only
06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
07	The scheme for de-silting of the village tanks and other water bodies located within 05 Km from Mining Lease Boundary so as to mitigate the impact of siltation of such tanks/water bodies prepared in compliance with Condition No. A.7 with a total financial outlay of Rs.1,34,70,300/-.	Technically approved for Rs.1,34,70,300/- (Rupees one crore thirty-four lakh seventy thousand three hundred) only.
08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

23/12/2021

Regional Chief Conservator of Forests,
Rourkela Circle

Memo No. 387/ Date: 23.12.2021.

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

23/12/2021

Regional Chief Conservator of Forests,
Rourkela Circle

SCHEME FOR PLANTING ADEQUATE DROUGHT HARDY PLANT SPECIES AND SOWING OF SEEDS IN THE APPROPRIATE AREA WITHIN THE MINING LEASE TO ARREST SOIL EROSION AT DUBNA SAKRADIH IRON AND MANGANESE ORE MINES UNDER KEONJHAR FOREST DIVISION OF M/S ODISHA MINING CORPORATION LTD.

INTRODUCTION:

Government of India in the Ministry of Environment, Forests & Climate Change have approved Stage-I forest clearance vide F.No.8-26/2019-FC dt 06.05.2021 for diversion of 1243.27 ha of forest area in Dubna-Sakradih Iron and Manganese Ore Mines of O.M.C Ltd. In this approval, MoEF & CC has stipulated some conditions to be fulfilled before Stage-II forest clearance is accorded. The condition no. A.5 (ii) of the Stage-I forest clearance is read as under:

"Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme"

In order to comply the above condition, the current scheme is formulated for planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme within Dubna-Sakradih Iron and Manganese Ore Mines. Due to paucity of free space, undertaking plantation of draught hardy plant species has been proposed within safety zone as shown on the plan enclosed as **Plate No. I.**

A scheme on planting of adequate drought hardy plant species and sowing of seeds has been approved by RCCF, Rourkela vide letter dt. 19.07.2021. Labour Commissioner of Odisha vide letter no. 2816/LC dt. 25.05.2021 has revised the minimum wage rate to Rs. 315.00 per manday. In this context, the scheme has been revised @ Rs. 315/- per manday.

1. LOCATION OF THE ML AREA

Dubna-Sakradih Iron and Manganese Ore Mines of M/s Odisha Mining Corporation (OMC) Limited, a State Government Undertaking, is a mining project for exploitation of iron ore over 1332.019 ha. The mining lease area is confined within the Latitudes: 21^0 51' 52.019" - 21^0 48' 37.356" North and Longitudes: 85^0 22' 17.839" 85^0 24' 26.478" East, indicated in the Survey of India Topo sheet bearing No. F 45 N 5 on 1:50,000 scale. The key plan showing Dubna-Sakradih Iron and Manganese Ore Mines is enclosed as Plate No. I. It is located at a distance of 23 KM from Joda town to the South via. Bamebari-Kalimati road. The area exhibits an undulated topography with varying elevations from 540 m to 900 m above Mean Sea Level (MSL).

2. SOIL TYPE Soil type in the study area varies widely from hard rock to sandy loam. The top soil in the area is scanty. Whatever top soil is available is rocky in nature. The pH of the soil is normal ranging from 6.20 to 8.20. Low hills and hill slopes are extensively lateralized and consist of lateritic profile of 5 to 10m. The lateritic area is rich in Iron and very often gritty in nature. Bushy vegetation is observed on this soil type.

3. CLIMATE The area is characterized by extreme climate with very hot (43 °C) summer and very cold winter (4°C) winter. It experiences tropical and humid climate which shows three distinct seasons i.e. summer, rainy and winter. The summer is very hot and dry starting from March and continues till end of May or early June. The rainy season lasts from early June to end of September. October and November are the post monsoon months followed by a cold winter which lasts till end of February. The average annual rainfall as recorded at IMD, Keonjhar is around 1763 mm during 2006 to 2008. About 75% of it has been distributed during the South west monsoon i.e. June to September.

4. DRAINAGE

There is no perennial nala inside the lease area. A seasonal nala is flowing from west to east during rainy season. Drainage of the lease area is towards eastern side which ultimately drain into Baitarani river, flowing at a distance of 4.5km to the east of the ML area.

5. EXISTING VEGETATION

Majority area of mining lease is covered by open scrub. There is natural vegetation on the area with dry deciduous species like Sal, Kurum, Kangara, Asan, Dhaura, Kendu, Jamu, Mango etc. with canopy density 0.4. The buffer zone (10Km radius) includes part of Sidhamatha & Baitarani Reserve Forest area of Keonjhar Forest division.

6. MEASURES PROPOSED

Biological Measures

a) Plantation

Soil erosion and sediment control in areas covered with forests are minimum. As the area is covered with vegetation, there is no scope of taking up of plantation within ML area.

b) Grass Seeding

As the area will be back-filled for reclamation, there will be very small overburden dump. Due to want of suitable area, there is no scope for grass seeding.

7. INSPECTION, MONITORING AND EVALUATION

For successful implementation of the above Mitigative measures, intensive inspection and technical guidance from concerned technical wing is required. Sufficient fuel/ conveyance charges for technical experts shall be provided by the user agency for proper execution of these programmes.

8. TOTAL COST OF THE PROJECT: As the cost for plantation of drought hardy plant species has already been considered in the scheme prepared for fencing, protection and afforestation of the Safety Zone area, no separate financial forecast has been proposed.

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

Divisional Forest Officer
Keonjhar Forest Division

Divisional Forest Officer
Keonjhar Division

ANNEXURE-VII

SCHEME FOR

CONSTRUCTION OF CHECK DAMS, RETENTION/TOE WALLS TO ARREST SLIDING DOWN OF THE EXCAVATED MATERIAL ALONG THE CONTOUR

AT

DUBNA SAKRADIH IRON AND MANGANESE ORE MINES

UNDER KEONJHAR FOREST DIVISION

OF

M/S ODISHA MINING CORPORATION LTD.

(A GOVT.OF ODISHA UNDERTAKING)

A Gold Category State PSU

OMC HOUSE, BHUBANESWAR-751001

(As per condition No.A.5 (iii) of the stage-I Forest Clearance granted by MoEF & CC, Govt. of India vide F.No.8-26/2019-FC dt 06.05.2021)

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 3870 /3F-1033 /2021. Date: 23.12.2021

To The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of Iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
05	The scheme for Management of Top Soil prepared in compliance with Condition No. A.5(v) with a total financial outlay of Rs.91,90,700/-	Technically approved for Rs.91,90,700/- (Rupees ninety-one lakh ninety thousand seven hundred) only
06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
07	The scheme for de-silting of the village tanks and other water bodies located within 05 Km from Mining Lease Boundary so as to mitigate the impact of siltation of such tanks/water bodies prepared in compliance with Condition No. A.7 with a total financial outlay of Rs.1,34,70,300/-.	Technically approved for Rs.1,34,70,300/- (Rupees one crore thirty-four lakh seventy thousand three hundred) only.
08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

Regional Chief Conservator of Forests,
Rourkela Circle

Memo No. 387/ Date: 23.12.2021

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

Regional Chief Conservator of Forests,
Rourkela Circle

SCHEME FOR CONSTRUCTION OF CHECK DAMS, RETENTION/TOE WALLS TO ARREST SLIDING DOWN OF THE EXCAVATED MATERIAL ALONG THE CONTOUR

1. INTRODUCTION.

Stage-I approval for diversion of 1243.27 ha forest land for non-forest purpose for Dubna-Sakradih Iron and Manganese ore mine has been accorded vide F.No. 8-26/2019-FC, Dt. 06.05.2021 of Ministry of Environment, Forests & Climate Change subject to fulfilment of certain conditions. The condition No.A.5 (iii) is given as under:

"5 (iii) Construction of check dams, retention/toe walls to arrest sliding down of the excavated materia along the contour in accordance with the approved scheme."

In compliance to the above condition, a comprehensive scheme is prepared for implementation of the same in 1332.019 Ha ML area of the said mining lease. The scheme was approved by RCCF, Rourkela vide letter dt. 19.07.2021 @ Rs. 311/- per manday. Labour Commissioner of Odisha vide letter no. 2816/LC dt. 25.05.2021 has revised the minimum wage rate to Rs. 315.00 per manday. In this context, the scheme has been revised @ Rs. 315/- per manday.

2. OBJECTIVE OF THE SCHEME:

1. To meet the requirement of condition No. A.5 (iii) of the Stage –I approval granted by MoEF & CC Govt. of India.
2. To prevent erosion of sediment due to surface runoff.
3. To prevent obstruction to natural water source.
4. To prevent flow of eroded soil from the mining areas to the cultivable lands, natural streams and habitations.

3. PROPOSED METHODOLOGY:

(a) Propose to construct retaining wall and garland drain around the waste dumping site.

(b) Propose to develop the dump by terracing method. The height of all the terraces will vary from 10 to 12 m and width being 6 to 12 m.

(c) Provision of inwardly sloping, soil bund at the edge of each terraced channel at the toe end of terrace will be made following the rain water management.

(d) Propose to construct catch drain on the deep slope.

(e) Propose to develop garland drains with settling tanks at the toe of the dumps to allow the settling of silt.

The Salient features of the drainage management plan are as follows:

1. The overall drainage planning has been done in such a manner which follows the existing pre mining drainage routing to the extent possible, maintaining the overall slope in the direction of pre mining flow direction so that run off distribution is not affected.

2. Garland drains have been planned on the sides of quarries and external dumps (depending on contours).

The garland drains shall be routed through catch pits and settling tanks to settle out suspended solids in the storm water. The purified water will be discharged to natural water source.

3. Grass and bushes in drains hold back solid particles during the flow of water in the drain. Small stone barriers constructed across the drain will check water flow and arrest solids.

4. Stone pitching will be made at suitable places to regulate the slope and hence water flow will not be obstructed.

5. Settling pits and drains shall be cleaned intermittently, especially during monsoon.

6. Outer side of the cross-check dams on the drainage lines shall be re-enforced with green cover of non-browsable species like *Jatrophacurcas,Vitexnegundo, Gliricidia maculate.*

2. MEASURES PROPOSED TO BE ADOPTED

Structural Measures

Vegetative means of erosion control are the most feasible and economic measures. However, as the pressure on land is increasing, need is felt to bring even higher Retaining Wall.

(i) It has been proposed to construct 3117.00 mtr of crated boulder masonry around the proposed OB dump/sub-grade ore dump and excavated area. The masonry will be constructed by using wire mesh and small size R.R. Stones. The height of the masonry structure will be 1mt and the width 1m. The work will be executed with an estimated cost of **Rs 1,22,99,300/- (Annexure-I).** This will prevent pollution of water flowing in the nala adjoining to the villages.

(ii) It has also been proposed to dig out 2330.0 mt long Garland drain inside the ML area to protect the excavated material being washed out and allowing storm water through the drain into water exit points. The water exit points will be kept according to the contours and direction of flow of the surface runoff an interval of about 100 mt. The estimated cost of construction of garland drain including cost of surface cutting and blasting comes to **Rs 9,21,000/- (Annexure-II).**

3. INSPECTION, MONITORING AND EVALUATION

For successful implementation of the above Mitigative measures, intensive inspection and technical guidance from concerned technical wing is required. Sufficient fuel/ conveyance charges for technical experts shall be provided by the user agency for proper execution of these programmes. Budgetary provision of 15% of the total project cost has been earmarked on this score.

4. EXECUTING AGENCY

The works in the present Scheme shall be executed by the User Agency having specialized departments headed by qualified persons with outsourced man and machinery. To facilitate this, the user

agency shall establish its own executing and supervision cells along with required infrastructural facilities In order to maintain the quality of work, in-house supervision through competent personnel shall bc provided. The entire work shall be carried out in coordination with the Forest Department.

5. REQUIREMENT OF FUNDS

The total cost of the implementation of mitigative measures will be **Rs 1,96,42,000/ (Rupees one crore ninety six lakhs forty two thousand)** only for implementation of the above mitigatior measures, the above expenditure will be made over the next ten years period. Therefore, budget provisior will be kept by the user agency for implementation of the above mitigation measures over a period of nex ten years. This budget will be subject to increase in amount considering the increase in materials an labour charges. The tentative expenditure planned for the implementation of mitigative measures is give in the following table:-

FINANCIAL FORECAST

Sl. No.	Particulars of interventions	Financial involvement (Rs)
1	Development of crated boulder masonry wall over a length of 3117.00 mtr (Annexure-I)	1,22,99,300.00
2	Excavation of garland drain over a length of 2330.00 mtr (Annexure-II).	9,21,000.00
3	Desiltation work of Garland drain, settling pond and check dam twice in a year (on lump sump)	5,06,500.00
4	Maintenance of retaining wall (on lump sump)	5,06,500.00
	Sub-Total:	1,42,33,300.00
	Inspection, monitoring and evaluation @15% of the total project cost	21,34,995.00
	Total	1,63,68,295.00
	Price escalation @20%	32,73,659.00
	Grand Total	1,96,41,954.00 Or say Rs 1,96,42,000.00

(Rupees one crore ninety six lakhs forty two thousand) on

EXECUTING AGNECY

The work shall be taken up by the User Agency as per condition no. A.5 (iii) of the Stage-I grant order.

Divisional Forest Officer
Keonjhar Forest Division

Divisional Forest Officer
Keonjhar Division

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

Annexure-I

Development of crated boulder masonry near proposed OB dump

(Length of the wall = 3117.00 mtr.)

1) E/W excavation by mechanical means.
Qty. 3117 m x 2m x 0.3 = 1870.20 Cum

Taking Qty. 80% = 1496.16 Cum @ Rs. 66.39 = Rs. 99330.06

2) Blasting.
Taking 20% of Qty item (1) = 374.04 Cum @ Rs. 430.26 = Rs. 160934.45

3) Providing crate boulder.
Bottom layer: 3117 m x 1.5m x1.00 = 4675.50 Cum

Second layer: 3117 m x 1.00m x 1.00m = 3117.00 Cum

7792.50 Cum

@ Rs. 1544.94/Cum = Rs. 1,20,38,944.95

Rs 1,22,99,209.46

Say Rs. 1,22,99,300.00

Annexure-II

Excavation of Earthen drain (Garland drain) near proposed OB dump at Dubna-Sakradih Mines

1) E/W excavation by mechanical means.
2330 m x 2.00 x 1.5 = 6990 Cum

Taking 80% of above = 5592.00 Cum @ Rs. 57.13/Cum = Rs. 3,19,470.96

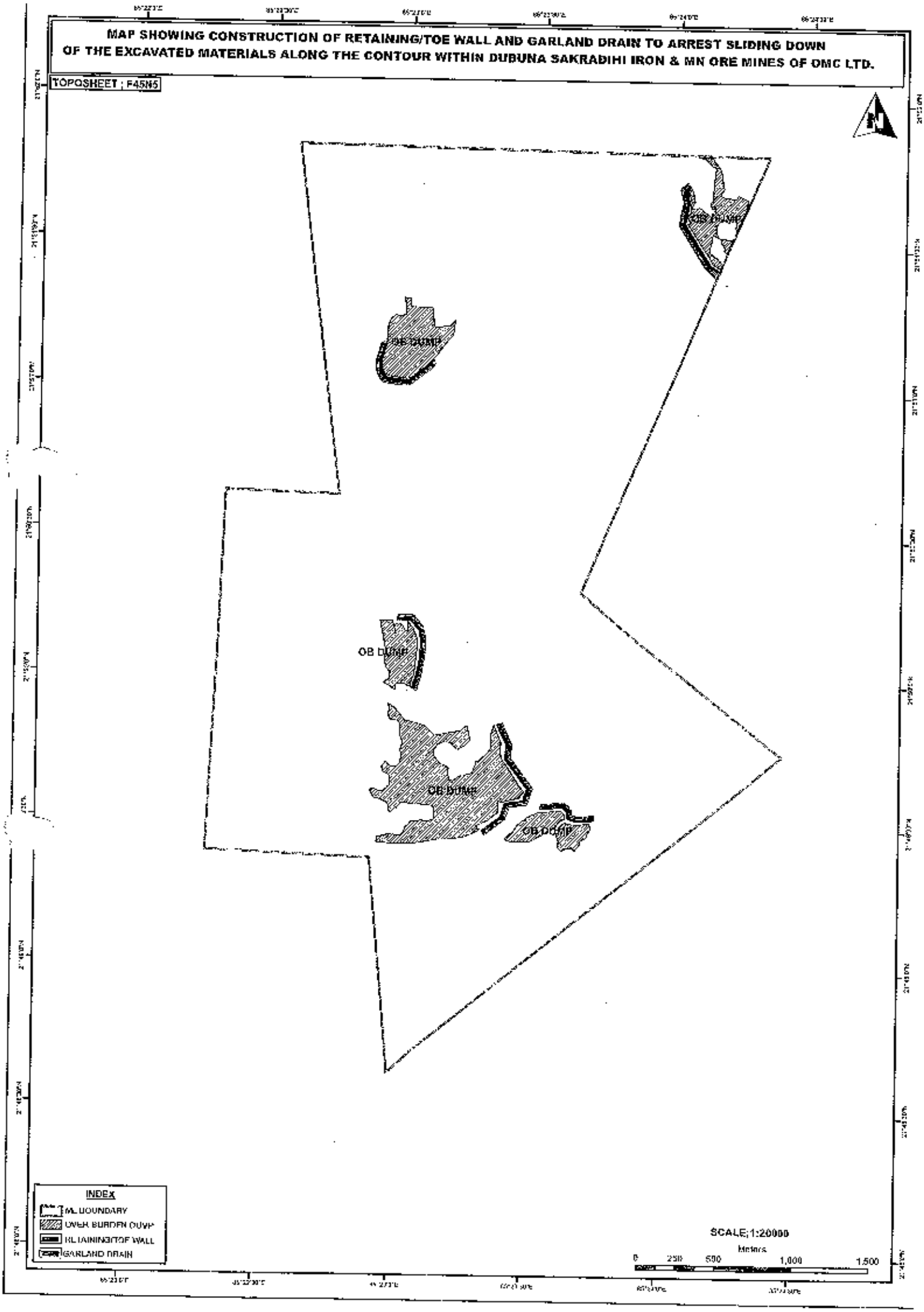
2) Blasting. 20% of Item (1) = 1398 Cum @ Rs. 430.26/Cum = Rs. 6,01,503.48

Rs. 9,20,974.44

Say Rs. 9,21,000.00

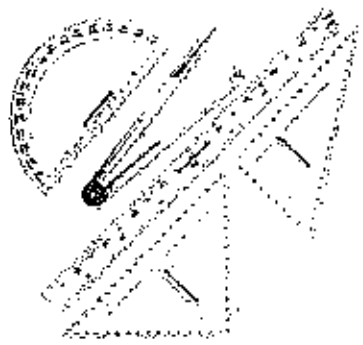
MAP SHOWING CONSTRUCTION OF RETAINING/TOE WALL AND GARLAND DRAIN TO ARREST SLIDING DOWN OF THE EXCAVATED MATERIALS ALONG THE CONTOUR WITHIN DUBUNA SAKRADIHI IRON & MN ORE MINES OF OMC LTD.

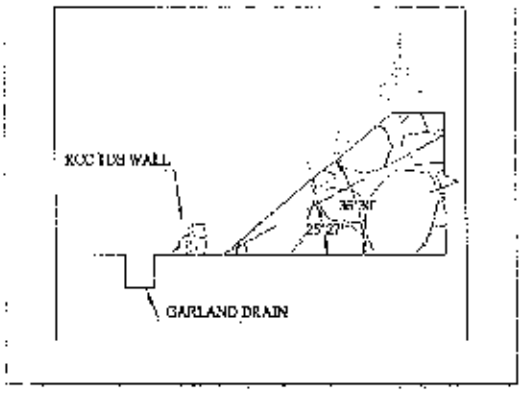
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ANNEXURE-VIII

SCHEME TO STABILIZE OVERBURDEN DUMP BY GRADING & BENCHING IN DUBNA-SAKRADIH IRON AND MANGANESE ORE MINES OF M/S OMC LTD, AGAINST DIVERSION OF 1243.47 HA OF FOREST LAND *IN* *KEONJHAR FOREST DIVISION.*





As per Condition no.A.5 (iv) of in-principle Approval of MoEF & CC, Govt. of India vide letter no F.No.8-26/2019-FC Dated 06.05.2021

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /3F-1033 /2021, Date: 23.12.2021

To The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of Iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
05	The scheme for Management of Top Soil prepared in compliance with Condition No. A.5(v) with a total financial outlay of Rs.91,90,700/-	Technically approved for Rs.91,90,700/- (Rupees ninety-one lakh ninety thousand seven hundred) only
06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
07	The scheme for de-silting of the village tanks and other water bodies located within 05 Km from Mining Lease Boundary so as to mitigate the impact of siltation of such tanks/water bodies prepared in compliance with Condition No. A.7 with a total financial outlay of Rs.1,34,70,300/-.	Technically approved for Rs.1,34,70,300/- (Rupees one crore thirty-four lakh seventy thousand three hundred) only.
08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

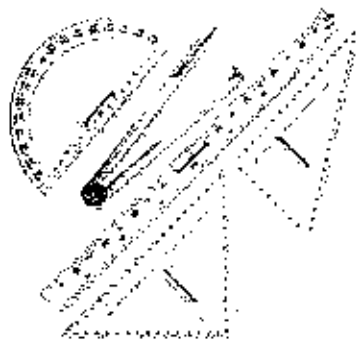
Regional Chief Conservator of Forests,
Rourkela Circle

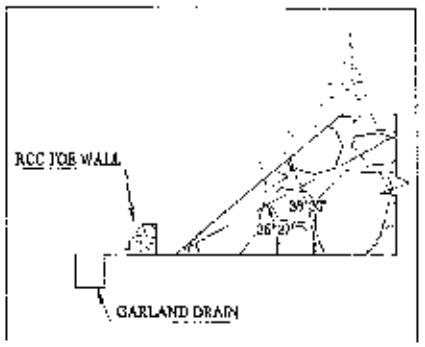
Memo No. 3871 Date: 23.12.2021

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

Regional Chief Conservator of Forests,
Rourkela Circle

SCHEME TO STABILIZE OVERBURDEN DUMP BY GRADING & BENCHING IN DUBNA-SAKRADIH IRON AND MANGANESE ORE MINES OF M/S OMC LTD, AGAINST DIVERSION OF 1243.47 HA OF FOREST LAND *IN* *KEONJHAR FOREST DIVISION.*





As per Condition no.A.5 (iv) of in-principle Approval of MoEF & CC, Govt. of India vide letter no F.No.8-26/2019-FC Dated 06.05.2021

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /3F-1033 /2021. Date: 23.12.2021

To The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of Iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
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06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
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08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

23/12/2021

Regional Chief Conservator of Forests,
Rourkela Circle

Memo No. 387/ Date: 23.12.2021

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

23/12/2021

Regional Chief Conservator of Forests,
Rourkela Circle

SCHEME TO STABILIZE OVERBURDEN DUMP BY APPROPRIATE GRADING & BENCHING.

1.0 Introduction

Stage-I approval for diversion of 1243.47 ha of forest land for non-forest purpose for Dubna-Sakradih Iron and Manganese Ore Mines has been accorded vide F.No.8-26/2019-FC Dated 06.05.2021 of MoEF & CC subject to fulfillment of certain conditions. The condition No.A.5 (iv) stipulates that:

"Stabilize the overburden dumps by appropriate grading/ benching, in accordance with the approved scheme, so as to ensure that angles of repose at any given place is less than 28° and"

In compliance with this condition, a comprehensive scheme is prepared for implementation of the same in 1243.47 ha of forest area of the said mining lease at the revised wage rate of Rs 311/-per manday as per the notification by Labour Commissioner of Odisha vide no. 6100/LC dt. 21.10.2020. The same has been approved by RCCF, Rourkela vide letter dt. 19.07.2021. Labour Commissioner of Odisha vide letter no. 2816/LC dt. 25.05.2021 has revised the minimum wage rate to Rs. 315.00 per manday. In this context, the scheme has been revised @ Rs. 315/- per manday. PCCF (N) vide letter dt. 08.11.2021 and 01.12.2021 has issued one-time Cost Norm for Compensatory Afforestation. As per the para-2 of the said guideline Compensatory Afforestation to be prepared on "one time cost norm basis" by delinking the CA scheme to wage rate revision ad material cost escalation for easy of doing business. The scheme has been revised considering the Base Norm as Rs. 315/- and computed the Matrix.

2.0 Present Scenario:

The Mining activities will be carried out in accordance with the mining plan approved by Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar. The proved mineral reserve of the mine is 20.022 million tons of iron ore and 0.837 million tons of manganese ore. Sub-grade ore production will be stored temporarily. Since the mine cannot be worked effectively by progressive closing mined out area and reclamation by backfilling, requirement of space for dumping of overburden will be sizable. 78.5963 ha area will be used for dumping overburden.

3.0 Salient points of waste management

- For the management of dump it is suggested to have terrace at every 20 m height from the floor at same contour.
- Ultimate height 80 m
- Inward slope is to be provided so that rain water will move towards dump side. It will prevent of rain water flow from terrace to lower contour through the walls of the dump and forming gullies / rain cuts and rolling down of waste materials.

➢Towards the inner side of terrace, half concrete open pipe are installed to collect rainwater and not allowing penetrating to inside the dump.

➢Crated Boulder Retaining wall of 2m height (0.5m below ground + 1.5m above the ground) X 1.0m wide will be constructed around the dump.

➢It aims to check any roll down waste from the dump.

➢At regular intervals clear openings are provided at the bottom to allow water to pass out and join the Garland drains.

➢ Constructed guard wall is of loose boulders.

➢Garland drains around the dump will be constructed.

➢At the end of the garland drain settling tanks of 15mx10mx1m deep is constructed to allow settling of carried materials.

➢Slope of each terrace to be maintained $<28^0$.

➢Over all slope shall be $<28^0$.

Anticipated fallout.

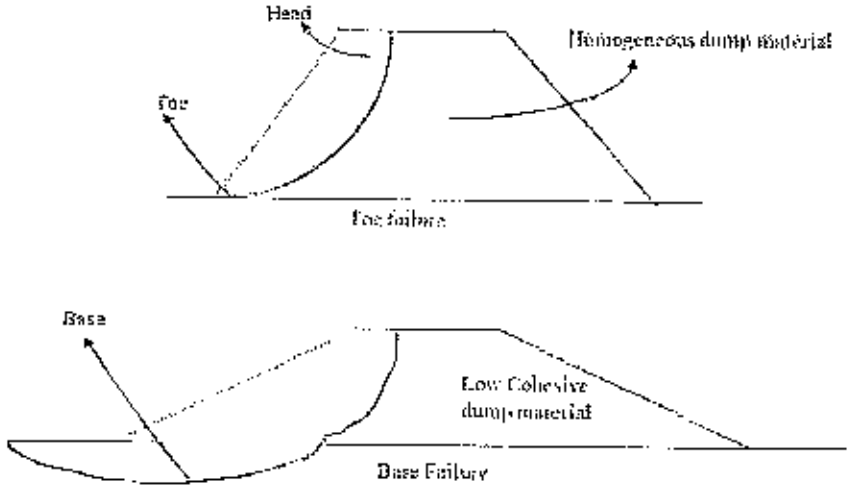
A. Failure of Dumps:

Three types of Dump Failure may occur in the present type of dump. These are

➢Slope Failure.

➢Toe failure

➢Base failure.



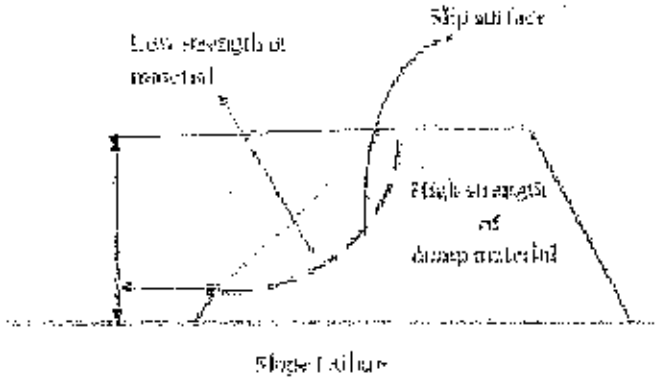


Figure 1 Dump failure line of slip.

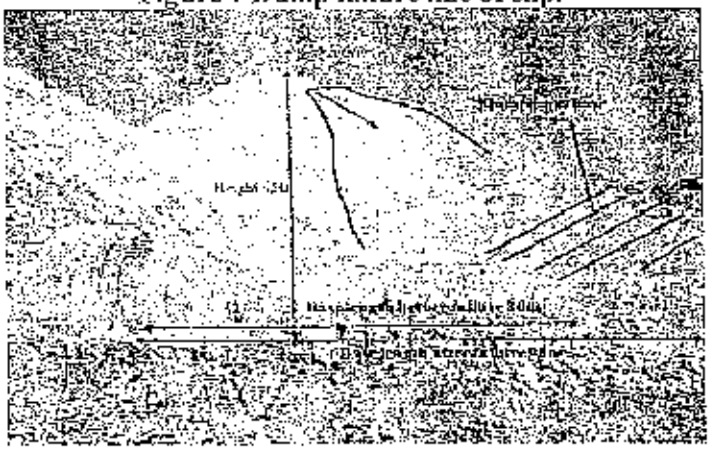


Figure 4 DUMP FAILURE SITUATION.

Reasons for failure.

i. Ground water and surface water flow condition plays a critical role on the stability of dump slope. Frictional strength is reduced as the height of dump is raised, due to presence of water. The pore water pressure reduces the normal stress acting on material. The cohesive strength of weak geo-material will be further reduced due to presence of pore water pressure. Waste dump placed in a loose state, shear failure is often followed by static static liquefaction which is complete loss of strength. The flow of water may enhance the seepage force, leading to formation and migration of tension crack.

ii. Erosion also plays an important role in affecting the stability by surface weathering, ground water or surface water seepage, toe erosion and slope modification, ground water or surface runoff. Erosion changes the waste dump slope geometry and morphological character. The weathering and attrition of material at the toe of a potential slide reduce the restraining force that may destabilize the slope Erosion of void filling materials, or zone of percolation can efficiently decrease cohesion among grain boundaries. The cohesion strength notable reduce the rock mass shear strength. The decrease in shear strength may allow movement of dump slope along weak plane. In addition localized erosion

may also result in increase permeability and ground water flow along the slope. This may lead to failure due to formation of gully and deep flow channels in dump.

iii. Other affecting parameters are

- Gradient of the Seam,
- Ground Water Regime
- Nature of Over burden Rock
- Presence of clay and Soil layers and their properties.
- Angle of Repose of the broken Over burden rock
- Cohesion of the Over burden Rock materials
- Height of OB Dump in one stretch
- Ultimate Height and Slope of Waste Dump
- Dump Stability Parameters Strip/Cut Width and Depth.

B. Dust pollution due to wind/whorl wind.

The average wind speed as noticed in post monsoon is 2.25m/s with a maximum speed of 6.13m/s. In winter the average speed is 1.31m/s with a maximum speed of 5.61m/s. This wind speed has a capacity to pick up heavy dust from dry surface of dump, ore stack & sub grade stack.

C. Loss of life & property.

Failure of dump may cause loss of life & property. May put occupational hazards to workman.

Summary of prescription on Benching & Grading:

- Bench height: 20m,
- Bench Width: 20m
- Number of Benches: 4
- Over all slope: $<28^0$.
- Slope of each terrace: $<28^0$.

4.0 Stabilization of Over Burden Dump:

After the declaration of dead of the Over Burden dump, the same shall be covered by means of plantation.

4.1 **By grass seeding:** Grass seeding over 78.5963 ha of Over Burden dump will be carried out before planting tall trees to stabilize Over Burden dump.

4.2 By Planting Tall trees: Plantation over 78.5963 ha will be carried out after the dump is declared dead. The details of plantation is given as under:

4.2.1**Planting & post-planting operations:** Block Plantation over 78.5963 ha will be carried out @ 1600 plants/Ha. All planting & post planting measures like casualty replacement, soil working, manuring, fire protection etc. will be undertaken as given in Cost norm for Block plantation with 1600 seedlings furnished as **Annexure-IV.**

While taking up plantation, the following vital points shall be taken up for consideration.

- ❖ Care to be taken to raise healthy seedlings of minimum 60 cm height. 10% extra seedlings are to be raised for replacement of casualty.
- ❖ Pitting shall invariably be done during November-February i.e., before onset of monsoon. If possible the soil of upper portion and lower portion of pit should be placed separately in specific direction so that while planting the pits will be filled with top-soil first.
- ❖ Planting shall be done on the onset of monsoon to get full benefit of monsoon rain and should not be delayed.
- ❖ Basal dose of 50 grams of NPK and 5 grams of Chlorpyriphos dust per plant should be applied at the time of planting carefully by mixing with top-soil so that the roots of seedlings do not come in direct contact with fertilizer.
- ❖ In case of any mortality of planted seedlings, it should be replaced with good seedlings as soon as possible for better success rate.
- ❖ Complete weeding in proper time will be done. Strip weeding will not be permitted.
- ❖ Soil-working and application of 2nd dose fertilizer of 50 gms NPK/plant should be done in time

Since the area is provided with barbed wire fence, watch & ward will be easier. Watchers may be engaged in weeding in problematic areas along with watch & ward.

4.2.2 Spacing: The spacing adopted for the plantation in gaps is 2.5 mtr X 2.5 mtr. Alignment and pit marking should be done carefully in slopes so that the horizontal distance between plants in a row remains 2.5 mtrs and not the distance measured along the slope.

4.2.3 Species: Although indigenous species are to be preferred in the plantation, considering adverse soil & moisture conditions we may go for hardy exotic species where required so that the plants are able to survive. Considering the topography, soil and moisture availability of the plantation area, the following species will be planted.

Name of species	Common name	Remarks
Acacia auriculiformis	Acacia	In rocky exposed areas
Azadirachtaindica	Neem	In well drained soil
Derris indica	Karanja	In area with good soil depth
Emblicaofficinalis	Amla	In area with soil depth
Cassia siamea	Chakunda	In rocky and exposed areas
Dalbergiasissoo	Sissoo	In lower areas with good soil depth
Gmelinaarborea	Gambhari	In lower areas with good soil depth
Dendrocalamusstrictus	Salia bamboo	In lower areas with good soil depth healthy seedlings from rhizomes may be planted
Zizyphusmauritania	Ber	In rocky areas with low soil depth
Simaruhaglauca	Simaruba	In rocky areas with low soil depth

5.0. Monitoring & Evaluation.

The implementation & its maintenance will be evaluated by the authority of the User Agency regularly. The Divisional Forest Officer, Keonjhar Forest Division may be kept informed from time to time as required.

6.0 Implementing Agency.

This prescription is to be implemented by the user agency.

7.0 Financial Forecast

Financial Forecast for the measures proposed like development of created boulder masonry and excavation of garland drain has been considered in separate schemes under this stage-I approval and attached herewith. So, no additional cost for the same has been proposed in this scheme. Financial Forest for the measures like Terracing of OB dump, earthen drain within the slope of OB dump, grass seeding on OB dump and plantation on OB dump area has been proposed in this scheme. The detail of financial forecast for scheme is given as under:

FINANCIAL FORECAST

Sl. No.	Particulars of interventions	Financial involvement (Rs)
1	Terracing of OB dump over a length of 46000 sqmt @ Rs.357/sqmt (**Annexure-I**).	1,64,22,000.00
2	Excavation of earthen drain of 920 cum over a slope length of 4600 mtr in every 50 meter within the slope of proposed OB dump (**Annexure-II**)	3,99,128.20
3	Cost for sowing of grass seeds over 78.5963 ha @ Rs. 26095/- ha (**Annexure-III**).	20,50,970.45
4	Maintenance of grass seed @ (5 mandays for period of six month) Total 900 mandays (180 x 5) for six months 900 x Rs. 315.00 = 2,83,500.00	2,83,500.00
5	Block plantation (1600 plants/ha) over 78.5963 ha of OB dump area @ Rs. 313289/Ha (**Annexure-IV**).	2,46,23,356.23
	Sub-Total:	4,37,78,954.88
	Inspection, monitoring and evaluation @15% of the total project cost	65,66,843.23
	Total	5,03,45,798.11
	Price escalation @20%	1,00,69,159.62
	Grand Total	6,04,14,957.73 Or say 6,04,15,000.00

(Rupees six crore four lakh fifteen thousand) only

Divisional Forest Officer
Keonjhar Forest Division

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

Annexure-I

Engagement of HEMM (Heavy earth mining machineries) in dump slope for terracing

1. Location- over burden dump- work efficiency of HEMM machine per hour-3.5 Sqm on the dump. (Average height of the terrace-20 mt)
2. Rate of engagement of HEMM Machine Rs. 1250/hr
3. Terracing cost at OB dump/sqm- Rs. 1250/3.5=**Rs. 357.14 or say 357.00**
4. In our OB dump average slope length=4600 mtr
5. Average height of terrace 10 mt.
6. Total terrace area in sqm= 4600 x 00=46,000sqm

Annexure-II

Excavation of earthen drain in every 50 meter within the slope of proposed OB dump

A: E/W Excavation by Mechanical Means

1. In our OB dump average slope length=4600 mtr
2. Total no. of drain required within 4600 mtr slope length= 4600/50=92 nos.
3. Average height of terrace 10 mt.
4. E/W excavation by mechanical means for one drain= 10m x 1m x1 m=10 Cum
5. Total volume to be excavated for 92 nos. of drain=92 x 10=920cum
6. Taking Rs. 47.60/Cum, total cost for excavation of 920 cum of earthen material = Rs.**43,792.00**

B: Providing crate boulder

1. Crate boulder pitching within earthen drain: 920 x 0.5 x 0.5= 230 Cum
2. Considering Rs. 1544.94/Cum, the cost of boulder pitching within earthen drain=230 x 1544.94= Rs **3,55,336.20**

Total Cost= 43,792.00+3,55,336.20= Rs 3,99,128.20

Annexure-III

Estimate for sowing of grass seeds per ha.

Cost of broadcasting of grass seeds per ha. Labour rate Rs.311.00/- per day				
Sl No.	**Purpose**	**No. of Labour/quantity of materials**	**Rate (in Rs.)**	**Amount in Rs.**
1	Spreading of good top soil	03 Nos	315.00/- Labour	945.00
2	Adding FYM and good earth	2 TL FYM 2TL Good earth	500/TL FYM 500/1L Good earth	2000.00
3	Cost of grass seed 500 Kg/per ha		40/Kg	20000.00
4	Broad casting	10 nos	315.00/-Labour	3150.00
			Total	**26095.00**

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
Sl. No.	Items of work	Preferable Period of Execution	No. of Mandays	Labour Cost (in Rs.)	Material Cost (in Rs.)	Total Cost (in Rs.)
1	2	3	4	5	6	7
0th Year (Advance Work) Pre-Planting Operation						
1	Survey, demarcation and Pillar posting	Nov/Dec	2	630	0	630
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	315	100	415
3	Site preparation (Cleaning & removal of debrises)	Nov/Dec	12	3780	0	3780
4	Creation of 4.00 mt. wide Inspection Path	Feb/Mar	1	315	0	315
5	Alignment and stacking	Feb/Mar	2	630	0	630
6	Digging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly soil	Feb/Mar	64	20160	0	20160
7	Construction of Temporary Labour Shed, Drinking water facility and First-Air etc.	Jan/Mar	0	0	3500	3500
	Total		**82**	**25803**	**3600**	**29430**
1st Year/ Planting Year						
1	Refilling of pits by altering the dug-out soil of the pits, application of Organic compounds/ ODM/ FYM & mixing the same properly.	Jun/Jul	12	3780	8000	11780
2	Transportation of 18 months old polypot seedlings in hired truck/ tractor from the permanent/ Mega nursery to planting site including loading & unloading. (Average lead of 10 Rkm) & Stacking the seedling @ Rs. 6/- per Seedling. (1760 nos.)	Jul/Aug	0	0	10560	10560
3	Watering the polypot seedlings at planting site	Jul/Aug	3	945	0	945
4	Conveyance of polypot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil properly around the planted seedlings.	Jul/Aug	36	11340	0	11340
5	**Cost of Fertilizer & Insecticide** (a) NPK/ Bio-fertilizer @ 50 gms/ plant as basal dose = 80 kg @ Rs. 30/- per kg = Rs. 2400.00 (b) Urea/ Vermicompost/ Mo Khato/ any other fertilizer in two subsequent doses @ Rs. 1,200.00 (c) Insecticide/ Bio-pesticide @ 5 gms/ plant = 8 kg @ Rs. 150/- per kg = Rs. 1200.00	Jul/Aug	0	0	4800	4800
6	Casualty Replacement @ 10% (160 nos.)	Jul/Aug	4	1260	0	1260
7	1st weeding & Manuing	Aug/Sept	15	4725		4725
8	2nd Weeding, Soil working (1mt. diameter around the plants) and Manuring.	Oct/Nov	20	6300	0	6300
9	Fire line tracing (2m. wide fire line over 400 m long) including maintenance of	Feb/Mar	3	945	0	945

	Inspection path.					
10	Watch & Ward including watering as per requirement	Aug Mar	12	3780	0	3780
	TOTAL		**105**	**33075**	**23360**	**56435**
	2nd Year Maintenance					
1	Transportation of 160 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs. 6/- per seedlings	Jul	0	0	960	960
2	Causality replacement- 10%	Jul	4	1260	0	1260
3	**Cost of Fertilizer & Insecticide** A) Cost of Insecticide/ Bio-pesticide @ 5 gms/plant = 0.8 Kg @ Rs. 150/- per kg -- Rs. 120/- B) Urea/ NPK/ Bio-fertilizer/ VErmIcompost/ Mo Khata/ any other fertilizer @ Rs. 4486/-	Aug/Sept	0	0	4606	4606
4	Weeding (Complete weeding), Manuring & Soil working (1mt. diameter around the plants)	Sept/Oct	20	6330	0	6220
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	945	0	945
6	Watch & Ward including watering as per requirement	Apr-Mar	18	5670	0	5670
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.				1000	1000
	Total		**45**	**14175**	**6566**	**20741**
	3rd Year Maintenance					
1	Cost of Fertilizer Urea/ NPK/ Bio-fertilizer/ Vermicompost/ Mo Khata/ any other fertilizer	Sept/Oct	0	0	4486	4486
2	Weeding, Manuring & Soil working (1mt. diameter around the plants)	Sept/Oct	70	6330	0	6330
3	Fire line tracing (2 m wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	945	0	945
4	Watch & Ward including watering as per requirement	Apr/Mar	18	5670	0	5670
5	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Apr/Mar			1000	1000
	Total		**41**	**12915**	**5486**	**18401**
	4th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward	Apr-Mar	18	5670	0	5670
	Total		**21**	**6615**	**0**	**6615**
	5th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr-Mar	18	5670.00	0	5670
	Total		**21**	**6615**	**0**	**6615**
	6th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945.0
2	Pruning of branches, Singling out of multiple shoots	Jan/Mar	5	1575.00	0	1575.0
3	Watch & Ward	Apr-Mar	18	5670.00	0	5670.0
	Total		**26**	**8190**	**0**	**8190.0**

	7th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr-Mar	18	5670.00	0	5670
	Total		21	6615	0	6615
	8th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr-Mar	18	5670.00	0	5670
	Total		21	6615	0	6615
	9th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr-Mar	18	5670.00	0	5670
	Total		21	6615	0	6615
	10th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr/Mar	18	5670.00	0	5670
	Total		21	6615	0	6615

Year wise Abstract of Cost Norm (Showing seedling cost separately)

Sl. No.	Year	No. person days	Labour Cost @ Rs. 315/- per day	Material Cost	Monitoring Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	TOTAL COST
1.	0th Year	82	25803	3600	1470	0	30873
2.	1st Year	105	33075	23360	2822	89426	148683
3.	2nd Year	45	14175	6566	1037	8130	29908
4.	3rd Year	41	12915	5486	920	0	19321
5.	4th Year	21	6615	0	331	0	6946
6.	5th Year	21	6615	0	331	0	6946
7.	6th Year	26	8190	0	410	0	8600
8.	7th Year	21	6615	0	331	0	6946
9.	8th Year	21	6615	0	331	0	6946
10.	9th Year	21	6615	0	331	0	6946
11.	10th Year	21	6615	0	331	0	6946
	Total	425	133848	39012	8643	97556	279059.00

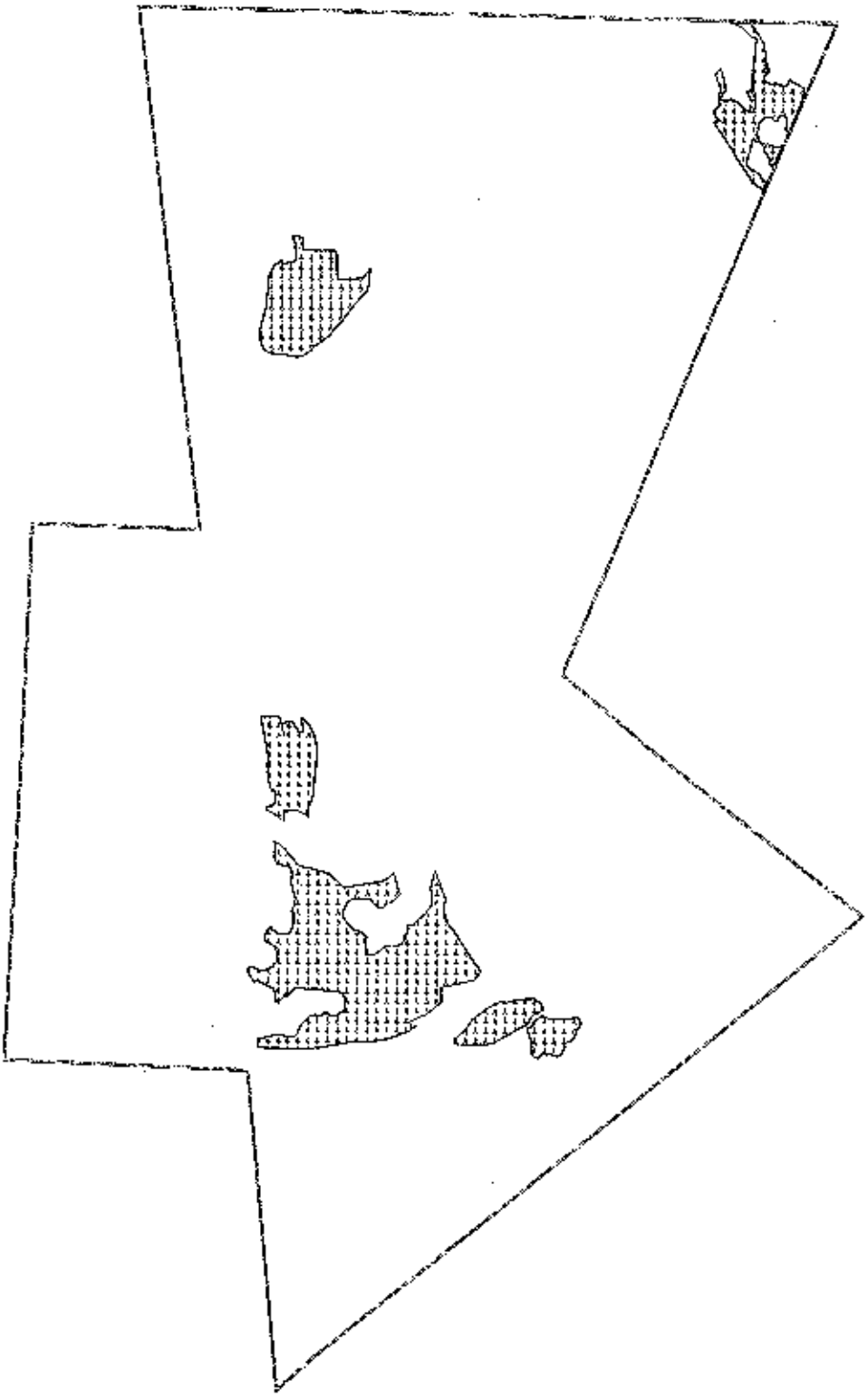
Matrix for Model-I-B Conventional CA Plantation (AR) 1600 plants per Ha.

In Rupees

Sl. No.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost
Base Norm		30873	148683	29909	19321	6946	6946	8600	6946	6946	6946	6946											
1	2021-22	30873	156117	32974	22366	8443	8855	11525	9774	10262	10776	11354											313289
2	2022-23		32427	183823	34623	23484	8665	9303	12101	10263	10775	11355	11993										328954
3	2023-24			34039	172119	35354	24696	9308	9773	12706	10775	11314	11881	12474										345401
4	2024-25				35740	180725	39172	25891	9773	10762	13341	11315	11880	12475	13098									362672
5	2025-26					37527	189761	40591	27186	10262	10775	14008	11881	12474	13099	13753								380807
6	2025-27						39403	199249	42095	28545	10775	11314	14708	12475	13098	13754	14441							399840
7	2027-28							41373	209211	44189	29972	11314	11880	15443	13098	13753	14442	15163						419839
8	2028-29								43442	215672	46598	31471	11880	12474	16215	13754	14441	15164	15921					440832
9	2029-30									45614	230655	46716	33045	12474	13098	17026	14442	15163	15922	16717				462875
10	2030-31										47895	242139	51154	34617	13098	13753	17877	15164	15921	16718	17553			486019

MAP SHOWING PLANTATION OVER THE OB DUMP AREA OF DUBUNA SAKRADIHI IRON & MN ORE MINES OF OMC LTD.

TOPOSHEET ; F45N5



SCALE;1:20000

Meters

0 250 500 1,000 1,500

INDEX

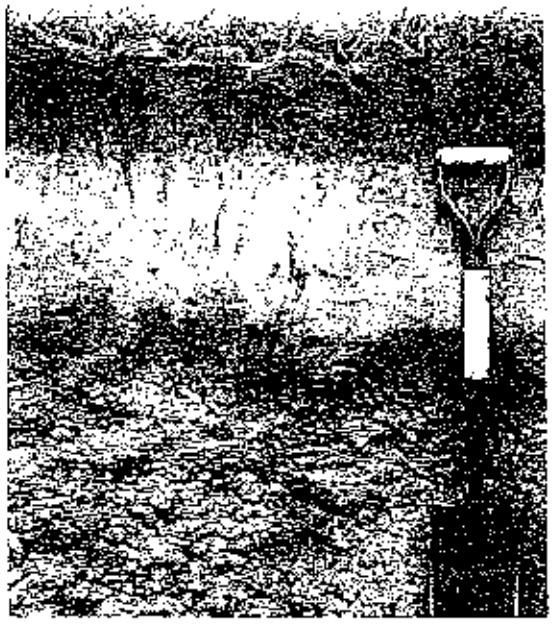
ML BOUNDARY

PLANTATION IN OB DUMP AREA

SCHEME FOR

MANAGEMENT OF TOP SOIL AT DUBNA SAKRADIH IRON AND MANGANESE ORE MINES OF M/S ODISHA MINING CORPORATION LTD.

(As it pertains to diversion of 1243.47 hectare of Forest Land)



Compliance to:

Condition No.A.5 (v) of "in principle approval" order vide F.No.8-26/2019-FC Dated 06.05.2021 of MoEF & CC, Govt. of India.

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /3F-1033 /2021, Date: 23.12.2021

To
The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
05	The scheme for Management of Top Soil prepared in compliance with Condition No. A.5(v) with a total financial outlay of Rs.91,90,700/-	Technically approved for Rs.91,90,700/- (Rupees ninety-one lakh ninety thousand seven hundred) only
06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
07	The scheme for de-silting of the village tanks and other water bodies located within 05 Km from Mining Lease Boundary so as to mitigate the impact of siltation of such tanks/water bodies prepared in compliance with Condition No. A.7 with a total financial outlay of Rs.1,34,70,300/-.	Technically approved for Rs.1,34,70,300/- (Rupees one crore thirty-four lakh seventy thousand three hundred) only.
08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

Regional Chief Conservator of Forests,
Rourkela Circle

Memo No. 387/ Date: 23.12.2021

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

Regional Chief Conservator of Forests,
Rourkela Circle

SCHEME FOR MANAGEMENT OF TOP SOIL AT DUBNA-SAKRADIH IRON AND MANGANESE ORE MINE OF M/S ODISHA MINING CORPORATION LTD.

1. INTRODUCTION

Stage-I approval for diversion of 1243.47 ha of forest land for non-forest purpose for Dubna-Sakradih Iron and Manganese Ore mine has been accorded vide F.No.8-26/2018-FC Dated 06.05.2021 of MoEF & CC, subject to fulfillment of certain conditions. As per condition No. A.5 (v) of the Stage-I approval, *"No damage shall be caused to the top-soil and the user agency will follow the top soil management plan."*

In order to comply the above condition a scheme has been approved by RCCF, Rourkela vide letter dt. 19.07.2021 @ Rs. 311.00/- per man day. Labour Commissioner of Odisha vide letter no. 2816/LC dt. 25.05.2021 has revised the minimum wage rate to Rs. 315.00 per manday. In this context, the scheme has been revised @ Rs. 315/- per manday. The purpose of this scheme is to prescribe methods to manage fertile top soil/sub soil effectively so as to preserve & conserve precious natural resources which has been formed after years of natural process.

2. TOP SOIL MANAGEMENT.

In order to manage the top soil the following suggestions are put forth and to be practiced.

- ✓ Top soil likely to be generated is to be dumped at earmarked place not affected by mining operation.
- ✓ Dump may have a slope less than 28^0
- ✓ Cover the top soil with a tarp / coir mat.
- ✓ Broadcast grass seed over the top soil.
- ✓ During reclamation the top soil may be utilized to cover the top after filling and covered the area under tree planting.
- ✓ Bring the soil under tree planting as soon as possible and covered with mulch to prevent the soil from washing or blowing away.
- ✓ Generation of Top Soil & its utilization will be recorded in a measurement book and copy of the same to be provided to reviewing authorities annually.

3.0 PRESENT SCENARIO

As per approved mining plan, no top soil will be generated during first 5 years of mining. But from 2024 till conceptual around 0.36 million Cu.m. of top soil will be generated. Top soil produced will be utilized in reclamation of mine and plantation. The stock register for production and utilization of top soil will be maintained by the User Agency. This quantity will be generated in course of mining activities mostly during expansion of mining area.

4.0 PLAN FOR TOP SOIL MANAGEMENT: The topsoil management plan provides description of the soil stripping and stockpiling procedures to minimize top soil degradation and maximum availability of suitable soil for future rehabilitation within mining lease of Dubna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. Topsoil is to be stripped in areas proposed to be distributed. A comprehensive top soil management plan has been prepared keeping in view of the conservation, regeneration and afforestation in and around the site where top soil will be stored. In non-mineralized area also there is existence of very thin layers of top soil say 5 cm to 10 cm varying from site to site, which is very difficult to slice down and will be stored separately for use during future reclamation.

The top soil inside the Mining Lease area is scanty and present in extremely thin layer. The topsoil will be utilized for concurrent plantation works in the mine as per this plan. It is proposed to use the top soil generated during the mining operation within a period of six months due to its low shelf-life. Some of the top soil will be stored temporarily until it can be used for plantation works & dump plantation. The details of collection of top soil are given below:

Dimension of the top soil stock yard: 100 mt x 100 mt x 20 mt– 1.0 ha

Volume to be stacked=0.1 million Cum.

5.0 INSPECTION, MONITORING AND EVALUATION

Intensive inspection and technical guidance from concerned technical wing is required for successful implementation of above top soil management. Sufficient fuel/conveyance charges for technical experts shall be provided by the user agency for proper execution of these programmes. Budgetary provision of 15% of the total project cost has been earmarked on this score.

6.0. BUDGETARY PROVISION.

Top soil removal/dumping will be as per mining plan and the soil will be utilized for taking up plantations in backfill and other areas. The total cost of the project is given as below.

Sl. No.	Description of the work	Funds Required
1	Virgin forest area from where top soil can be collected. Stripping cost 0.5ha/hr @ 1800.00. Therefore 802.9003 ha cost = 1605.801 hrs Total 1605.801 hrs x Rs. 1800-= **28,90,441.80/-** Loading & transporting cost from the site to top soil stockpiles comes to be : 27384 x (tonnage factor)1.8= 49291.20 ton 49291.20 ton x Rs. 36/- (Loading & Transportation @ Rs. 36/ton) = **Rs. 17,74,483.20/-** Cost of leveling with 4800 manpower @ Rs 315/-: Rs. 315 x 4800	Rs. 61,76,925.00

	= Rs. 15,12,000/-	
2	Cost for sowing of grass seeds over 1.0 ha @ Rs 26095.00/-ha (Annexure-I).	Rs. 26095.00
3	Maintenance of grass seed @ (3 mandays weekly for period of six month). Total 72 mandays for six months : 72 x Rs. 315.00 = 22,680/-	Rs. 22,680.00
4	Retaining wall over a length of 100 meters (Annexure-II).	Rs. 3, 94, 600.00
5	Garland drain over a length of 100 meters (Annexure-III).	Rs. 39,600.00
	Sub-total	Rs. 66,59,900.00
6	Inspection, monitoring & evaluation @15% of the total project cost	Rs. 9,98,985.00
	Total	Rs. 76,58,885.00
7	Price escalation @20%	Rs. 15,31,777.00
	Grand Total	Rs. 91,90,662.00 or say **Rs. 91,90,700/-**

(Rupees ninety one lakh ninety thousand seven hundred) only

The total cost of the implementation of Top soil management scheme will be Rs. **91,90,700/-** **(Rupees ninety one lakh ninety thousand seven hundred)** only as detailed above which will be borne by User Agency at their project cost. The cost of the scheme may subject to increase in amount considering the increase in materials and labour charges which will also be borne by the User Agency.

7.0. EXECUTION.

This is part of the mining operation and to be executed by the User agency.

Divisional Forest Officer
Divisional Forest Officer
Keonjhar Division
Keonjhar Forest Division

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

Annexure-I

Estimate for sowing of grass seeds per ha.

Cost of broadcasting of grass seeds per ha. Labour rate Rs.315.00/- per day

Sl No.	Purpose	No. of Labour/quantity of materials	Rate (in Rs.)	Amount in Rs.
1	Spreading of good top soil	03 Nos	315.00/- Labour	945.00
2	Adding FYM and good earth	2 TL FYM 2TL Good earth	500/TL FYM 500/TL Good earth	2000.00
3	Cost of grass seed 500 Kg/per ha		40/Kg	20000.00
4	Broad casting	10 nos	315.00/-Labour	3150.00
			Total	26095.00

Annexure-II

Development of retaining wall near proposed Top soil dump (Length of the wall = 100mtr.)

1) E/W excavation by mechanical means.
Qty. 100 m x 2m x 0.3 = 60 Cum
Taking Qty. 80% = 48 Cum @ Rs. 66.39 = Rs. 3186.72
2) Blasting.
Taking 20% of Qty item (1) 12 Cum @ Rs. 430.26 = Rs. 5163.12
3) Providing crate boulder.
Bottom layer: 100 m x 1.5m x1.00 = 150 Cum
Second layer: 100 m x 1.00m x 1.00m = 100 Cum
250 Cum
@ Rs. 1544.94/Cum = Rs. 3,86,235.00
Rs. 3,94,584.84
Say **Rs. 3, 94, 600.00**

Annexure-III

Excavation of Earthen drain (Garland drain) near proposed Top soil dump at Dubuna-Sakradihi Mines.

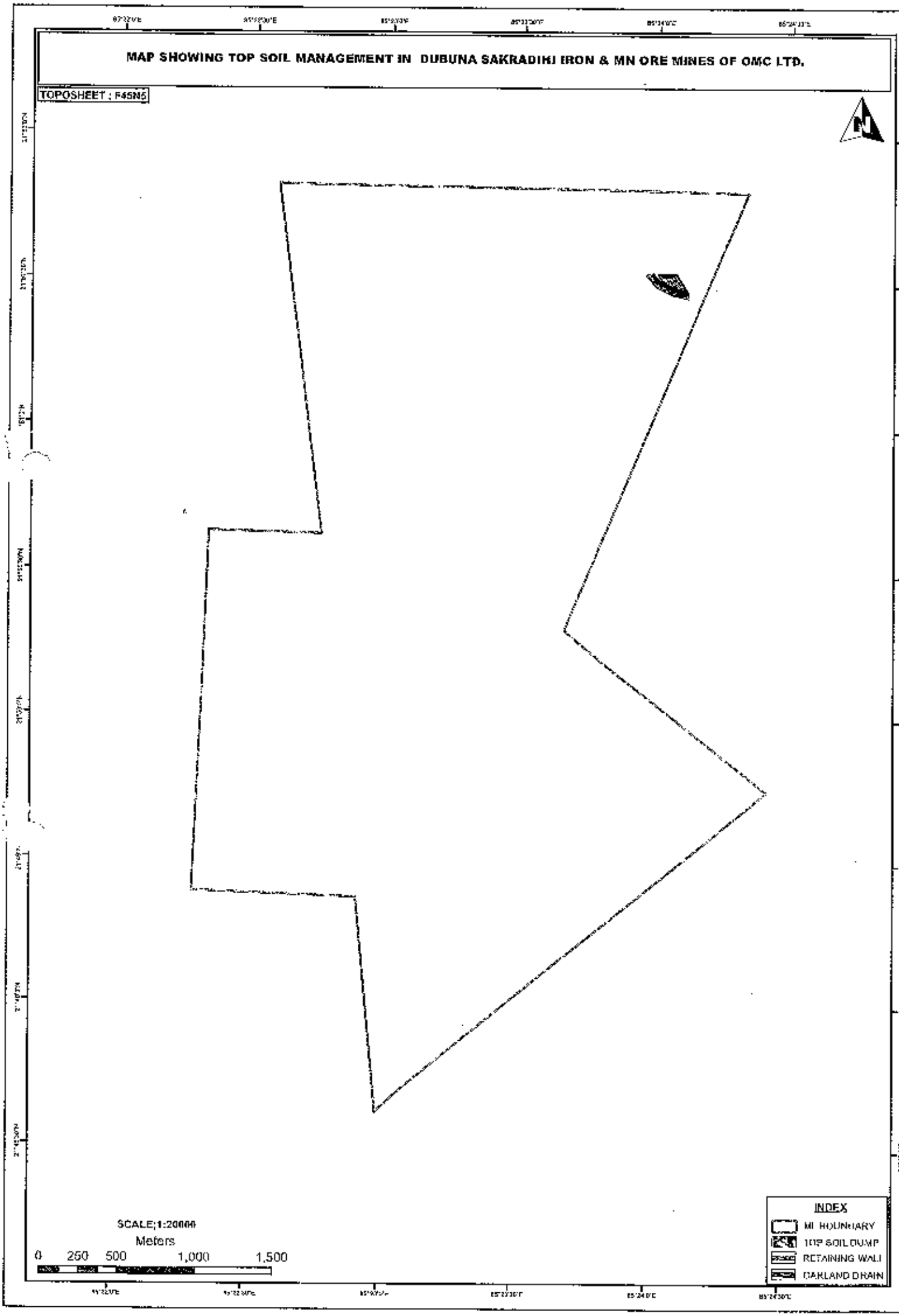
1) E/W excavation by mechanical means.

100 m x 2.00 x 1.5 = 300.00 Cum
Taking 80% of above = 240.00 Cum@ Rs. 57.13/Cum = Rs. 13,711.20

2) Blasting. 20% of Item (1) = 60 Cum @ Rs. 430.26/ Cum = Rs. 25,815.60
Rs. 39,526.80
Say Rs. **39,600.00**

MAP SHOWING TOP SOIL MANAGEMENT IN DUBUNA SAKRADIHI IRON & MN ORE MINES OF OMC LTD.

TOPOSHEET : F45N5



ANNEXURE-X

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION
Phone No- 06766-254315, email ID- dfo.keonjhar@odisha.gov.in

No. 631 /Mining-
Dated. Keonjhar, the 25-01- 2022

To

The Executive Director, F&E,
M/s OMC Ltd, OMC House,
Bhubaneswar- 751001

Sub: Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese ore in Dubuna–Sakradihi Mines in favour of Odisha Mining Corporation Ltd in Keonjhar District of Odisha.

XX-Sub: Demand of revised scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests within 100 m from outer perimeter of the mining lease and one and half time the safety zone over 31.981 ha degraded forest land identified in Belda RF at the current wage rate @Rs. 315.00/- per Mandays.

Ref: Memo No. 3370 dt. 23.12.2021 of Regional Chief Conservator of Forests, Rourkela Circle, Rourkela.

Sir

With reference to the aforementioned memo on the captioned subject, you are requested to deposit the approved amount of **Rs. 39796200.00** (Rupees three crore ninety-seven lakh ninety-six thousand two hundred) only towards Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests within 100 m from outer perimeter of the mining lease and one and half time the safety zone over 31.981 ha degraded forest land identified in Belda RF stipulated in condition No. A.6 & A.8(iv) of the Stage- I approval dated 06.05.2021 of the MoEF&CC, GoI respectively as per current wage rate 315.00/- per man-day through e-portal of MoEF&CC as provided in the **https://parivesh.nic.in/** and the proof/evidence of the deposit of fund be submitted to this office for further necessary action at this end.

Condition No.	Particulars	Amount to be deposited (Rs)
A.6	Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests within 100 m from outer perimeter of the mining lease	25942300.00
A.8(iv)	Scheme for one and half time the safety zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range.	13853900.00
	Total	**39796200.00**

(Rupees three crore ninety-seven lakh ninety-six thousand two hundred) only

Yours faithfully,

Divisional Forest Officer,
Keonjhar Division.

(2)

Memo No. 632 /Dated. 25-01-2022.

Copy forwarded to the Regional Chief Conservator of Forests, Rourkela Circle, Rourkela/Principal Chief Conservator of Forests, Forest Diversion and Nodal Officer, FC Act, O/o the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action.

Divisional Forest Officer,
Keonjhar Division.

AGENCY COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 11-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349994
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
Address.	OMC HouseKhordha
Amount(in Rs)	209108458/-

Amount in Words :Twenty Crore Ninety-One Lakh Eight Thousand Four Hundred and Fifty-Eight Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	150825030349994 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

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NEFT / RTGS CHALLAN for CAMPA Funds

Date : 11-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349994
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
Address:	OMC House Khordha
Amount(in Rs)	209108458/-

Amount in Words :Twenty Crore Ninety-One Lakh Eight Thousand Four Hundred and Fifty-Eight Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	150825030349994 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

After making successful payment, User Agencies may send a line of confirmation through Email: helpdeskcampa@corpbank.co.in

Note:After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date to Email: cb0371@unionbankofindia.com

Sl. No.	Particulars	Amount
1	Scheme for Gap Planting and Soil & moisture conservation activities within 100 m	25942300.00
2	Scheme for one and half time safety zone	13853900.00
3	RWMP	109225558
4	SSWLCP	600.867 Lakh
Total		209108458/-

17/03/2022
S. Mohapatra
Dy. General Manager (Fin)

UBINT22076649463

ANNEXURE-XI

SCHEME FOR

GAP PLANTING AND SOIL MOISTURE CONSERVATION MEASURES TO RESTOCK AND REJUVINATE THE DEGRADED OPEN FORESTS LOCATED WITHIN 100 mtr FROM OUTER PERIMETER OF DUBNA-SAKRADIH MINING LEASE OF M/S OMC LTD. OVER THE ML AREA OF 1332.019 HA IN KEONJHAR DISTRICT

FOR

DUBNA-SAKRADIH IRON AND MANGANESE ORE MINES

UNDER KEONJHAR FOREST DIVISION

OF

M/S ODISHA MINING CORPORATION LTD.
(A GOVT.OF ODISHA UNDERTAKING)
A Gold category State PSU
OMC HOUSE, BHUBANESWAR-751001

(As per condition No.A.6 of the Stage-I Forest Clearance granted by MoEF & CC, Govt. of India vide F.No.8-26/2019-FC dt 06.05.2021)

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /3F-1033 /2021. Date: 23.12.2021

To The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of Iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
05	The scheme for Management of Top Soil prepared in compliance with Condition No. A.5(v) with a total financial outlay of Rs.91,90,700/-	Technically approved for Rs.91,90,700/- (Rupees ninety-one lakh ninety thousand seven hundred) only
06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
07	The scheme for de-silting of the village tanks and other water bodies located within 05 Km from Mining Lease Boundary so as to mitigate the impact of siltation of such tanks/water bodies prepared in compliance with Condition No. A.7 with a total financial outlay of Rs.1,34,70,300/-.	Technically approved for Rs.1,34,70,300/- (Rupees one crore thirty-four lakh seventy thousand three hundred) only.
08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

Regional Chief Conservator of Forests,
Rourkela Circle

Memo No. 387/ Date: 23.12.2021

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

Regional Chief Conservator of Forests,
Rourkela Circle

ELEMENTS OF THE SCHEME FOR GAP PLANTATION

CHAPTER	PARTICULARS	PAGE NUMBER
I	BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL	1 to 2
II	DETAILS OF LAND IDENTIFIED FOR GAP PLANTATION	2 to 2
III	DELINEATION OF PROPOSED AREA ON SUITABLE MAP	2 to 2
IV	AGENCY RESPONSIBLE FOR GAP PLANTATION	3 to 3
V	DETAILS OF WORK SCHEDULED PROPOSED FOR GAP PLANTATION	3 to 4
VI	REQUIREMENT OF FUNDS	5 to 5
VII	PROVISION OF FUNDS AND UTILIZATION	5 to 5
ANNEXURES	COST NORM FOR ANR PLANTATION @500 PLANTS PER HA. (ANNEXURE-1).	6 to 8
	BAMBOO TWIGS CONTINUOUS FENCING COST NORM FOR BLOCK OR MULTIROW AVENUE PLANTATION (UNIT-10 RMT)-(ANNEXURE-2).	9 to 10
	SOIL MOISTURE CONSERVATION ACTIVITIES (ANNEXURE-3).	11-12

CHAPTER- I

BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL

Dubna mining lease for manganese ore in village-Dubna etc. in Keonjhar district was executed on dt 08.09.1971 in favour of OMC Ltd for a period of 20 years i.e. from dt 08.09.1971 to dt 07.09.1991. One year before expiry of the lease period, OMC applied 1st Renewal of mining lease over an area of 1135.419 ha for iron and manganese ore as per MC Rules, 1960 on dt 27.08.1990 for a further period of 20 years with effect from dt 08.09.1991 i.e. up to dt 07.09.2011.

Similarly, Sakradih mining lease for iron ore over 564.55 ha (out of which 366.54 ha is overlapped with Dubna ML) in Keonjhar district was executed on dt 28.12.1959 for a period of 30 years with effect from dt 28.12.1959 i.e. up to dt 27.12.1989 in favour of OMC. One year before expiry of the ML period, OMC filed application for 1st Renewal of mining lease over an area of 564.55 ha for iron and manganese ore as per MC Rules, 1960 on dt 17.12.1988 for a further period of 20 years from dt 28.12.1989 to dt 27.12.2009.

Subsequently, OMC requested the State Government for amalgamation of these two adjoining leases of OMC forming a compact block into a single ML over an area of 1332.019 ha for both iron and manganese ore in the interest of the mineral development, as per Rule-38 of MC Rules, 1960. The State Govt. vide their proceedings dt 18.02.2006 permitted the amalgamation of the above two overlapping leases wherein the renewal period has been considered to be counted w.e.f. dt 28.12.1989 for the total area of 1332.019 ha.

The said mining lease over 1332.019 ha involves 1243.27 ha of forest land and 88.749 ha of non-forest land. The instant diversion proposal has been submitted over 1243.27 ha (RF: 764.0308 ha; Revenue forest: 26.1594 ha; DLC Forest: 398.2718 ha and 33.4873 ha Non- Forest land recorded as Forest as on 25.10.1980) including safety zone area over 21.3207 ha Forest land for diversion under Section-2 (ii) of Forest (Conservation) Act, 1980. The total broken up land, involved in the mining lease, is 258.599 ha.

Stage-I approval for diversion of 1243.27 ha of forest land for non-forest purpose for Dubna-Sakradih mine has been accorded vide F.No.8-26/2019-FC Dt. 06.05.2021 by MoEF & CC, Govt. of India subject to fulfillment of certain conditions. The condition No. A.6.is given as under:

"User agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.40), if any, located in the area within 100 meter from outer perimeter of the mining lease. The plan for plantation and SMC activities will be prepared and submitted to MoEF & CC before Stage-II Clearance."

In compliance with this condition, a comprehensive scheme is prepared for implementation of the same in 1332.019 ha area of the said ML. In this context the scheme has been prepared @ Rs. 311.00 per man day and the same has been approved by RCCF, Rourkela vide letter dt. 19.07.2021.

Labour Commissioner of Odisha vide letter no. 2816/LC dt. 25.05.2021 has revised the minimum wage rate to Rs. 315.00 per manday. In this context, the scheme has been revised @ Rs. 315/- per manday. PCCF (N) vide letter dt. 08.11.2021 and 01.12.2021 has issued one-time Cost Norm for Compensatory Afforestation. As per the para-2 of the said guideline Compensatory Afforestation to be prepared on "one time cost norm basis" by delinking the CA scheme to wage rate revision ad material cost escalation for easy of doing business. The scheme has been revised considering the Base Norm as Rs. 315/- and computed the Matrix.

In the approved scheme an area over 84.861 ha has been proposed for ANR 400 plants/ha and an area over 77.229 ha has been proposed for ANR without Gap plantation. But, in the guideline

issued by PCCF, Odisha vide letter dt. 08.11.2021 and 01.12.2021 no cost norm has been provided for ANR 400 plants/ha and ANR without gap plantation. In this context in the present scheme ANR plantation @ 500 plants/ha has been provided over 84.861 ha and SMC activities has been provided over 77.229 ha @ Rs. 315/- per man day.

CHAPTER- II

DETAILS OF LAND IDENTIFIED FOR PLANTATION OVER 84.861 HA IN ANR MODEL @ 500 PLANTS/HA

IDENTIFICATION OF DEGRADED FOREST LAND

II (1) Details of identified Forest land:

An area of 84.861 ha of degraded forest land within 100 mtr from the outer perimeter of Dubna-Sakradih ML area of OMC comprises 47.396 ha of Non-forest land and 37.465 ha of Open Forest as per the DSS Analysis. The area shall be taken up for plantation in ANR model @ 500 plants/ha. Besides, an area of 77.229 ha of MDF has been proposed for SMC activities. The location map on Survey of India Topo Sheet is enclosed as **Plate-I.** The area has been inspected by the Range Officer, Champua Range and found to be suitable for Afforestation and free from encroachment and encumbrances. The area under operation by other lessees (M/s Rungta Sons (Pvt) Ltd and M/s T.P.Mohanty) has been excluded from the plantation activities.

II (2) Character of existing vegetation of the identified site:

The prevailing forest growth in part of the forest land has been categorized under forest type-3C/C_2e Moist Peninsular Valley Sal. The vegetation consists of Sal and its associates like Jamu, Sunari, Asana, Karada, Dhaura etc.

II (3) Suitability of the identified site:

The identified site is a degraded patch with existing vegetation of Sal and Sal associates. Gaps are sporadically spread over the forest block. The topography of the area is undulating in the identified area. The soil is mostly hard to sandy loam. The average maximum temperature is 42^0 to 45^0 C and minimum 5^0 to 10^0 C and annual rainfall varies from 1100 mm to 1800 mm. The maximum rainfall is received during the rainy season from July to September.

CHAPTER-III

DELINEATION OF PROPOSED AREA ON SUITABLE MAP

III (1) - GPS COORDINATES AND GPS MAP OF THE PLANTATION SITE

The area has been demarcated through GPS survey and GPS survey data showing latitude and longitude of each point and their chainage with bearing is also enclosed in the map prepared thereon.

Decision Support System analysis of degraded forest land identified for plantation

Sl. No.	Location of the forest patches	Verified in Decision Support System (in ha)					Total Area (ha) over 100 mtr perimeter.
		Non-forest	Open-forest	Area suitable for ANR plantation	MDF (ANR without gap)	Area (ha) of other lessee not considered for plantation.	
1	Patch-I & II	47.396	37.465	84.861	77.229	23.488	185.578

The GPS survey data with chainage and DSS map is enclosed as **Plate- II.**

CHAPTER- IV

AGENCY RESPONSIBLE FOR PLANTATION OVER 83.528 Ha.

IV (1) - AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS

The user agency shall provide funds to carry out plantation as per approved scheme. The funds to be deposited in CAMPA Account by the User Agency.

The Territorial Wing of the Forest Department i.e. Divisional Forest Officer, Keonjhar Division shall be assigned with the task for execution of plantation work.

CHAPTER- V

DETAILS OF WORK SCHEDULE PROPOSED OVER 84.861 HA

A. PLANTING PLAN: Planting Plan reflects the species specific treatment of the identified site. Choice of species is based on the geo-morphology of the site, soil-texture, structure, fertility and depth, proneness of the site to water logging etc.

Patch No.	Area suitable for Plantation (ha)		Area coming within MDF as per DSS (ha)	Total Area in Ha.	Remarks
	Non-Forest	Open Forests			
PATCH-I	27.921	36.659	67.526	132.106	Shown on the Map
PATCH-II	19.475	0.806	9.703	29.984	
Total	**47.396**	**37.465**	**77.229**	**162.09**	

Species to be planted:-

1. *Sizyziumcumini* (Jamu)
2. *Adina cardifolia* (Kuruma)
3. *Anogeissuslatifolia* (Dhaura)
4. *Dalbergiasissoo* (Sissoo)
5. *Azadirrachtaindica* (Neem)
6. *Gmelinaarborea* (Gambar)
7. *Terminaliachebula* (Harida)

Besides SMC activities has been proposed over **77.229 ha** of MDF area within 100 mtr perimeter from the ML boundary is to be executed as per the cost norm enclosed at **Annexure-III.**

B.PRE-PLANTING OPERATION

B (I)-RAISING OF PLANTATION STOCK- NURSERY-

Nursery will be raised including seedlings for 10% causality replacement i.e. 440 seedlings per hectare will be raised.

B (II)-SURVEY, DEMARCATION & PILLAR POSTING, GPS READING WITH MAPPING-

The planting area has been surveyed and demarcated with four feet height RCC pillars at inter visible distance with GPS coordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A GPS map in the scale of 1:1000 has been prepared along with GPS co-ordinates, forward & backward bearing, pillar to pillar distance and pillar numbers reflected in the map.

C. PLANTING OPERATION

Planting of seedlings will be taken up in the month of July. The polythene covering the ball of earth will be carefully removed before planting. Care will be taken to see that the ball of earth is not broken while doing so. The seedling with the ball of earth will then be placed firmly in the pit and buried at such a depth that the root collar is well below the surface of the soil. The soil around the plant will be well compacted with the heal as a final step so that there is a proper bond between the plant and the surrounding soil. The earth close to the collar will be slightly elevated so that rain water does not accumulate very close to the plant.

D. POST PLANTING OPERATION

D (1) CASUALTY REPLACEMENT

The entire area will be gone over in the same order as plantation was carried out and casualties, if any, will be replaced as soon as the main plantation operation is over.

D (2) WEEDING AND SOIL WORKING

Regular and efficient weeding will start immediately in the month of Aug- Sept.

D (3) MANURING AND INSECTICIDE APPLICATION

On degraded sites urban compost or farmyard manure, wherever available, will be added to the soil while refilling the pits. As regards artificial fertilizers, the minerals required and dosage will be applied in the month August to September as per the schedule and dosage provided in the Cost Norm.

D (4) PROTECTION AGAINST FIRE AND GRAZING

Fire line tracing will be ensured to protect the plantation from fire and watch & ward will be provided as per the approved norm for protecting the plantation & protect the plant site from grazing by domestic animals using Bamboo Twig fencing around the plantation site over an area 4951 Rmt.

CHAPTER-VI

REQUIREMENT OF FUNDS

For implementation of all prescriptions outlined above, **Rs. 2,59,42,300.00 (Rupees two crore fifty nine lakhs forty two thousand three hundred)** only will be required as detailed below.

1.	ANR plantation @ 500 plants/Ha with 10 years maintenance amounting to Rs. 138822/- per Ha. Expenditure for 84.861 ha (84.861 x 138822) = Rs 1,17,80,573.74	Rs 1,17,80,573.74
2	Staggered trenches @130 MD per ha over 84.861 ha.	Rs 34,75,057.95
3	Additional incentive (3% of cumulative expenditure up to 4th year) for VSS/Fr./FG proposed for more than 80% survival and very good growth during 4th year of maintenance as per recommendation of DFO and RCCF. @Rs. 2872.65/- for 84.861 ha.	Rs 2,43,775.95
4	Additional EPA expenses if implemented through VSS at rate Rs.1200/- in 0th Year, Rs.2400/- in 1st Year, Rs.1800/- in 2nd Year, Rs.600/- in 3rd Year, Rs.600/- in 4th Year,Rs.600/- in 5th Year ,Rs.600/- in 6th year, Rs.600/- in 7th year, Rs.600/- in 8th year, Rs.600/- in 9th year, Rs.600/- in 10th year @ Rs. 10200/- per ha for 84.861 ha	Rs 8,65,582.20
5	Bamboo twigs continuous fencing @ Rs. 100539/- per 250 Rmt for 16972.01 Rmt including maintenance to be carried out:- Expenditure for ha {(Rs. 100539/250) x 16972.01 Rmt) = Rs 68,25,395.65	Rs 68,25,395.65
6	SMC activities over 77.229 ha of MDF area amounting to Rs 35633/- per Ha. Expenditure for 77.229 ha (77.229 x 35633/-) =Rs 27,51,900.96	Rs 27,51,900.96
	TOTAL PLANTATION COST	Rs. 2,59,42,286.45 Or Say Rs. 2,59,42,300.00

(Rupees two crore fifty nine lakhs forty two thousand three hundred) only

NB:- The cost norm for ANR plantation @ 500 plants per ha, the cost norm for Bamboo Twigs continuous fencing for Block Plantation and cost norm SMC activities are taken @ Rs. 315.00/Manday.

Divisional Forest Officer,
Keonjhar Division

Divisional Forest Officer
Keonjhar Division

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

CHAPTER-VII

PROVISION OF FUNDS AND FUND UTILIZATION

Rs. 2,59,42,300.00 (Rupees two crore fifty nine lakhs forty two thousand three hundred) only shall be deposited by M/s OMC Ltd on approval of the scheme to the Ad-hoc CAMPA Account and the funds will be utilized for raising plantation over 84.861 ha of Non-forest and Open Forest area and implementation of ANR without gap plantation over 77.229 ha of MDF area by the Divisional Forest Officer, Keonjhar Division on allotment by the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.

Divisional Forest Officer,
Keonjhar Division.

Divisional Forest Officer
Keonjhar Division

COST NORM FOR ANR PLANTATION @ 500 PLANTS PER HECTARE
WAGE RATE Rs. 315.00/- PER MANDAY

Sl. No.	Items of work	Preferable Period of Execution	No. of Mandays	Labour Cost (in Rs.)	Material Cost (in Rs.)	Total Cost (in Rs.)
1	2	3	4	5	6	7
	0th Year (Advance Work) Pre-Planting Operation					
1.	Survey, demarcation and Pillar posting	Nov/Dec	2	630	0	630
2.	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	315	100	415
3.	Site preparation	Nov/Dec	2	630	0	630
4.	Silvicultural operations including clearance of weed, cutting of climber, High stump cutting, singling of shoots & removal of cut out after drying from the field to blank space	Jan/Feb	15	4725	0	4725
5.	Alignment and stacking for digging of pits	Feb/Mar	1	315	0	315
6.	Digging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly soil	Feb/Mar	20	6300	0	6300
	Total		**41**	**12915**	**100**	**13015**
	1st Year/ Planting Year					
1.	Refilling of pits by altering the dug-out soil of the pits, application of Organic compounds/ CDM/ FYM & mixing the same properly.	Jun/Jul	4	1260	2500	3760
2.	Transportation of 18 months old polythene bag seedlings in hired truck/ tractor from the permanent/ Mega nursery to planting site including loading & unloading. (Average load of 10 Rkm) & Stacking the seedling @ Rs. 6/- per Seedling. (550 nos.)	Jul/Aug	0	0	3300	3300
3.	Watering polythene bag seedlings at stacking site of plantation	Jul/Aug	1	315	0	315
4.	Conveyance of polythene bag seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil perfectly around the planted seedlings.	Jul/Aug	11	3465	0	3465
5.	**Cost of Fertilizer & Insecticide** (a) NPK/ Bio-fertilizer @ 50 gms/ plant as basal dose = 25 kg @ Rs. 30/- per kg = Rs. 750.0 (b) Urea/ Vermicompost/ Mo Khata/ any other fertilizer @ Rs. 375.00 (c) Insecticide/ Bio-pesticide @ 5 gms/ plant = 2.5 kg @ Rs. 150/- per kg = Rs. 375/-	Jul/Aug	0	0	1500	1500
6.	Casualty Replacement @ 10% (20 nos.)	Jul/Aug	1.5	472.5	0.0	472.5
7.	1st weeding & Manuring	Aug/Sept	5	1575	0	1575
8.	2nd Weeding, Soil working (1mt. diameter around the plants) and Manuring.	Oct/Nov	8	2520	0	2520
9.	Fire line tracing & inspection path.	Feb/Mar	3	945	0	945
10.	Watch & Ward including watering as per requirement	Aug-Mar	8	2520	0	2520
	TOTAL		**41.5**	**13072.5**	**7300.0**	**20372.5**
	2nd Year Maintenance					
1.	Transportation of 50 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs. 6/- per seedlings	Jul	0.0	0.0	300.0	300.0
2.	Causality replacement	Jul	1.5	472.5	0.0	472.5
3.	**Cost of Fertilizer & Insecticide** A) Cost of Insecticide/ Bio-pesticide (Themet/ forate) @ 5 gms/plant = 25 Kg @ Rs. 150/- per kg = Rs. 37.50 B) Urea/ NPK/ Bio-fertilizer/ Vermicompost/ Mo Khata/ any other fertilizer @ Rs. 1400/-	Jul/Aug	0	0	1437.5	1437.5
4.	Weeding (Complete weeding), Manuring & Soil working (1mt. diameter around the plants)	Sept/Oct	8	2520	0	2520
5.	Fire line tracing (2 m. wide fire line) & inspection path	Feb/Mar	3	945	0	945
6.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	TOTAL		**24.5**	**7717.5**	**1737.5**	**9455**

3rd Year Maintenance						
3.	Cost of Fertilizer:- Urea/ NPK/ Bio-fertilizer/ Vermicompost/ Mo Khata/ any other fertilizer:- Rs. 1400/-	July/Aug	0	0	1400.0	1400.0
4.	Weeding (Complete weeding), Manuring & Soil working (1mt. diameter around the plants)	Sept/Oct	8	2520	0	2520
5.	Fire line tracing (7 m wide fire line) & inspection path	Feb/Mar	3	945	0	945
6.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780		3780
	Total		**23.0**	**7245**	**1400.0**	**8645**
4th Year Maintenance						
1	Fire line tracing (2 m. wide fire line) & inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		**15**	**4725**	**0**	**4725**
5th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		**15**	**4725**	**0**	**4725**
6th Year Maintenance						
1.	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		**15**	**4725**	**0**	**4725**
7th Year Maintenance						
1.	Fire line tracing (2 m. wide fire line over 400 m length) & inspection path	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		**15**	**4725**	**0**	**4725**
8th Year Maintenance						
1.	Fire line tracing (2 m. wide fire line over 400 m length) & cultural operation	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		**15**	**4725**	**0**	**4725**
9th Year Maintenance						
1.	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr-Mar	12	3780	0	3780
	Total		**15**	**4725**	**0**	**4725**
10th Year Maintenance						
1.	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		**15**	**4725**	**0**	**4725**

Year wise Abstract of Cost Norm (Showing seedling cost separately)

Sl. No.	Year	No. person days	Labour Cost @ Rs. 315/- per day	Material Cost (In Rs.)	Monitoring Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	TOTAL COST
1	2	3	4	5	6	7	8
1.	0th Year	41	12915	100	650.75	0.00	13666
2.	1st Year	41.5	13072.5	7300.0	1018.625	27946.00	49337
3.	2nd Year	24.5	7717.5	1737.5	472.75	2541.00	12469
4.	3rd Year	23.0	7245	1400.0	432.25	0.00	9077
5.	4th Year	15	4725	0	236.25	0.00	4961
6.	5th Year	15	4725	0	236.25	0.00	4961
7.	6th Year	15	4725	0	236.25	0.00	4961
8.	7th Year	15	4725	0	236.25	0.00	4961
9.	8th Year	15	4725	0	236.25	0.00	4961
10.	9th Year	15	4725	0	236.25	0.00	4961
11.	10th Year	15	4725	0	236.25	0.00	4961
	Total	**235.0**	**74025**	**10537.5**	**4228.13**	**30487.00**	**119278.00**

Fencing for Compensatory Plantation raised inside the Forest Area using Bamboo Twigs & Thorns						
WAGE RATE Rs. 315/- PER DAY						
Sl. No.	Items of work	Preferable Period of Execution	Man days	Wages	Material Cost (Rs.)	Total Cost (Rs. per Ha.)
0th Year (Advance Work)						
1	Nil		0	0	0	0
1st Year Maintenance						
1	Taking an average perimeter of 250 Km/ Ha. @ 93.85/ mt. (Half bundle Bamboo Twigs/ mt. @ 120/ Bundle) Labour Material = 40.60 (approx)	Sept/Oct	30	9450	14133	23583
2	Bamboo poles of 8 height at a distance of 2 mt. spacing to be fixed (2" under soil & 2" above soil) 250/2 = 125 + 1 = 126 Nos. of Bamboo Poles 1 Bamboo (approx) 24" height = 3 poles 126/3=42 Bamboos @ 200/ Bamboo	Sept/Oct		0	8400	8400.0
3	Preparation of Bamboo poles, Digging of holes of 2 ft. depth & fixing Bamboo poles @ 20 poles/MD	Sept/Oct	6.5	2047.5		2047.5
4	Cost of Bamboo for being the Bamboo twigs row fence with double side two strand Bamboo batten (One 6" above ground and other one 4 ft. above ground) (250x2)/24=21 Bamboo @ 200/Bamboo	Sept/Oct		0	4200	4200.0
5	Making Bamboo batten, Finishing the Batten & Tieing the same on double strand up Coir rope etc. @ Rs. 11/ Rmt.	Sept/Oct	9	2835		2835
6	Cost of coir rope @ Rs. 0.125 kg/ Rmt. 500x0.125 kg = 62.5 kg @ Rs. 70/Kg	Sept/Oct		0	4375	4375.0
7	Making one Bamboo Twigs gate with Bamboo frame			0	500.5	500.5
	TOTAL		45.5	14332.5	31608.5	45941.00
Rate per running mt. 45941/250=184/Rmt						
2nd Year Maintenance						
1	Repair & Maintenance of Bamboo Twigs fence including Material cost	Feb./ Mar	20	6300	1500	7800
Rate per running mt. 7800/250 = 31.2 or say Rs. 31-Rmt.						
3rd Year Maintenance						
1	Repair & Maintenance of Bamboo Twigs fence including Material cost.	Feb./Mar	20	6300	5675	11975
Rate per running mt. 11975/250=47.9 or say Rs. 48 Rmt.						
4th Year Maintenance						
1	Repair & Maintenance of Bamboo Twigs fence including Material cost	Feb./Mar	20	6300	5675	11975
Rate per running mt. 11975/250=47.9 or say Rs. 48 Rmt.						
5th Year Maintenance						
1	Repair & Maintenance of Bamboo Twigs fence including Material cost	Feb./Mar	20	6300	5675	11975
Rate per running mt. 11975/250=47.9 or say Rs. 48 Rmt.						

Abstract

Sl. No.	Year	No. person days	Labour Cost @ Rs. 315/- per day	Material Cost	Total Cost (Rs.)
1.	0th Year	0.0	0.0	0.0	0
2.	1st Year	45.5	14332.5	31608.5	45941
3.	2nd Year	20.0	6300.0	1500.0	7800
4.	3rd Year	20.0	6300.0	5675.0	11975
5.	4th Year	20.0	6300.0	5675.0	11975
6.	5th Year	20.0	6300.0	5675.0	11975
	Total	125.5	39532.50	50133.5	89666.00

Matrix for Model-F-I Fencing (Bamboo Twig)

In Rupees

Sl.No.	Commence-ment Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost.
Base Norm		0	45941	7800	11975	11975	11975											
1	2021-22	0	48238	8600	13863	14556	15283											100539
2	2022-23		0	50650	9025	14556	15283	16048										105566
3	2023-24			0	53182	9481	15283	16048	16850									110845
4	2024-25				0	55842	9955	16048	16850	17693								116387
5	2025-26					0	58634	10453	16850	17693	18577							122206
6	2026-27						0	61565	10975	17693	18577	19506						128316
7	2027-28							0	64644	11524	18577	19506	20481					134732
8	2028-29								0	67876	12100	19506	20481	21505				141469
9	2029-30									0	71270	12705	20481	21505	22581			148542
10	2030-31										0	74833	13341	21505	22581	23710		155969

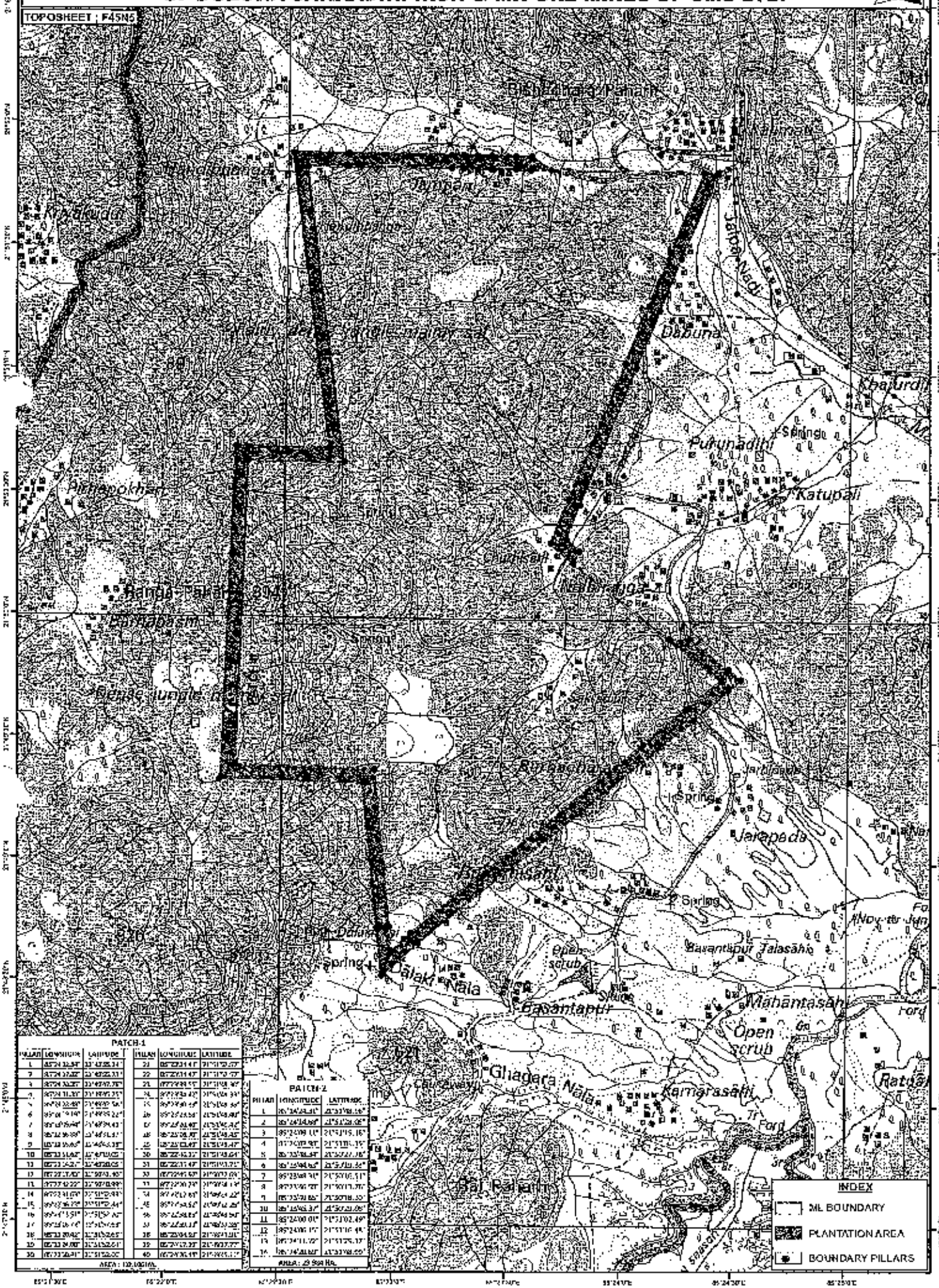
SMC Works Model-C

Cost Norms for creation of Compensatory Afforestation with stabilization of Soil & Conservation of Moisture (1000 Plants/ Ha).

Sl. No.	Items of work	Preferable Period of Execution	Total Cost
	0th Year (Pre-Planting Operation)		
1.	Nil		0
	1st Year		
2.	Soil Conservation measure structures like Staggered Trench, Percolation pit, Contour trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke & WHS as per the slope & site requirement on LS	Apr/Sept	20,215
	2nd Year		
3.	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	3rd Year		
4.	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	4th Year		
5.	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	4th Year		
1.	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
	Total		**32,343.0**

Sl. No.	Year	No. person days	Labour Cost @ Rs. 311/- per day	Material Cost	TOTAL COST (Rs). Considered in the Matrix
1.	0th Year	0.0	0.0	0.0	0.0
2.	1st Year	0.0	0.0	20,215.0	20,215.00
3.	2nd Year	0.0	0.0	3,032.00	3,032.00
4.	3rd Year	0.0	0.0	3,032.00	3,032.00
5.	4th Year	0.0	0.0	3,032.00	3,032.00
6.	5th Year	0.0	0.0	3,032.00	3,032.00
	Total	**0.00**	**0.00**	**32,343.0**	**32,343.0**

MAP SHOWING GAP PLANTATION WITHIN 100 MTR. FROM OUTER PERIMETER OF DUBUNA SAKRADIHI IRON & MN ORE MINES OF OMC LTD.



PATCH-1

PILLAR	LONGITUDE	LATITUDE	PILLAR	LONGITUDE	LATITUDE
1	85°24'32.84"	21°53'05.31"	21	85°23'31.41"	21°51'52.07"
2	85°24'31.02"	21°53'02.31"	22	85°23'31.41"	21°51'51.07"
3	85°24'30.32"	21°53'00.78"	23	85°23'28.55"	21°51'48.94"
4	85°24'31.35"	21°52'59.25"	24	85°23'28.55"	21°51'48.94"
5	85°24'32.88"	21°52'57.56"	25	85°23'28.55"	21°51'48.94"
6	85°24'34.94"	21°52'55.22"	26	85°23'28.55"	21°51'48.94"
7	85°24'35.44"	21°52'54.43"	27	85°23'28.55"	21°51'48.94"
8	85°24'36.88"	21°52'53.81"	28	85°23'28.55"	21°51'48.94"
9	85°24'38.44"	21°52'52.38"	29	85°23'28.55"	21°51'48.94"
10	85°24'39.42"	21°52'50.05"	30	85°23'28.55"	21°51'48.94"
11	85°24'41.42"	21°52'48.05"	31	85°23'28.55"	21°51'48.94"
12	85°24'41.42"	21°52'46.05"	32	85°23'28.55"	21°51'48.94"
13	85°24'41.42"	21°52'44.05"	33	85°23'28.55"	21°51'48.94"
14	85°24'41.42"	21°52'42.05"	34	85°23'28.55"	21°51'48.94"
15	85°24'41.42"	21°52'40.05"	35	85°23'28.55"	21°51'48.94"
16	85°24'41.42"	21°52'38.05"	36	85°23'28.55"	21°51'48.94"
17	85°24'41.42"	21°52'36.05"	37	85°23'28.55"	21°51'48.94"
18	85°24'41.42"	21°52'34.05"	38	85°23'28.55"	21°51'48.94"
19	85°24'41.42"	21°52'32.05"	39	85°23'28.55"	21°51'48.94"
20	85°24'41.42"	21°52'30.05"	40	85°23'28.55"	21°51'48.94"

AREA : 100.00HA.

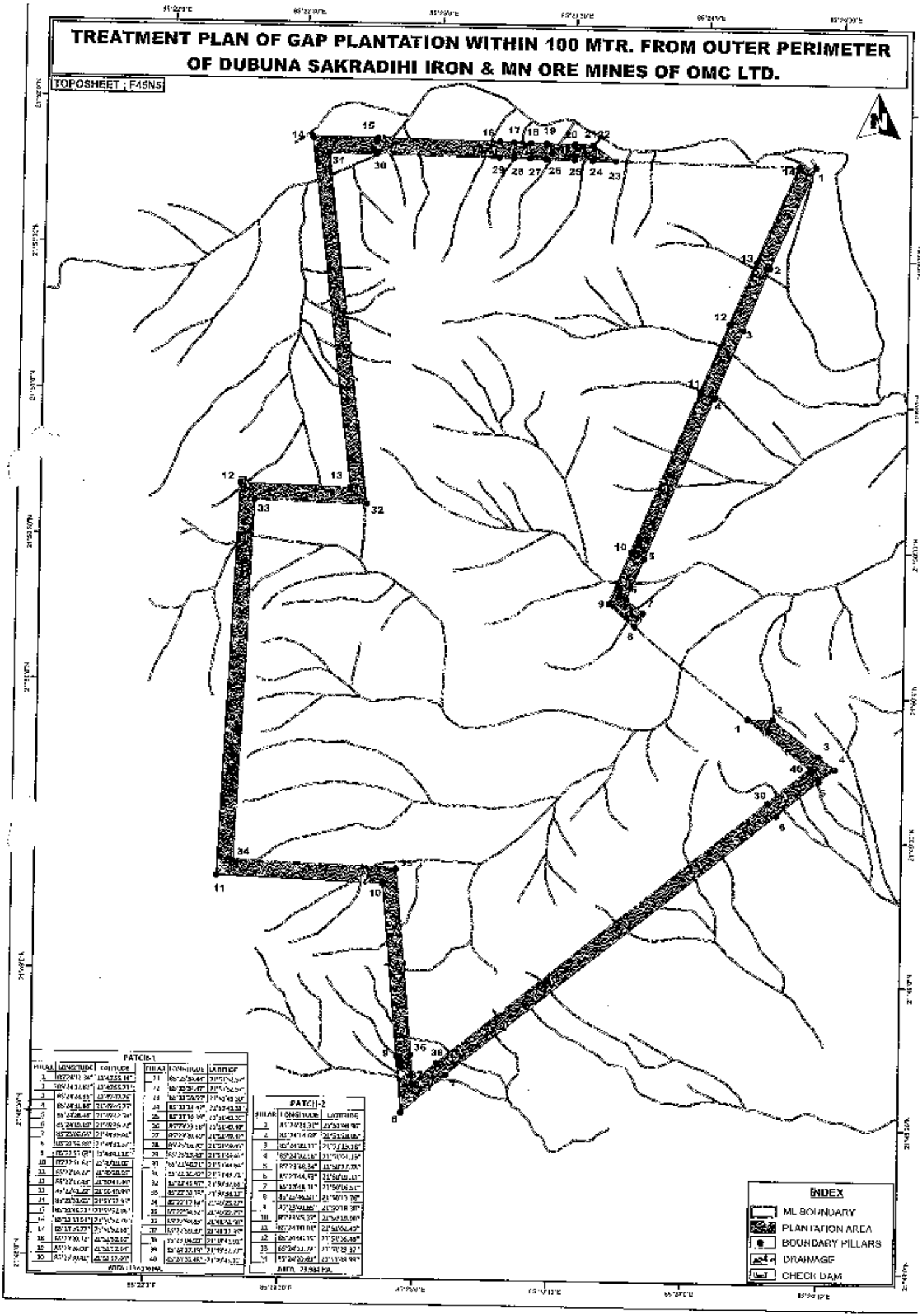
PATCH-2

PILLAR	LONGITUDE	LATITUDE
1	85°24'45.41"	21°53'08.16"
2	85°24'44.69"	21°53'06.06"
3	85°24'44.10"	21°53'04.16"
4	85°24'43.92"	21°53'01.35"
5	85°24'43.94"	21°52'59.06"
6	85°24'44.54"	21°52'56.56"
7	85°24'44.70"	21°52'55.51"
8	85°24'45.28"	21°52'53.76"
9	85°24'45.86"	21°52'51.55"
10	85°24'46.34"	21°52'49.06"
11	85°24'46.01"	21°52'47.49"
12	85°24'46.17"	21°52'45.49"
13	85°24'46.17"	21°52'43.49"
14	85°24'46.17"	21°52'41.49"

AREA : 0.994 Ha.

TREATMENT PLAN OF GAP PLANTATION WITHIN 100 MTR. FROM OUTER PERIMETER OF DUBUNA SAKRADIHI IRON & MN ORE MINES OF OMC LTD.

TOPOSHEET : F45N5



PATCH-1

PILLAR	LONGITUDE	LATITUDE
1	85°22'47.3"	21°49'55.14"
2	85°22'44.88"	21°49'55.31"
3	85°22'44.88"	21°49'55.31"
4	85°22'41.88"	21°49'55.31"
5	85°22'38.88"	21°49'55.31"
6	85°22'35.88"	21°49'55.31"
7	85°22'32.88"	21°49'55.31"
8	85°22'29.88"	21°49'55.31"
9	85°22'26.88"	21°49'55.31"
10	85°22'23.88"	21°49'55.31"
11	85°22'20.88"	21°49'55.31"
12	85°22'17.88"	21°49'55.31"
13	85°22'14.88"	21°49'55.31"
14	85°22'11.88"	21°49'55.31"
15	85°22'8.88"	21°49'55.31"
16	85°22'5.88"	21°49'55.31"
17	85°22'2.88"	21°49'55.31"
18	85°21'59.88"	21°49'55.31"
19	85°21'56.88"	21°49'55.31"
20	85°21'53.88"	21°49'55.31"
21	85°21'50.88"	21°49'55.31"
22	85°21'47.88"	21°49'55.31"
23	85°21'44.88"	21°49'55.31"
24	85°21'41.88"	21°49'55.31"
25	85°21'38.88"	21°49'55.31"
26	85°21'35.88"	21°49'55.31"
27	85°21'32.88"	21°49'55.31"
28	85°21'29.88"	21°49'55.31"
29	85°21'26.88"	21°49'55.31"
30	85°21'23.88"	21°49'55.31"
31	85°21'20.88"	21°49'55.31"
32	85°21'17.88"	21°49'55.31"
33	85°21'14.88"	21°49'55.31"
34	85°21'11.88"	21°49'55.31"
35	85°21'8.88"	21°49'55.31"
36	85°21'5.88"	21°49'55.31"
37	85°21'2.88"	21°49'55.31"
38	85°20'59.88"	21°49'55.31"
39	85°20'56.88"	21°49'55.31"
40	85°20'53.88"	21°49'55.31"

AREA : 134.736HA.

PATCH-2

PILLAR	LONGITUDE	LATITUDE
1	85°23'34.31"	21°50'41.90"
2	85°23'31.31"	21°50'41.90"
3	85°23'28.31"	21°50'41.90"
4	85°23'25.31"	21°50'41.90"
5	85°23'22.31"	21°50'41.90"
6	85°23'19.31"	21°50'41.90"
7	85°23'16.31"	21°50'41.90"
8	85°23'13.31"	21°50'41.90"
9	85°23'10.31"	21°50'41.90"
10	85°23'7.31"	21°50'41.90"
11	85°23'4.31"	21°50'41.90"
12	85°23'1.31"	21°50'41.90"
13	85°22'58.31"	21°50'41.90"
14	85°22'55.31"	21°50'41.90"

AREA : 73.944 HA.

Matrix for (SMC)

In Rupees

Sl. No.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
Base Norm		**0**	**20215**	**3032**	**3032**	**3032**	**3032**											
1	2021-22	0	21226	3342	3510	2685	3870											35633
2	2022-23		0	22287	3509	3686	3869	4064										37415
3	2023-24			0	23401	3684	3870	4062	4267									39284
4	2024-25				0	34571	3868	4064	4265	4480								41248
5	2025-26					0	25800	4061	4267	4478	4704							43310
6	2026-27						0	27090	4264	4480	4702	4939						45475
7	2027-28							0	28445	4477	4704	4937	5186					47749
8	2028-29								0	29867	4701	4939	5184	5445				50136
9	2029-30									0	31362	4636	5186	5443	5717			52642
10	2030-31										0	32928	5183	5445	5715	6003		**55274**

ANNEXURE-XII

SCHEME FOR

DE-SILTING OF VILLAGE TANKS AND OTHER WATER BODIES LOCATED WITHIN 5.0 KM FROM THE MINE LEASE BOUNDARY SO AS TO MITIGATE THE IMPACT OF SILTATION OF SUCH TANKS AND WATER BODIES

AT

DUBNA-SAKRADIH IRON AND MANGANESE ORE MINES

UNDER KEONJHAR FOREST DIVISION

OF

M/S ODISHA MINING CORPORATION LTD.

(A GOVT.OF ODISHA UNDERTAKING)

A Gold Category State PSU

OMC HOUSE, BHUBANESWAR-751001

(As per condition No. A.7. of the stage-I Forest Clearance granted by MoEF & CC, Govt. of India vide F.No.8-26/2019-FC dt 06.05.2021)

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /JF-1033 /2021. Date: 23.12.2021

To The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of Iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. In Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(II), A.5(III),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
05	The scheme for Management of Top Soil prepared in compliance with Condition No. A.5(v) with a total financial outlay of Rs.91,90,700/-	Technically approved for Rs.91,90,700/- (Rupees ninety-one lakh ninety thousand seven hundred) only
06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
07	The scheme for de-silting of the village tanks and other water bodies located within 05 Km from Mining Lease Boundary so as to mitigate the impact of siltation of such tanks/water bodies prepared in compliance with Condition No. A.7 with a total financial outlay of Rs.1,34,70,300/-.	Technically approved for Rs.1,34,70,300/- (Rupees one crore thirty-four lakh seventy thousand three hundred) only.
08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

Regional Chief Conservator of Forests,
Rourkela Circle

Memo No. 387/ Date: 23.12.2021.

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

Regional Chief Conservator of Forests,
Rourkela Circle

SCHEME FOR DE-SILTING OF VILLAGE TANKS AND OTHER WATER BODIES LOCATED WITHIN 05 KM FROM THE MINE LEASE BOUNDARY SO AS TO MITIGATE THE IMPACT OF SILTATION OF SUCH TANKS WATER BODIES

1. INTRODUCTION

Stage-I approval for diversion of 1243.27 ha of forest land for non-forest purpose for Dubna-Sakradih Iron and Manganese Ore mine has been accorded vide F.No.8-26/2019-FC Dt. 06.05.2021 of Ministry of Environment, Forests & Climate Change subject to fulfilment of certain conditions. The condition No.A.7 is read as under:

"The User Agency shall prepare a list of existing village tanks and other water bodies with GPS co-ordinates located within five km from the mine lease boundary. This list is to be duly verified by the concerned Divisional Forest Officer. The User Agency shall regularly undertake desilting of these village tanks and other water bodies so as to mitigate the impact of siltation of such tanks/water bodies. A detailed approved plan for desilting of identified ponds and water bodies to be prepared in consultation with forest department and shall be submitted to MoEF & CC before Stage-II approval."

In compliance with this condition, a comprehensive scheme was prepared for implementation of the same within 5 km from boundary of the said mining lease and the same has been approved by RCCF, Rourkela vide letter dt. 19.07.2021. Labour Commissioner of Odisha vide letter no. 2816/LC dt. 25.05.2021 has revised the minimum wage rate to Rs. 315.00 per manday. In this context, the scheme has been revised @ Rs. 315/- per manday.

Dubna-Sakradih Iron and Manganese Ore mine of M/s Odisha Mining Corporation (OMC) Limited, a State Government Undertaking, is a mining project for exploitation of iron ore. The mining lease (ML) area over **1332.019** Hectares (ha) is confined within the Latitudes: 21^0 51' 52.019" – 21^0 48' 37.356" North and Longitudes: 85^0 22' 17.839" – 85^0 24' 26.478" East, indicated in the Survey of India Topo sheet bearing No. F 45 N 5 on 1:50,000 scale. The key plan showing Dubna-Sakradih Iron and Manganese Ore mine is enclosed as **Plate No. I**. It is located at a distance of 23 KM from Joda town to the South via. Bamebari-Kalimatti. The area exhibits an undulated topography with varying elevations from **540** m to **900** m above Mean Sea Level (MSL).

The mining and ancillary activities will convert this area prone to intensive soil erosion by creating reels and gullies on mined out pit benches, on the surface of O.B. dump, on the shoulder of haul roads, on the surface of the surface-soil deposit and on the bank of the natural streams. Such gullies eventually may widen and occupy large tract of the slope and cause heavy soil loss and flooding the valley bottom with heavy siltation. This results the virgin forest area prone to soil erosion. During rains, the exposed soil will not allow percolation of rainwater to charge the groundwater table. Consequently the seasonal streams will be dried up. Therefore, it is essential to treat the area with strategic soil and moisture conservation measures to mitigate the adverse impact of mining.

2. Factors responsible for Siltation

Siltation is an inherent problem with ponds, lakes and almost all types of water reservoirs world over. Siltation occurs due to deposition or settling of soil eroded from the shore line, decaying fallen leaves, grass and other vegetative materials and decomposed organic materials settled on pond bottoms. Soil erosion may be attributed as the primary factor responsible for pond siltation in this area. Higher gradient and excess rainfall are the most common reasons of soil erosion. Erosion of Soil occurs from the waste dumps, excavated areas and naturally denuded ground surface. However, looking into the current problem of siltation of the village ponds, the major factors are the surface runoff containing silt particles entering into the pond. As the age of the ponds increases, new layers of silt accumulate on the older ones and the silt layers become thicker. Finally the depth of the pond decreases and it loses its water storage capacity. At this time it needs to be desilted to recover. The best practice against siltation is to de-silting pond bottom at regular intervals as well as taking adequate preventive measures.

3. LOCATION DETAILS

There are 10 other mining leases within 5 km from outer periphery of Dubna-Sakradih Iron and Manganese Ore mine of M/s Odisha Mining Corporation (OMC) Limited. We have already provided for de-siltation of water bodies located within 5 km of Unchabali ML of OMC Ltd. Excluding the water bodies to be desilted for Unchaballi project of OMC and water bodies located within lease area of other mines, there are only 12 tanks/water bodies within 5 Km from boundary of the mining lease area which need de-silting.

CO-ORDINATES OF WATER BODIES						
WATER BODY NO.	NAME OF VILLAGE	CORNER POINT NO.	LONGITUDE	LATITUDE	LENTH IN MTR.	WIDTH IN MTR.
1	BAIADA	1	85°24'29.880"	21°54'28.080"	57.31	50.92
		2	85°24'33.680"	21°54'28.080"		
		3	85°24'32.040"	21°54'26.280"		
		4	85°24'29.880"	21°54'26.280"		
2	KUNDAPOSI	1	85°24'47.160"	21°54'02.160"	57.063	53.282
		2	85°24'47.160"	21°54'00.360"		
		3	85°24'45.000"	21°54'00.360"		
		4	85°24'45.360"	21°54'02.160"		
3	PALASA (KA)	1	85°25'27.840"	21°54'15.120"	51.465	39.055
		2	85°25'28.200"	21°54'14.040"		
		3	85°25'26.400"	21°54'13.680"		
		4	85°25'26.040"	21°54'15.120"		
4	DHANURJAYA-PUR	1	85°26'35.880"	21°49'15.960"	62.735	72.753
		2	85°26'37.680"	21°49'15.240"		
		3	85°26'36.060"	21°49'13.080"		
		4	85°26'34.800"	21°49'13.800"		
5	KENDUGHATI	1	85°23'59.640"	21°46'52.680"	53.977	51.282
		2	85°24'01.080"	21°46'51.600"		
		3	85°24'00.360"	21°46'50.160"		
		4	85°23'58.920"	21°46'50.880"		
6	BASANTPUR	1	85°23'52.440"	21°48'35.640"	234.737	188.5
		2	85°23'52.800"	21°48'28.080"		
		3	85°23'46.320"	21°48'27.720"		

		4	85°23'45.600"	21°48'35.280"		
7	KADALIA	1	85°20'39.120"	21°52'08.760"	51.342	52.44
		2	85°20'40.560"	21°52'09.480"		
		3	85°20'41.280"	21°52'07.680"		
		4	85°20'39.480"	21°52'06.960"		
8	TADAPANI	1	85°23'36.600"	21°54'07.200"	77.600	60.504
		2	85°23'38.400"	21°54'06.120"		
		3	85°23'37.320"	21°54'03.960"		
		4	85°23'35.520"	21°54'04.680"		
9	BALADA	1	85°24'03.240"	21°54'01.440"	65.002	62.983
		2	85°24'05.400"	21°54'01.080"		
		3	85°24'05.400"	21°53'58.920"		
		4	85°24'03.240"	21°53'59.280"		
10	NAYAGARH	1	85°26'20.760"	21°50'27.960"	95.537	52.352
		2	85°26'22.560"	21°50'27.600"		
		3	85°26'21.480"	21°50'24.360"		
		4	85°26'20.040"	21°50'25.080"		
11	NAIBUGA	1	85°24'38.160"	21°49'14.880"	59.092	54.026
		2	85°24'39.600"	21°49'13.800"		
		3	85°24'38.520"	21°49'12.000"		
		4	85°24'37.080"	21°49'13.080"		
12	BASANTPUR	1	85°24'12.960"	21°48'54.360"	70.055	69.384
		2	85°24'15.120"	21°48'53.280"		
		3	85°24'14.040"	21°48'51.120"		
		4	85°24'11.880"	21°48'52.560"		

4. TOPOGRAPHY:

The ponds are mostly on plain terrain. They are situated close to habitation.

5. SOIL TYPE.

The soil is hard and lateritic. The pond silt is basically of clay, silt and sand. The silts are soft and easily can be removed. The depth of siltation as observed varies from 30cm to 200cm. On an average 115cm or say 1 meter silt is proposed to be removed.

6. METHODOLOGY FOR DE-SILTATION

Keeping in view the site condition it is proposed to take up de-siltation on a cycle of five year basis (i.e. each pond will be de-silted twice within the plan period over 10 year) particularly during summer months when the pond/water bodies are dried up with exposed silts. Removal of silts is to be done either manually or mechanically basing on ground condition and quantity of silts accumulation. Silt accumulation occurs in the basal area of the tank which is roughly estimated to be 30% less of the aerial area. The estimated quantum of silt that is required to be removed is given in the table.

During excavation the excavated silt are to be put on the embankment of the pond with top height at least of 1 meter and base width 2.5meter basing on availability of land on periphery. The soil on embankment to be compacted and two inlets and two outlet pipe are to be fixed in the embankment (6" diameter PVC pipe or Cement Pipe).

7. COST ESTIMATE:

As per schedule of rate for earth work "Earth work in excavation by mechanical means (hydraulic excavation means over areas exceeding 30cm depth 1.5m in width as well as 10sqm. On plan including disposal of excavated earth lead up to 50 m and life up to 1.5 m disposal earth to be levelled and neatly dressed etc complete @ Rs. 110.05/cum. Basing on volume of earth work as indicated in the Table above, cost estimate has been done. In addition cost of Inlet/outlet pipes, at each pond an additional cost of Rs 12000/- per tank to be added. Year wise cost factor is calculated as follows.

Sl. No	Village	Length in mtr	Width in mtr	Area in sq m	Volume in cu.m taking the height as 1 mtr and area as 70% of total area	Expenditure		
						Earth work @ Rs 111.47 per cum in Rs	Inlet & outlet pipes in Rs	Total expenditure
1	Baklia	57.31	50.92	2918.22	2042.75	227705.34	12000.00	239705.34
2	Kundaposi	57.003	53.282	3040.43	2128.30	237241.60	12000.00	249241.60
3	Palsha (KA)	51.465	39.055	2009.96	1406.97	156834.95	12000.00	168834.95
4	Dhanurjaypur	62.735	72.753	4564.16	3194.91	356136.62	12000.00	368136.62
5	Kendughati	53.977	51.282	2768.05	1937.63	215987.62	12000.00	227987.62
6	Basantapur	234.737	188.50	44247.92	30973.54	3452620.50	12000.00	3464620.50
7	Kadalia	51.342	52.44	2692.37	1884.66	210083.05	12000.00	222083.05
8	Tadapani	77.609	60.504	4695.65	3286.95	366396.32	12000.00	378396.32
9	Balada	65.002	62.983	4094.02	2865.81	319451.84	12000.00	331451.84
10	Nayagarh	95.537	52.352	5001.55	3501.08	390265.39	12000.00	402265.39
11	Naibuga	59.092	54.026	3192.50	2234.75	249107.58	12000.00	261107.58
12	Basantapur	70.055	69.384	4860.69	3402.48	379274.45	12000.00	391274.45
TOTAL						6561105.25	1,44,000.00	6705105.25

For desilting twice, the estimated cost will be Rs. 6705105.25 X 2 = Rs 1,34,10,210.50

Construction of one signage each in pond @ Rs 5000/- for six pond = Rs 60,000.00

Total cost = Rs 1,34,70,210.50 (Rs 1,34,10,210.50 + Rs 60,000.00) or say Rs **1,34,70,300.00**

(Rupees one crore thirty four lakh sevnety thousand three hundred only)

8. PLANNING EXECUTION.

As indicated above de-siltation will be carried out in a five year cycle. All the ponds will be de- silted twice in the plan period once in 2021-22 and then in 2026-27.

9. EXECUTING AGENCY

The user agency shall take up the project of De-siltation of Village tank out of project head.

10. INSPECTION AND MONITORING.

The manner of execution & periodical monitoring will be made by M/s OMC Ltd authority. The Execution and achievements may be reviewed by the Divisional Forest Officer, Keonjhar Forest Division

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

from time to time as possible. In case of some dispute if the earmarked tank could not be de- silted in assigned year it may be executed in the next year along with the next years programme.

Divisional Forest Officer
Keonjhar Division
Divisional Forest Officer
Keonjhar Forest Division

CERTIFICATE

Certified that the village tanks and water bodies included in the scheme for de-silting is duly verified by the undersigned

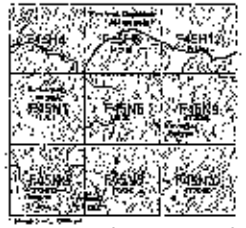
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Date :

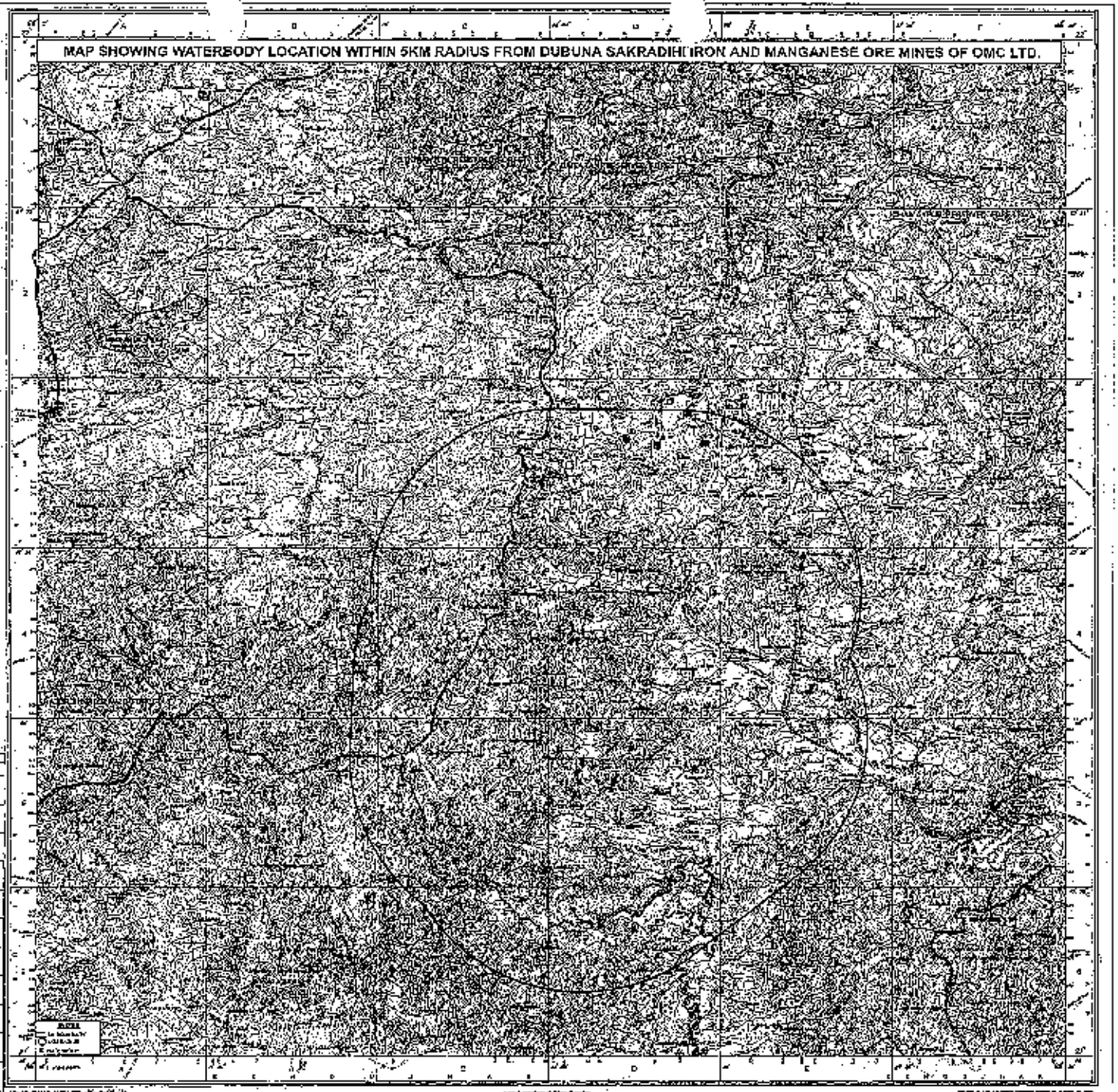
Divisional Forest Officer
Keonjhar Division
Divisional Forest Officer
Keonjhar Forest Division

MAP SHOWING WATERBODY LOCATION WITHIN 5KM RADIUS FROM DUBUNA SAKRADIH IRON AND MANGANESE ORE MINES OF OMC LTD.

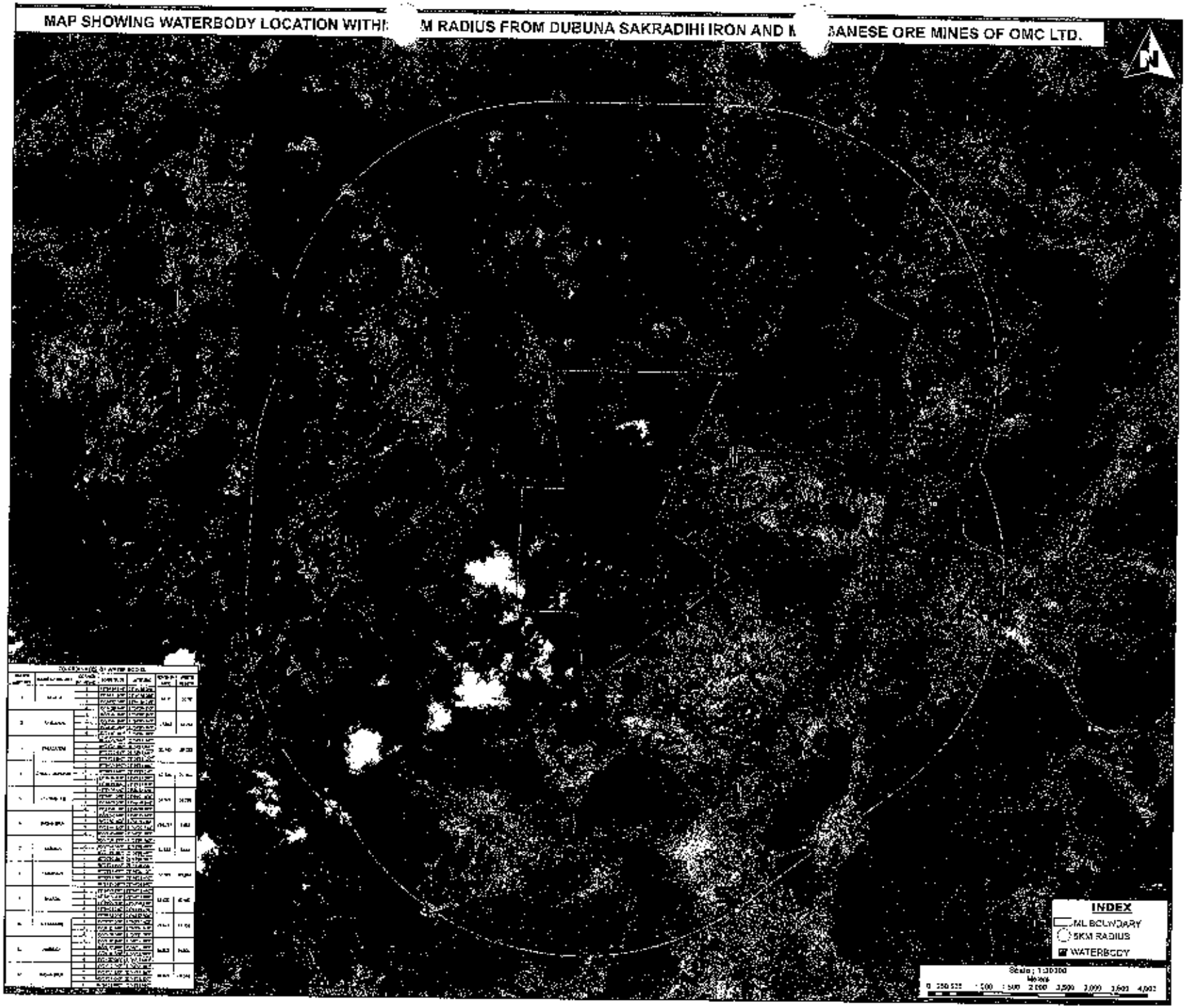
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MAP SHOWING WATERBODY LOCATION WITHI M RADIUS FROM DUBUNA SAKRADIHI IRON AND M BANESE ORE MINES OF OMC LTD.



ANNEXURE-XIII

SCHEME FOR

DEMARCATION, FENCING, PROTECTION AND AFFORESTATION

OF THE SAFETY ZONE AREA

OVER 21.3207 HA

AT

DUBNA-SAKRADIH IRON AND MANGANESE ORE MINES

UNDER KEONJHAR FOREST DIVISION

OF

M/S ODISHA MINING CORPORATION LTD.

(A GOVT.OF ODISHA UNDERTAKING)

A Gold Category State PSU

OMC HOUSE, BHUBANESWAR-751001

(As per condition No.A.8 (I, ii, iii & v) of the stage-I forest clearance granted by MoEF & CC, Govt. of India vide F.No.8-26/2019-FC dt 06.05.2021)

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /3F-1033 /2021. Date: 23.12.2021

To

The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of Iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
05	The scheme for Management of Top Soil prepared in compliance with Condition No. A.5(v) with a total financial outlay of Rs.91,90,700/-	Technically approved for Rs.91,90,700/- (Rupees ninety-one lakh ninety thousand seven hundred) only
06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
07	The scheme for de-silting of the village tanks and other water bodies located within 05 Km from Mining Lease Boundary so as to mitigate the impact of siltation of such tanks/water bodies prepared in compliance with Condition No. A.7 with a total financial outlay of Rs.1,34,70,300/-.	Technically approved for Rs.1,34,70,300/- (Rupees one crore thirty-four lakh seventy thousand three hundred) only.
08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

23/12/2021

Regional Chief Conservator of Forests,
Rourkela Circle

Memo No. 387/ Date: 23.12.2021

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

23/12/2021

Regional Chief Conservator of Forests,
Rourkela Circle

SCHEME FOR FENCING, PROTECTION AND AFFORESTATION OF THE SAFETY ZONE AREA OVER 21.3207 HA AT DUBNA-SAKRADIH IRON AND MANGANESE ORE MINES OF M/S ODISHA MINING CORPORATION LTD.

INTRODUCTION:

Government of India in the Ministry of Environment, Forests & Climate Change have approved the Stage-I forest clearance vide F.No.8-26/2019-FC dt 06.05.2021 for diversion of 1243.27 ha of forest area in Dubna-Sakradih Iron and Manganese Ore Mines of OMC Ltd. In this approval, MoEF & CC has stipulated some conditions to be fulfilled before Stage-II forest clearance is accorded. The condition no. A.8 (i, ii, iii & v) of the Stage-I forest clearance is read as under:

"8.i. User agency shall ensure demarcation of safety zone (7.5 meter strip all along the inner boundary of the mining lease area), and its fencing, protection and regeneration by erecting adequate number of 6 feet high RCC boundary pillars inscribed with DGPS coordinates with barbed wire fencing and deploying adequate number of watchers under the supervision of the State Forest Department;

8. ii. Boundary of the safety zone of the mining lease, adjacent to habitation/roads, should be properly fenced by the user agency;

8. iii. Safety zone shall be maintained as green belt around mining lease and to ensure dense canopy in the area, regeneration shall be taken up in this area by the user agency at project cost under the supervision of the State Forest Department

8. v. The State Government and the user agency shall ensure that safety zone is maintained as per the prescribed norms."

In order to comply the above condition, the current scheme is formulated for fencing, protection and regeneration of safety zone area within Dubna-Sakradih Iron and Manganese Ore Mines. Since the area has poor vegetation, the scheme aims to regenerate the area by taking ANR plantation. The length of outer periphery of safety zone is 13864.20 mtr and the area of safety zone is 21.3207 ha. A scheme over 21.3207 ha for plantation of 400 plants per hectare has been approved by RCCF, Rourkela vide letter dt. 19.07.2021 @ Rs. 311.00 per man day. Labour Commissioner of Odisha vide letter no. 2816/LC dt. 25.05.2021 has revised the minimum wage rate to Rs. 315.00 per manday. In this context, the scheme has been revised @ Rs. 315/- per manday. PCCF (N) vide letter dt. 08.11.2021 and 01.12.2021 has issued one-time Cost Norm for Compensatory Afforestation. As per the para-2 of the said guideline Compensatory Afforestation to be prepared on "one time cost norm basis" by delinking the CA scheme to wage rate revision ad material cost escalation for easy of doing business. The scheme has been revised considering the Base Norm as Rs. 315/- and computed the Matrix.

In the guideline issued by PCCF vide letter dt. 08.11.2021 and 01.12.2021, no cost norm has been provided for ANR 400 plants per hectare. In this context, ANR 500 plants per hectare has been considered in the present scheme.

TOPOGRAPHY AND EXISTING VEGETATION:

The area under safety zone is hilly with gentle slope. The soil is mostly gravelly. Soil type is Lateritic. Some patches support shallow soil and even exposed rocks within the site.

PROPOSED TECHNIQUES FOR PLANTATION/REGENERATION:

It is proposed to take up ANR plantation with 500 plants per ha over the entire area of 21.3207 ha.

Objective of the scheme:

The main objective of the present scheme is to take up plantation in the safety zone of the M.L area so that a green belt around the mine is maintained which will serve the following purpose:

i) It will be a permanent demarcation zone for the M.L area which will be easily distinguishable.

ii) It will help in controlling pollution to some extent near the mine.

iii) It will provide alternate habitat to birds and animals who have lost their habitat due to mining activity.

iv) Protect the periphery of the mine from soil erosion and land slide.

Item of works to be taken up:

To achieve the above objectives, the following items of works are prescribed to be taken up:

1. Survey & demarcation of ML boundary.
2. Fencing.
3. Plantation & post-planting operations.

1. Demarcation of ML boundary: The outer periphery of the Mining Lease area and safety zone area has already been surveyed and demarcated.

2. Fencing: To protect the plantation from grazing and other biotic interference, it will be provided with chain link wire fencing along the outer periphery over 13864.20 mtr. There will be provision of one RCC pillar erected at every 2.5 meter distance with provision of two extra cross pillars for each corner station points. There will be chain link wire fencing for better protection purpose. The cost estimate for chain link wire fencing has been provided in **Annexure–I.** There will be no fence on the inner side.

3. Planting & post-planting operations: ANR plantation with gap planting of 500 seedlings per ha over 21.3207 ha shall be taken up. All planting & post planting measures like casualty replacement, soil working, manuring, fire protection etc. will be undertaken as given in the Cost norm for ANR with gap plantation of 500 seedlings, furnished as **Annexure-II.**

While taking up plantation, the following vital points shall be taken up for consideration.

❖ Care to be taken to raise healthy seedlings of minimum 60 cm height. 10% extra seedlings are to be raised for replacement of casualty.

❖ Pitting shall invariably be done during November-February i.e., before onset of monsoon. If possible the soil of upper portion and lower portion of pit should be placed separately in specific direction so that while planting the pits will be filled with top-soil first.

❖ Planting shall be done on the onset of monsoon to get full benefit of monsoon rain and should not be delayed.

❖ Basal dose of 50 grams of NPK and 5 grams of Chlorpyriphos dust per plant should be applied at the time of planting carefully by mixing with top-soil so that the roots of seedlings do not come in direct contact with fertilizer.

❖ In case of any mortality of planted seedlings, it should be replaced with good seedlings as soon as possible for better success rate.

❖ Complete weeding in proper time will be done. Strip weeding will not be permitted.

❖ Soil-working and application of 2nd dose fertilizer of 50 gms NPK/plant should be done in time

Since the area is provided with barbed wire fence, watch & ward will be easier. Watchers may be engaged in weeding in problematic areas alongwith watch & ward.

4. Spacing: The spacing adopted for the plantation in gaps is 2.5 mtr X 2.5 mtr. Alignment and pit marking should be done carefully in slopes so that the horizontal distance between plants in a row remains 2.5 mtrs and not the distance measured along the slope.

5. Species: Although indigenous species are to be preferred in the plantation, considering adverse soil & moisture conditions we may go for hardy exotic species where required so that the plants are able to survive. Considering the topography, soil and moisture availability of the plantation area, the following species will be planted.

Name of species	Common name	Remarks
Acacia auriculiformis	Acacia	
Azadirachtaindica	Neem	
Derris indica	Karanja	
Emblicaofficinalis	Amla	
Cassia siamea	Chakunda	
Dalbergiasissoo	Sissoo	In lower areas with good soil depth
Gmelinaarborea	Gambhari	In lower areas with good soil depth
Dendrocalamus strictus	Salia bamboo	In lower areas with good soil depth healthy seedlings from rhizomes may be planted
Zizyphusmauritania	Ber	In rocky areas with low soil depth
Simarubaglauca	Simaruba	In rocky areas with low soil depth

6. Protection of the plantation: Chain link wire mesh fence with RCC pillars along outer periphery of the M.L area will be provided. Few watchers will also be engaged for protection of the plantation.

7. **Total cost of the project:** Total cost of the project will be **Rs 2,62,15,100.00 (Rupees two crores sixty two lakhs fifteen thousand one hundred) only** as detailed in **Annexure-III.**

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

8. **Executing agency**: Since the work will be done inside the Mining Lease area, it will be convenient for the User Agency to execute the work. Hence the work will be executed by O.M.C Ltd.

Divisional Forest Officer
Keonjhar Forest Division

Annexure-I

Fencing for Compensatory Plantation raised outside the Forest Areas using Angle Iron & Chain Link wire mesh (250 Rmt/Ha.)

Sl. No	Item of work	Preferable Period of Execution	Man days	Wages	Marital cost	Total Cost (Rs.per Ha.)
		0th Year (PPO)				
1	Earth work (Excavation of hole) in Hard soil at a distance 3 mt. 0.40m x 0.40m=0.064 x 84=5.376 cum @ Rs.140/ cum=Rs.753.		2.42	762.30	0.0	762.30
2	Cement concrete (1:4:8) using 40 mm BHC metal 84 X 0.40m X 0.10m = 1.344@3755.94/cum		0	0	5,047.4	5,047.4
3	Angle Iron pole of size 50mm X 50 mm X 6mm of height 2.40 mt. 84 x 2.40=201.60Sqmt. @4.50/kg/Sqmt.= 907.20 kg@ 69.50 per kg				63,050.0	63,050.0
4	Cement Concrete (1:2:4) for fixing the Iron angle pole using 12mm 8HG Chips 84 X 0.40m X0.40m X 0.30m = 4.032 cum @5486.77/cum				22,123.0	22,123.0
5	Cost of Chain link mess using 4mm Dia GI wire having gap size 50mm X 50mm 250 Rmt X 2.10m=525Sq.mt2331/Sqmt=Rs.1,73,775				1,73,775.0	1,73,775.0
6	Double cost painting of Iron angle pole over a cost of primer using good quailty enamale paint 84 x 2.10 x 0.20 = 35.28sqmt. @ Rs.108.80/Sqmt				3,838.0	3,838.0
7	Painting of GI chain link mess 250 x 2.10 x 2 = 1050/10 = 105 Sqmt. @108.80 Sqmt.				11,424.0	11,424.0
8	Transpotation of Chain link mess,Iron angle,Straighening & tieing of chain link mess etc. @ 2% of the total cost.				5,600.0	5,600.0
	Total		2.42	762.30	2,84,857.4	2,85,619.70
	Rate per running mt. 2,85,620/250 = Rs.1142.48/Rmt or Say Rs. 1142/-					
		1st Year Maintenance				
1	No Maintenance is required	Sept / Oct	0	0	0	0
		2nd Year Maintenance				
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000
		3rd Year Maintenance				
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000
		4th Year Maintenance				
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000
		5thYear Maintenance				
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000
		6th Year Maintenance				
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000
		7th Year Maintenance				
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000
		8th Year Maintenane				
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000
		9th Year Maintenance				

1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000

10 th Year Maintenance

Sl. No	Item of work	Preferable Period of Execution	Man days	Wages	Marital cost	Total Cost (Rs.per Ha.)
1	Maintenance of wire mess fence @ 1% per running mt. cost of installation in 1 st yr. 1142 x 1% = 1142 say Rs.11	Sept / Oct	0	0	11000	11000

Abstract

SL. No	Year	No. person days	Labour cost @ Rs.315/- per days	Material Cost	Total cost (Rs.)
1	0 th year	2.42	762.30	284857.4	285620.0
2	1 st year	0.0	0.0	0.0	0.0
3	2 nd year	0.0	0.0	11000.0	11000.0
4	3 rd year	0.0	0.0	11000.0	11000.0
5	4 th year	0.0	0.0	11000.0	11000.0
6	5 th year	0.0	0.0	11000.0	11000.0
7	6 th year	0.0	0.0	11000.0	11000.0
8	7 th year	0.0	0.0	11000.0	11000.0
9	8 th year	0.0	0.0	11000.0	11000.0
10	9 th year	0.0	0.0	11000.0	11000.0
11	10 th year	0.0	0.0	11000.0	11000.0
	Total	2.42	762.30	383857.4	3,84,620.0

Matrix for Fencing model-F-II (Iron angle with Chainlink wire mesh)

No.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Unit Cost
Base Norm		205620	0	11000	11000	11000	11000	11000	11000	11000	11000	11000											
1	2021-22	205620	0	11126	12724	13370	14039	14740	15470	16252	17064	17918											419341
2	2022-23		198501	0	12732	13371	14036	14741	15477	16252	17063	17917	18814										440309
3	2023-24			314896	0	13369	14040	14741	15478	16151	17055	17679	18813	19755									452326
4	2024-25				393641	0	14037	14742	15478	16212	17064	17918	18814	19754	20743								485443
5	2025-26					349172	0	14739	15479	16253	17065	17917	18814	19753	20742	21780							505716
6	2026-27						384532	0	15479	16253	17066	17918	18813	19753	20743	21779	22859						535203
7	2027-28							338759	0	16250	17068	17918	18814	19754	20743	21780	22858	24012					551666
8	2028-29								401697	0	17063	17919	18814	19755	20742	21780	22865	24011	25213				553063
9	2029-30									421592	0	17918	18815	19753	20743	21779	22869	24012	25212	26474			615957
10	2030-31										443092	0	18812	19755	20743	21780	22869	24012	25213	26473	27799		650547

ANNEXURE-II

COST NORM FOR ANR PLANTATION @ 500 PLANTS PER HECTARE
WAGE RATE Rs. 315.00/- PER MANDAY

Sl. No.	Items of work	Preferable Period of Execution	No. of Mandays	Labour Cost (In Rs.)	Material Cost (in Rs.)	Total Cost (In Rs.)
1	2	3	4	5	6	7
	0th Year (Advance Work) Pre-Planting Operation					
1.	Survey, demarcation and Pillar posting	Nov/Dec	2	630	0	630
2.	Preparation of treatment Map (Digital Map)	Nov/Dec	1	315	100	415
3.	Site preparation	Nov/Dec	2	630	0	630
4.	Silvicultural operations including clearance of weed, cutting of climber, High stump cutting, singling of shoots & removal of cut out after drying from the field to blank space	Jan/Feb	15	4725	0	4725
5.	Alignment and stacking for digging of pits	Feb/Mar	1	315	0	315
6.	Digging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly soil	Feb/Mar	20	6300	0	6300
	Total		41	12915	100	13015
	1st Year/ Planting Year					
1.	Refilling of pits by altering the dug-out soil of the pits, application of Organic compounds/ CDM/ FYM & mixing the same properly.	Jun/Jul	4	1260	2500	3760
2.	Transportation of 18 months old polythene bag seedlings in hired truck/ tractor from the permanent/ Mega nursery to planting site including Loading & unloading. (Average lead of 10 Rkm) & Stacking the seedling @ Rs. 6/- per Seedling. (550 nos.)	Jul/Aug	0	0	3300	3300
3.	Watering polythene bag seedlings at stacking site of plantation	Jul/Aug	1	315	0	315
4.	Conveyance of polythene bag seedlings on head load from the stacking site to individual dugout pits within the planting site, applying Insecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil perfectly around the planted seedlings.	Jul/Aug	11	3465	0	3465
5.	Cost of Fertilizer & Insecticide (a) NPK/ Bio fertilizer @ 50 gms/ plant as basal dose = 25 kg @ Rs. 30/- per kg = Rs. 750.0 (b) Urea/ Vermicompost/ Mo Khata/ any other fertilizer @ Rs. 375.00 (c) Insecticide/ Bio-pesticide @ 5 gms/ plant – 2.5 kg @ Rs. 150/- per kg = Rs. 375/-	Jul/Aug	0	0	1500	1500
6.	Casualty Replacement @ 10% (20 nos.)	Jul/Aug	1.5	472.5	0.0	472.5
7.	1st weeding & Manuring	Aug/Sept	5	1575	0	1575
8.	2nd Weeding, Soil working (1mt. diameter around the plants) and Manuring.	Oct/Nov	8	2520	0	2520
9.	Fire line tracing & Inspection path.	Feb/Mar	3	945	0	945
10.	Watch & Ward including watering as per requirement	Aug-Mar	8	2520	0	2520
	TOTAL		41.5	13072.5	7300.0	20372.5
	2nd Year Maintenance					
1.	Transportation of 50 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs. 6/- per seedlings	Jul	0.0	0.0	300.0	300.0
2.	Causality replacement	Jul	1.5	472.5	0.0	472.5
3.	Cost of Fertilizer & Insecticide A) Cost of Insecticide/ Bio-pesticide (Themet/ forate) @ 5 gms/plant = 25 Kg @ Rs. 150/- per kg = Rs. 37.50 B) Urea/ NPK/ Bio-fertilizer/ Vermicompost/ Mo Khata/ any other fertilizer @ Rs. 1400/-	Jul/Aug	0	0	1437.5	1437.5
4.	Weeding (Complete weeding), Manuring & Soil working (1mt. diameter around the plants)	Sept/Oct	8	2520	0	2520
5.	Fire line tracing (2 m. wide fire line) & Inspection path	Feb/Mar	3	945	0	945
6.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	TOTAL		24.5	7717.5	1737.5	9455

		3rd Year Maintenance				
3.	Cost of Fertilizer- Urea/ NPK/ Bio-fertilizer/ Vermicompost/ Mo Khata/ any other fertilizer- Rs. 1400/-	July/Aug	0	0	1400.0	1400.0
4.	Weeding (Complete weeding), Manuring & Soil working (1mt. diameter around the plants)	Sept/Oct	8	2520	0	2520
5.	Fire line tracing (2 m wide fire line) & inspection path	Feb/Mar	3	945	0	945
6.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780		3780
	Total		23.0	7245	1400.0	8645
		4th Year Maintenance				
1	Fire line tracing (2 m. wide fire line) & inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		15	4725	0	4725
		5th Year Maintenance				
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		15	4725	0	4725
		6th Year Maintenance				
1.	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		15	4725	0	4725
		7th Year Maintenance				
1.	Fire line tracing (2 m. wide fire line over 400 m length) & inspection path	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		15	4725	0	4725
		8th Year Maintenance				
1.	Fire line tracing (2 m. wide fire line over 400 m length) & cultural operation	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		15	4725	0	4725
		9th Year Maintenance				
1.	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr-Mar	12	3780	0	3780
	Total		15	4725	0	4725
		10th Year Maintenance				
1.	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945	0	945
2.	Watch & Ward including watering as per requirement	Apr/Mar	12	3780	0	3780
	Total		15	4725	0	4725

Year wise Abstract of Cost Norm (Showing seedling cost separately)

Sl. No.	Year	No. person days	Labour Cost @ Rs. 315/- per day	Material Cost (In Rs.)	Monitoring Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	TOTAL COST
1	2	3	4	5	6	7	8
1.	0th Year	41	12915	100	650.75	0.00	13666
2.	1st Year	41.5	13072.5	2300.0	1018.625	27945.00	49337
3.	2nd Year	24.5	7717.5	1737.5	472.75	2541.00	12469
4.	3rd Year	23.0	7245	1400.0	432.25	0.00	9077
5.	4th Year	15	4725	0	236.25	0.00	4961
6.	5th Year	15	4725	0	236.25	0.00	4961
7.	6th Year	15	4725	0	236.25	0.00	4961
8.	7th Year	15	4725	0	236.25	0.00	4961
9.	8th Year	15	4725	0	236.25	0.00	4961
10.	9th Year	15	4725	0	236.25	0.00	4961
11.	10th Year	15	4725	0	236.25	0.00	4961
Total		235.0	74025	10537.5	4228.13	30487.00	119278.00

Matrix for Model-II A (ANR-500 Plants/Ha.)

In Rupees

Matrix for Model-I-B Conventional Plantation AR 500 Plants per ha.

In Rupees .....

Sl.No.	Commence-ment Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost
Base Norm		13866	49327	15469	9077	4961	4961	4961	4961	6961	4961	4961											
1	2021-22	13866	51804	13747	10599	6230	5332	6642	6981	7330	7650	8081											138832
2	2022-23		14346	54354	14484	11030	6332	5548	6981	7330	7598	8091	8485										146702
3	2023-24			15367	57114	15156	11585	6648	6981	7330	7696	8081	8485	8909									153051
4	2024-25				15826	58959	13914	12164	6981	7330	7598	8081	8485	8909	9355								160704
5	2025-26					16611	62969	10710	13772	7330	7696	8081	8485	8909	9355	9822							150735
6	2026-27						17442	66138	17547	13411	7696	8081	8485	8909	9355	9822	10314						177175
7	2027-28							18314	69402	18422	14081	8081	8485	8909	9355	9822	10914	10828					180035
8	2028-29								15229	72895	19344	14785	8495	8909	9355	9822	10314	10829	11371				155336
9	2029-30									20181	76530	20311	15525	8909	9355	9822	10314	10829	11371	11939			206103
10	2030-31										21200	80365	21335	16331	9356	9822	10814	10829	11371	11939	12536		215359

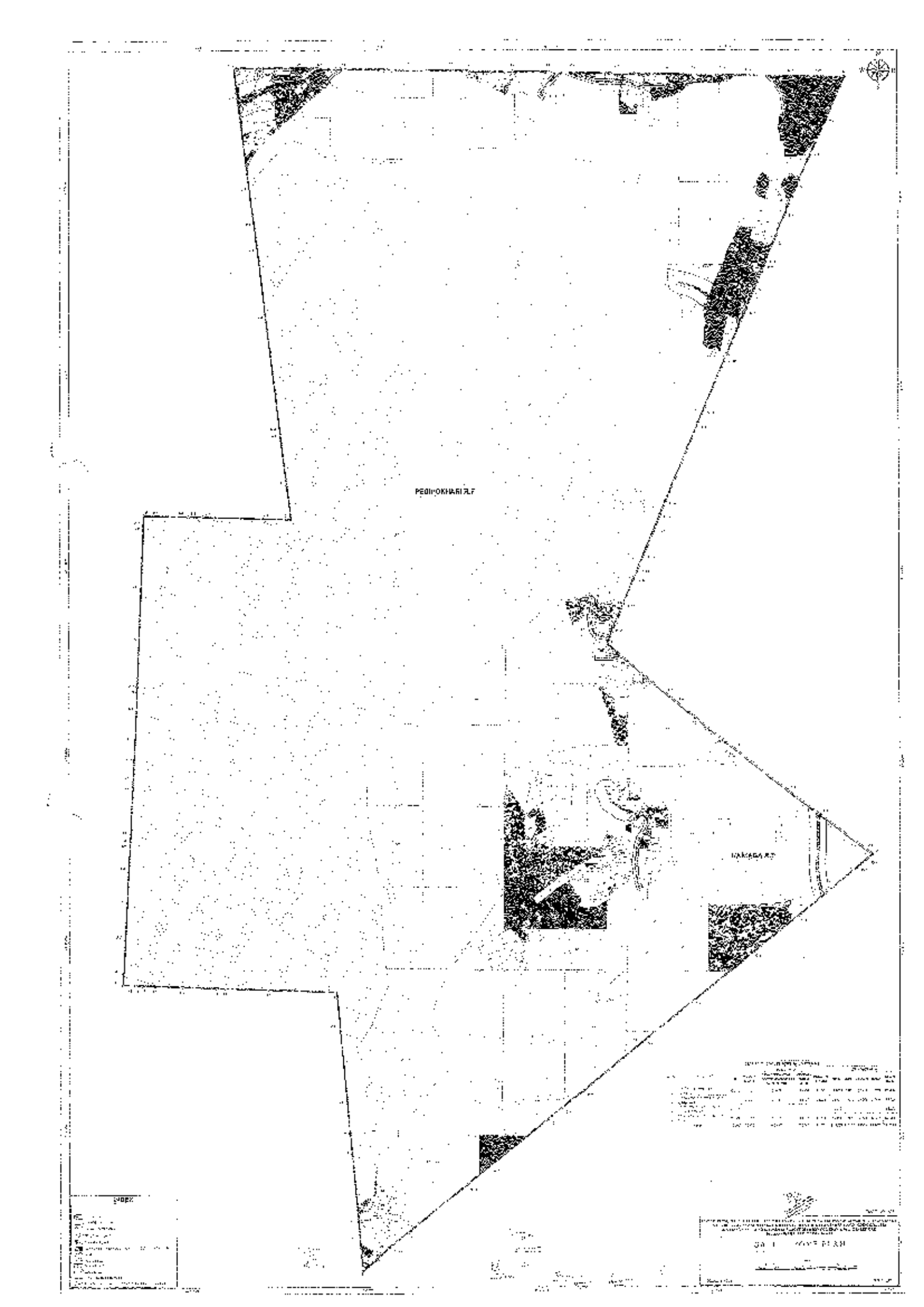
Annexure-III

TOTAL FINANCIAL OUTLAY

Sl. No	Work to be done	Estimated Expenditure (Rs)
1.	Barbed wire fence on outer periphery of safety zone over 13864.2 meter @ Rs. 419341/- per 250 mtr ={(419341/250) x 13864.2mtr}= Rs 2,32,55,309.97	Rs 2,32,55,309.97
2	ANR plantation @500 plants/Ha over 21.3207 ha @ Rs. 1,38,822/- per ha.	Rs 29,59,782.22
	Total:	Rs 2,62,15,092.19 Or Say **Rs 2,62,15,100.00**

(Rupees two crores sixty two lakhs fifteen thousand one hundred) only

Divisional Forest Officer
Keonjhar Forest Division


PEDIPOKHARI RF
DARGAGAON RF

ANNEXURE-XIV

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION
Phone No- 06766-254315, email ID- dfo.keonjhar@odisha.gov.in

No. 631 /Mining-
Dated, Keonjhar, the 25-01- 2022

To

The Executive Director, F&E,
M/s OMC Ltd, OMC House,
Bhubaneswar- 751001

Sub: Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese ore in Dutuna–Sakradihi Mines in favour of Odisha Mining Corporation Ltd in Keonjhar District of Odisha.

R-Sub: **Demand of revised scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests within 100 m from outer perimeter of the mining lease and one and half time the safety zone over 31.981 ha degraded forest land identified in Belda RF at the current wage rate @Rs. 315.00/- per Mandays.**

Ref: Memo No. 3870 dt. 23.12.2021 of Regional Chief Conservator of Forests, Rourkela Circle, Rourkela.

Sir

With reference to the aforementioned memo on the captioned subject, you are requested to deposit the approved amount of Rs. 39796200.00 (Rupees three crore ninety-seven lakh ninety-six thousand two hundred) only towards Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests within 100 m from outer perimeter of the mining lease and one and half time the safety zone over 31.981 ha degraded forest land identified in Belda RF stipulated in condition No. A.6 & A.8(iv) of the Stage- I approval dated 06.05.2021 of the MoEF&CC, GoI respectively as per current wage rate 315.00/- per man-day through e-portal of MoEF&CC as provided in the https://parivesh.nic.in/ and the proof/evidence of the deposit of fund be submitted to this office for further necessary action at this end.

Condition No.	Particulars	Amount to be deposited (Rs)
A.6	Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests within 100 m from outer perimeter of the mining lease	25942300.00
A.8(iv)	Scheme for one and half time the safety zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range.	13853900.00
	Total	**39796200.00**

(Rupees three crore ninety-seven lakh ninety-six thousand two hundred) only

Yours faithfully,

Divisional Forest Officer,
Keonjhar Division

(2)

Memo No. 632 / Dated. 25-01-2022

Copy forwarded to the Regional Chief Conservator of Forests, Rourkela Circle, Rourkela/Principal Chief Conservator of Forests, Forest Diversion and Nodal Officer, FC Act, O/o the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action.

Divisional Forest Officer,
Keonjhar Division.

AGENCY COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 11-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349994
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
Address.	OMC HouseKhordha
Amount(in Rs)	209108458/-

Amount In Words :Twenty Crore Ninety-One Lakh Eight Thousand Four Hundred and Fifty-Eight Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	150825830349994 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 11-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349994
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
Address:	OMC House Khordha
Amount(in Rs)	209108458/-

Amount In Words :Twenty Crore Ninety-One Lakh Eight Thousand Four Hundred and Fifty-Eight Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	150825830349994 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

After making successful payment, User Agencies may send a line of confirmation through Email: helpdeskcampa@corpbank.co.in

Note:After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date to Email: cb0371@unionbankofindia.com

. No.	Particulars	Amount
	Scheme for Gap Planting and Soil & moisture conservation activities within 100 m	25942300.00
	Scheme for one and half time safety zone	13853900.00
	RWMP	109225558
	SSWLCP	600.867 Lakh
otal		209108458/-

17/03/2022
S. Mohapatra
Dy. General Manager (Fin)

UBIN1722076C494603

SCHEME FOR AFFORESTATION

ON

DEGRADED FOREST LAND

MEASURING 1.5 TIMES OF THE SAFETY ZONE

AREA OVER 31.981 HA

IN

BELDA RESERVED FOREST OF

SADAR RANGE

FOR

DUBNA-SAKRADIH IRON & MANGANESE ORE MINES

UNDER KEONJHAR FOREST DIVISION

OF

M/S ODISHA MINING CORPORATION LTD.

(A GOVT.OF ODISHA UNDERTAKING)
A Gold Category State PSU
OMC HOUSE, BHUBANESWAR-751001

(As per condition No. A.8 (iv) of the Stage-I Forest Clearance granted by MoEF & CC, Govt. of India vide F.No.8-26/2019-FC dt 06.05.2021)

(ON ONE TIME COST NORM BASIS)

OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS, ROURKELA CIRCLE, AT/P.O. PANPOSH, ROURKELA-769 004.

Memo No. 9870 /3F-1033 /2021. Date: 23.12.2021

To

The Divisional Forest Officer,
Keonjhar Division.

Sub: Proposal for non-forestry use of 1243.270 ha of forest land for mining of Iron and manganese ore in Dubuna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd. in Keonjhar District, Odisha.

X-Sub:- Submission of revisedschemes in compliance with condition No.A.5(i), A.5(ii), A.5(iii),A.5(iv),A.5(v),A.6,A.7 & A.8 & A.8.iv of the Stage-I approval order dated 06.05.2021 of MoEF & CC,GoI.

Ref: Your Memo No.9147 Dtd.20.12.2021

The following schemes prepared in compliance with the conditions stipulated in the Stage-I approval accorded vide F.No.8-26/2019-FC dtd.06.05.2021 in respect of the above diversion proposal at the current wage rate of Rs.315.00/- per man day and submitted vide your Memo under reference are hereby technically approved for the amount as indicated against each.

Sl. No.	Name of the scheme for with their financial outlays	Technical approval accorded by the RCCF, Rourkela Circle.
01	The scheme for Appropriate mitigative measures to minimize soil and choking of streams within Dubuna-Sakradihi Iron and Manganese Mines prepared in compliance with Condition No. A.5(i) with a total financial outlay of Rs.44,16,000/-	Technically approved for Rs. 44,16,000/- (Rupees forty-four lakh sixteen thousand) only
02	The scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease area to arrest soil erosion prepared in compliance with Condition No. A.5(ii) with no budgetary provision as the same has been provided in the Scheme for fencing, Protection & afforestation of Safety Zone area.	Technically approved with no budgetary provision.
03	The scheme for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour prepared in compliance with Condition No. A.5(iii) with a total financial outlay of Rs.1,96,42,000/-	Technically approved for Rs.1,96,42,000/- (Rupees one core ninety-six lakh forty-two thousand) only

04	The Scheme to stabilize the overburden dumps by appropriate grading/benching in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28^0 prepared in compliance with Condition No. A.5(iv) with a total financial outlay of Rs.6,04,15,000/-	Technically approved for Rs.6,04,15,000/- (Rupees six crore four lakh fifteen thousand) only
05	The scheme for Management of Top Soil prepared in compliance with Condition No. A.5(v) with a total financial outlay of Rs.91,90,700/-	Technically approved for Rs.91,90,700/- (Rupees ninety-one lakh ninety thousand seven hundred) only
06	The Scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests(having crown density less than 0.4),if any, located in the area within 100 meters from outer perimeter of the mining lease prepared in compliance with Condition No. A.6 with a total financial outlay of Rs.2,59,42,300/-	Technically approved for Rs.2,59,42,300/- (Rupees two crore fifty-nine lakh forty-two thousand three hundred) only
07	The scheme for de-silting of the village tanks and other water bodies located within 05 Km from Mining Lease Boundary so as to mitigate the impact of siltation of such tanks/water bodies prepared in compliance with Condition No. A.7 with a total financial outlay of Rs.1,34,70,300/-.	Technically approved for Rs.1,34,70,300/- (Rupees one crore thirty-four lakh seventy thousand three hundred) only.
08	The Scheme for fencing, protection and regeneration of the safety zone within the mining lease boundary prepared in compliance with Condition No. A.8(i,ii,iii & v) with a total financial outlay of Rs.2,62,15,100/-	Technically approved for Rs. 2,62,15,100/- (Rupees two crore sixty-two lakh fifteen thousand one hundred) only
09	The Scheme for one and half time the Safety Zone over 31.981 ha degraded forest land identified in Belda RF under Keonjhar Range of Keonjhar Division prepared in compliance with Condition No. A.8(iv) with a total financial outlay of Rs.1,38,53,900/-	Technically approved for Rs.1,38,53,900/- (Rupees one crore thirty-eight lakh fifty-three thousand nine hundred) only

The technically approved schemes each in 2 sets are returned herewith for taking necessary action at your end.

Encl:- As above.

23/12/2021

Regional Chief Conservator of Forests,
Rourkela Circle

Memo No. 387/ Date: 23.12.2021.

Copy forwarded to the Principal Chief Conservator of Forests(Forest Diversion & Nodal Officer, FC Act),O/o the Pr.CCF, Odisha for favour of kind information and necessary action with reference to Memo No.9148 dtd.20.12.2021 of the DFO, Keonjhar Division.

23/12/2021

Regional Chief Conservator of Forests,
Rourkela Circle

ELEMENTS OF THE SCHEME FOR AFFORESTATION OVER 1.5 TIMES OF THE SAFETY ZONE AREA

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SCHEME FOR AFFORESTATION OVER 1.5 TIMES OF SAFETY ZONE AREA OVER 31.981 HA IN DEGRADED FOREST LAND IN BELDA RESERVED FOREST (SADAR RANGE) OF KEONJHAR FOREST DIVISION IN RESPECT OF DUBNA SAKRADIH IRON AND MANGANESE ORE MINES OF M/s OMC LTD

CHAPTER- I

BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL

Government of India in the Ministry of Environment, Forest and Climate Change has granted Stage-I Forest Clearance vide their F. No. 8-26/2019-FC, Dt. 06.05.2021 for diversion of 1243.270 hectares of forest land pertaining to Dubna-Sakradih Iron and Manganese ore mines of M/s Odisha Mining Corporation Limited. Condition no. A.8 (iv) of Stage-I FC stipulates as given under:

"Afforestation on degraded forest land to be selected elsewhere, measuring one and a half times the area under safety zone, shall also be done at the project cost under the supervisions of the State Forest Department. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape files before Stage-II approval and afforestation will be done within three years from the date of Stage-II clearance and maintained thereafter in accordance with the approved Plan in consultation with the State Forest Department."

The safety zone area involved in this project being 21.3207 ha. The Range Officer, Sadar Range, Keonjhar Division has identified 31.981 ha of degraded forest land in Belda Reserved Forests near village Potal. The location of the above degraded forest land has been shown in the map enclosed in the Scheme.

Plantation will be taken up over 31.981 Ha. (1.5 x 21.3207 ha) of identified degraded forest area in AR mode @ 1600 plants/Ha. Earlier a scheme over 31.981 Ha has been approved by RCCF, Rourkela vide letter dt. 23.07.2021. Labour Commissioner of Odisha vide letter no. 2816/LC dt. 25.05.2021 has revised the minimum wage rate to Rs. 315.00 per manday. In this context, the scheme has been revised @ Rs. 315/- per manday. PCCF (N) vide letter dt. 08.11.2021 and 01.12.2021 has issued one-time Cost Norm for Compensatory Afforestation. As per the para-2 of the said guideline Compensatory Afforestation to be prepared on "one time cost norm basis" by delinking the CA scheme to wage rate revision ad material cost escalation for easy of doing business. The scheme has been revised considering the Base Norm as Rs. 315/- and computed the Matrix.

In the approved scheme wire mesh fencing over 4.869 Km has been proposed to protect the plantation. But, the guideline issued by PCCF, Odisha vide letter dt. 08.11.2021 states that Chain link fencing can be adopted in the CA plantation taken up outside the forest area and Bamboo twigs fencing may be preferred to CA plantations taken up in degraded forest area. In this context in the present scheme Bamboo twigs fencing has been provided for 4869 meter for protection of plantation area.

The cost estimate for this plantation calculated as per cost norm for AR @ 1600 plants per hectare @ Rs. 315/- per Manday is enclosed as **Annexure-1** and cost estimate for Bamboo twigs fencing is enclosed as **Annexure-2.**

CHAPTER- II

DETAILS OF LAND IDENTIFIED FOR PLANTATION OVER 31.981 ha IN AR MODE @ 1600 PLANTS/HA

IDENTIFICATION OF DEGRADED FOREST LAND

II (1) - Details of identified Forest land

An area of 31.981 ha of degraded forest land in Belda RF near village Potal has been identified in SadarRange, Keonjhar Division for taking plantation in ANR mode @ 400 plants/Ha. This area is coming under Improvement Working Circle as per Revised Working Plan of Keonjhar Forest Division. The identified degraded forest land is situated in Belda RF near village Potal. The location map is enclosed as Plate-I. The area has been inspected by the Range Officer, Sadar Range and found to be suitable for Afforestation and free from encroachment and encumbrances.

II (2)- Character of existing vegetation of the identified site-

The prevailing forest growth has been categorized under forest type- $3C/C_2e$ Moist Peninsular Valley Sal. The vegetation consists of Sal and its associates like Jamu, Sunari, Asana, Karada, Dhaura etc.

II (3)- Working Plan prescription for the identified site –

The special objectives of management for the identified forest block i.e. Belda Reserved Forests is depicted hereunder -

- To regenerate the degraded forest block by providing silvicultural inputs and protection measures with people's participation through JFM programme.
- To ensure soil and moisture conservation measures to enrich the micro-edaphic conditions for making the forests productive in near future.
- To meet the bonafide needs of the local inhabitants for fuel wood out of thinning and other cultural operations as prescribed.
- To tend the existing crop to get maximum growth.
- To improve the density condition and composition of the crop.

II (4)- Suitability of the identified site –

The identified site in Belda RF near village Potal is a degraded patch with existing vegetation of Sal and Sal associates. Gaps are sporadically spread over the forest block. The topography of the area is almost plain to gentle hilly in the identified area. The soil is mostly hard rock to sandy loam. The average maximum temperature is 42^0 to 45^0C and minimum 5^0 to 10^0 C and annual rainfall varies from 1100 mm to 1800 mm. The maximum rainfall is received during the rainy season from July to September. The identified site is situated adjacent to village Potal. The site has to be demarcated with 4 feet RCC pillars with erection of durable signboard depicting Scheme, Year, User Agency, Area etc. on it. Therefore, the plantation scheme is envisaged to be executed with the involvement of nearby villagers.

CHAPTER-III

DELINEATION OF PROPOSED AREA ON SUITABLE MAP

III (1)- GPS COORDINATES AND GPS MAP OF THE PLANTATION SITE

The area has been demarcated through GPS survey and GPS survey data showing latitude and longitude of each point and their chainage with bearing is also enclosed in the map prepared thereon (Maps enclosed).

Decision Support System of degraded forest land identified in Belda RF near village Potal under Sadar Range

Sl. No.	Name of the Village	Verified in Decision Support System (in ha)		
		Total Area	Non-forest	Open-forest
1	Belda RF Patch-I	28.00	28.00	0
2	Belda RF Patch-II	3.981	3.981	0

DSS map is enclosed as **Plate- IV.**

CHAPTER- IV

AGENCY RESPONSIBLE FOR PLANTATION OVER 10.38 HA

IV (1)- AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS

The user agency shall provide funds to carry out plantation as per approved scheme. The funds to be deposited in CAMPA Account by the User Agency.

The Territorial Wing of the Forest Department i.e. Divisional Forest Officer, Keonjhar Division shall be assigned with the task for execution of plantation work.

CHAPTER- V

DETAILS OF WORK SCHEDULE PROPOSED OVER 31.981 HA

A. PLANTING PLAN

Planting Plan reflects the species specific treatment of the identified site. Choice of species is based on the geo-morphology of the site, soil-texture, structure, fertility and depth, proneness of the site to water logging etc. Generally planting will be done with a spacing of 2.5 m X 2.5 m.

Species to be planted:-

1. *Sizyzium cumini* (Jamu)
2. *Adina cardifolia* (Kuruma)
3. *Anogeissus latifolia* (Dhaura)
4. *Dalbergia sissoo* (Sissoo)
5. *Azadirrochta indica* (Neem)
6. *Gmelina arborea* (Gambar)

7.*Terminalia chebula* (Harida)

B.PRE-PLANTING OPERATION

B (I)-RAISING OF PLANTATION STOCK- NURSERY-

Nursery will be raised including seedlings for 10% causality replacement i.e. 1760 seedlings per hectare will be raised.

B (II)- SURVEY, DEMARCATION & PILLAR POSTING, GPS READING WITH MAPPING-

The planting area has been surveyed and demarcated with four feet height RCC pillars at inter visible distance with GPS coordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. A GPS map in the scale of 1:1000 has been prepared along with GPS co-ordinates, forward & backward bearing, pillar to pillar distance and pillar numbers reflected in the map. A sign board shall be erected at a conspicuous location with name of the site, scheme, area etc. depicted on it.

C. PLANTING OPERATION

Planting of seedlings will be taken up in the month of July. The polythene covering the ball of earth will be carefully removed before planting. Care will be taken to see that the ball of earth is not broken while doing so. The seedling with the ball of earth will then be placed firmly in the pit and buried at such a depth that the root collar is well below the surface of the soil. The soil around the plant will be well compacted with the heal as a final step so that there is a proper bond between the plant and the surrounding soil. The earth close to the collar will be slightly elevated so that rain water does not accumulate very close to the plant.

D. POST PLANTING OPERATION

D (1)-CASUALTY REPLACEMENT

The entire area will be gone over in the same order as plantation was carried out and casualties, if any, will be replaced as soon as the main plantation operation is over.

D (2)-WEEDING AND SOIL WORKING

Regular and efficient weeding will start immediately in the month of August- September.

D (3)-MANURING AND INSECTICIDE APPLICATION

On degraded sites urban compost or farmyard manure, wherever available, will be added to the soil while refilling the pits. As regards artificial fertilizers, the minerals required and dosage will be applied in the month August to September as per the schedule and dosage provided in the Cost Norm.

D (4)-PROTECTION AGAINST FIRE AND GRAZING

Fire line tracing will be ensured to protect the plantation from fire and watch & ward will be provided as per the approved norm for protecting the plantation & protect the plant site from grazing by domestic animals using Bamboo Twig fencing around the plantation site over an area 4869.72 Rmt with involvement of nearby villages.

CHAPTER-VI

REQUIREMENT OF FUNDS:

For implementation of all prescriptions outlined above, **Rs. 1,38,53,900/- (Rupees one crore thirty eight lakh fifty three thousand nine hundred)** only will be required as detailed below.

1.	AR plantation @ 1600 plants/Ha with 10 years maintenance amounting to Rs. 313289/- per Ha. **Expenditure for 31.981 ha (31.981 x 313289) = Rs 1,00,19,295.51**	Rs	1,00,19,295.51
2	Staggered trenches @130 MD per ha over 31.981 ha.	Rs	13,09,621.95
3	Additional incentive (3% of cumulative expenditure up to 4th year) for VSS/Fr./FG proposed for more than 80% survival and very good growth during 4th year of maintenance as per recommendation of DFO and RCCF. @Rs. 7523/- for 31.981 ha.	Rs	2,40,593.06
4	Additional EPA expenses if implemented through VSS at rate Rs.1200/- in 0th Year, Rs.2400/- in 1st Year, Rs.1800/- in 2nd Year, Rs.600/- in 3rd Year, Rs.600/- in 4th Year,Rs.600/- in 5th Year ,Rs.600/- in 6th year, Rs.600/- in 7th year, Rs.600/- in 8th year, Rs.600/- in 9th year, Rs.600/- in 10th year @ Rs. 10200/- per ha for 31.981 ha	Rs.	3,26,206.20
5	Bamboo twigs continuous fencing @ Rs. 100539/- per 250 Rmt including maintenance to be carried out over 4869 Rmt. Expenditure for 4869 Rmt= {(Rs. 100539/250) x 4869 Rmt) = Rs 19,58,097.56	Rs.	19,58,097.56
	PLANTATION COST	Rs.	**1,38,53,814.28** **Or say** **1,38,53,900.00**

(Rupees one crore thirty eight lakh fifty three thousand nine hundred) only.

NB:- The cost norm for AR plantation @1600 plants per ha & the cost norm for Bambo Twings continuous fencing for Block Plantation are taken @Rs. 315.00/Manday.

Divisional Forest Officer,
Keonjhar Division

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

CHAPTER-VII

PROVISION OF FUNDS AND FUND UTILIZATION

Rs. **1,38,53,900/- (Rupees one crore thirty** eight lakh **fifty three thousand nine hundred) only** shall be deposited by the user agency M/s OMC Ltd on approval of the scheme to the Ad-hoc CAMPA Account and the funds will be utilized for raising plantation over 31.981 ha by the Divisional Forest Officer, Keonjhar Division on allotment by the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.

Divisional Forest Officer
Keonjhar Division

Divisional Forest Officer
Keonjhar Division

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION)
@ 1600 PLANTS PER HECTARE (18 months old seedling)

Sl. No.	Items of work	Preferable Period of Execution	No. of Mandays	Labour Cost (In Rs.)	Material Cost (in Rs.)	Total Cost (in Rs.)
1	2	3	4	5	6	7
	0th Year (Advance Work) Pre-Planting Operation					
1	Survey, demarcation and Pillar posting	Nov/Dec	2	630	0	630
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	315	100	415
3	Site preparation (Cleaning & removal of debrises)	Nov/Dec	12	3780	0	3780
4	Creation of 4.00 mt. wide Inspection Path	Feb/Mar	1	315	0	315
5	Alignment and stacking	Feb/Mar	2	630	0	630
6	Digging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly soil	Feb/Mar	64	20160	0	20160
7	Construction of Temporary Labour Shed, Drinking water facility and First-Air etc.	Jan/Mar	0	0	3500	3500
	Total		**82**	**25803**	**3600**	**29430**
	1st Year/ Planting Year					
1	Refilling of pits by altering the dug out soil of the pits, application of Organic compounds/ CDM/ FYM & mixing the same properly.	Jun/Jul	12	3780	8000	11780
2	Transportation of 18 months old polypot seedlings in hired truck/ tractor from the permanent/ Mega nursery to planting site including Loading & unloading. (Average lead of 10 Rkm) & Stacking the seedling @ Rs. 6/- per Seedling. (1760 nos.)	Jul/Aug	0	0	10560	10560
3	Watering the polypot seedlings at planting site	Jul/Aug	3	945	0	945
4	Conveyance of polypot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying Insecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil properly around the planted seedlings.	Jul/Aug	36	11340	0	11340
5	**Cost of Fertilizer & Insecticide** (a) NPK/ Bio-fertilizer @ 50 gms/ plant as basal dose = 80 kg @ Rs. 30/- per kg = Rs. 2400.00 (b) Urea/ Vermicompost/ Mo Khata/ any other fertilizer in two subsequent doses @ Rs. 1,200.00 (c) Insecticide/ Bio-pesticide @ 5 gms/ plant = 8 kg @ Rs. 150/- per kg = Rs. 1200.00	Jul/Aug	0	0	4800	4800
6	Casualty Replacement @ 10% (160 nos.)	Jul/Aug	4	1260	0	1260
7	1st weeding & Manuring	Aug/Sept	15	4725		4725
8	2nd Weeding, Soil working (1mt. diameter around the plants) and Manuring.	Oct/Nov	20	6300	0	6300
9	Fire line tracing (2m. wide fire line over 400 m long) including maintenance of inspection path.	Feb/Mar	3	945	0	945
10	Watch & Ward including watering as per requirement	Aug-Mar	12	3780	0	3780
	TOTAL		**105**	**33075**	**23360**	**56435**

		2nd Year Maintenance				
1	Transportation of 160 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs. 6/- per seedlings	Jul	0	0	960	960
2	Causality replacement- 10%	Jul	4	1260	0	1260
3	Cost of Fertilizer & Insecticide A) Cost of Insecticide/ Bio-pesticide @ 5 gms/plant = 0.8 Kg @ Rs. 150/ per kg = Rs. 120/- B) Urea/ NPK/ Bio-fertilizer/ VErmicompost/ Mo Khata/ any other fertilizer @ Rs. 4486/-	Aug/Sept	0	0	4606	4606
4	Weeding (Complete weeding), Manuring & Soil working (1mt. diameter around the plants)	Sept/Oct	20	6330	0	6220
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of Inspection path	Feb/Mar	3	945	0	945
6	Watch & Ward including watering as per requirement	Apr-Mar	18	5670	0	5670
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.				1000	1000
	Total		45	14175	6566	20741
		3rd Year Maintenance				
1	Cost of Fertilizer Urea/ NPK/ Bio-fertilizer/ Vermicompost/ Mo Khata/ any other fertilizer	Sept/Oct	0	0	4486	4486
2	Weeding, Manuring & Soil working (1mt. diameter around the plants)	Sept/Oct	20	6330	0	6330
3	Fire line tracing (2 m wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	945	0	945
4	Watch & Ward including watering as per requirement	Apr/Mar	18	5670	0	5670
5	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Apr/Mar			1000	1000
	Total		41	12915	5486	18401
		4th Year Maintenance				
1	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward	Apr-Mar	18	5670	0	5670
	Total		21	6615	0	6615
		5th Year Maintenance				
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr-Mar	18	5670.00	0	5670
	Total		21	6615	0	6615
		6th Year Maintenance				
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945.0
2	Pruning of branches, Singling out of multiple shoots	Jan/Mar	5	1575.00	0	1575.0
3	Watch & Ward	Apr-Mar	18	5670.00	0	5670.0
	Total		26	8190	0	8190.0
		7th Year Maintenance				
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr-Mar	18	5670.00	0	5670

	Total		21	6615	0	6615
	8th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr-Mar	18	5670.00	0	5670
	Total		21	6615	0	6615
	9th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr-Mar	18	5670.00	0	5670
	Total		21	6615	0	6615
	10th Year Maintenance					
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	945.00	0	945
2	Watch & Ward	Apr/Mar	18	5670.00	0	5670
	Total		21	6615	0	6615

Year wise Abstract of Cost Norm (Showing seedling cost separately)							
Sl. No.	Year	No. person days	Labour Cost @ Rs. 315/- per day	Material Cost	Monitoring Evaluation, Learning, Documentation and Other Contingency (5%) of (4+5)	Cost of Seedlings @ Rs. 50.81 per seedlings	TOTAL COST
1.	0th Year	82	25803	3600	1470	0	30873
2.	1st Year	105	33075	23360	2822	89426	148683
3.	2nd Year	45	14175	6566	1037	8130	29908
4.	3rd Year	41	12915	5486	920	0	19321
5.	4th Year	21	6615	0	331	0	6946
6.	5th Year	21	6615	0	331	0	6946
7.	6th Year	26	8190	0	410	0	8600
8.	7th Year	21	6615	0	331	0	6946
9.	8th Year	21	6615	0	331	0	6946
10.	9th Year	21	6615	0	331	0	6946
11.	10th Year	21	6615	0	331	0	6946
	Total	425	133848	39012	8643	97556	279059.00

Matrix for Model-I-B Conventional CA Plantation (AR) 1600 plants per Ha.

In Rupees

Sl. No.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost
Base Norm		30879	248683	29908	13821	6946	6946	8608	6946	6946	6946	6946											
1	2021-22	30879	159117	32974	22366	9449	8865	11525	9774	10262	10776	11314											313289
2	2022-23		32417	165928	34625	28484	9265	9308	12101	10263	10775	11315	11880										328854
3	2023-24			34098	172119	30354	24658	9308	9773	12706	10776	11314	11881	12474									345431
4	2024-25				35740	185725	38172	25851	9773	10262	13341	11315	11880	12475	13098								362672
5	2025-26					37527	189761	40081	27136	10262	10775	14008	11881	12474	13059	13753							380807
6	2026-27						39403	199249	42285	28545	10775	11314	24709	12475	13099	13754	14441						399847
7	2027-28							41373	209211	44189	26972	11314	11880	15443	13099	13753	14442	15165					419839
8	2028-29								43442	215572	48398	51471	12880	12474	16215	13754	14441	15154	15921				440932
9	2029-30									48614	230555	48718	53045	12474	13098	17026	14442	15163	15522	16717			462875
10	2030-31										47805	242185	51154	34697	13098	13753	17877	15164	15923	16718	17553		486010

Fencing for Compensatory Plantation raised inside the Forest Area using Bamboo Twigs & Thorns WAGE RATE Rs. 315/- PER DAY						
Sl. No.	Items of work	Preferable Period of Execution	Man days	Wages	Material Cost (Rs.)	Total Cost (Rs. per Ha.)
0th Year (Advance Work)						
1	Nil		0	0	0	0
1st Year Maintenance						
1	Taking an average perimeter of 250 Rm/ Ha. @ 93.8S/ mt. (Half bundle Bamboo Twigs/ mt. @ 120/ Bundle) Labour Material – 40.60 (approx)	Sept/Oct	30	9450	14133	23583
2	Bamboo poles of 8 height at a distance of 2 mt. spacing to be fixed (2" under soil & 2" above soil) 250/2 = 125 + 1 = 126 Nos. of Bamboo Poles 1 Bamboo (approx) 24" height = 3 poles 126/3=42 Bamboos @ 200/ Bamboo	Sept/Oct		0	8400	8400.0
3	Preparation of Bamboo poles, Digging of holes of 2 ft. depth & fixing Bamboo poles @ 20 poles/MD	Sept/Oct	6.5	2047.5		2047.5
4	Cost of Bamboo for being the Bamboo twigs row fence with double side two strand Bamboo batten (One 6" above ground and other one 4 ft. above ground) (250x2)/24=21 Bamboo @ 200/Bamboo	Sept/Oct		0	4200	4200.0
5	Making Bamboo batten, Finishing the Batten & Tieing the same on double strand up Coir rope etc. @ Rs. 11/ Rmt.	Sept/Oct	9	2835		2835
6	Cost of coir rope @ Rs. 0.125 kg/ Rmt. 500x0.125 kg = 62.5 kg @ Rs. 70/Kg	Sept/Oct		0	4375	4375.0
7	Making one Bamboo Twogs gate with Bamboo frame			0	500.5	500.5
	TOTAL		45.5	14332.5	31608.5	45941.00
Rate per running mt. 45941/250=184/Rmt						
2nd Year Maintenance						
1	Repair & Maintenance of Bamboo Twigs fence including Material cost	Feb./ Mar	20	6300	1500	7800
Rate per running mt. 7800/250 = 31.2 or say Rs. 31-Rmt.						
3rd Year Maintenance						
1	Repair & Maintenance of Bamboo Twigs fence including Material cost.	Feb./Mar	20	6300	5675	11975
Rate per running mt. 11975/250=47.9 or say Rs. 48 Rmt.						
4th Year Maintenance						
1	Repair & Maintenance of Bamboo Twigs fence including Material cost	Feb./Mar	20	6300	5675	11975
Rate per running mt. 11975/250=47.9 or say Rs. 48 Rmt.						
5th Year Maintenance						
1	Repair & Maintenance of Bamboo Twigs fence including Material cost	Feb./Mar	20	6300	5675	11975
Rate per running mt. 11975/250=47.9 or say Rs. 48 Rmt.						

Abstract					
Sl. No.	Year	No. person days	Labour Cost @ Rs. 315/- per day	Material Cost	Total Cost (Rs.)
1.	0th Year	0.0	0.0	0.0	0
2.	1st Year	45.5	14332.5	31608.5	45941
3.	2nd Year	20.0	6300.0	1500.0	7800
4.	3rd Year	20.0	6300.0	5675.0	11975
5.	4th Year	20.0	6300.0	5675.0	11975
6.	5th Year	20.0	6300.0	5675.0	11975
	Total	125.5	39532.50	50133.5	89666.00

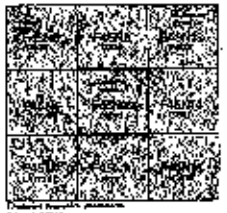
Matrix for Model-F-I Fencing (Bamboo Twig)

In Rupees

Sl.No.	Commence-ment Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost.
Base Norm		0	45941	7800	11975	11975	11975											
1	2021-22	0	48238	8600	13863	14556	15283											100539
2	2022-23		0	50650	9029	14556	15283	16048										105566
3	2023-24			0	53182	9481	15283	16048	16850									110845
4	2024-25				0	55842	9955	16048	16850	17699								116387
5	2025-26					0	58634	10453	16850	17699	18577							122205
6	2026-27						0	61565	10975	17699	18577	19506						128316
7	2027-28							0	64644	11524	18577	19506	20481					134732
8	2028-29								0	67876	12100	19506	20481	21505				141469
9	2029-30									0	71270	12705	20481	21505	22581			148542
10	2030-31										0	74833	13341	21505	22581	23710		155969

No. F45N10

Scale 1:50,000



MAP SHOWING THE AREA PROPOSED FOR PLANTATION OVER 31.981 HA. IN BELDA RF
PERTAINING TO 1.5 TIMES SAFETY ZONE FOR DUBUNA-SERKADIHI IRON & MN ORE MINES OF OMC LTD.,

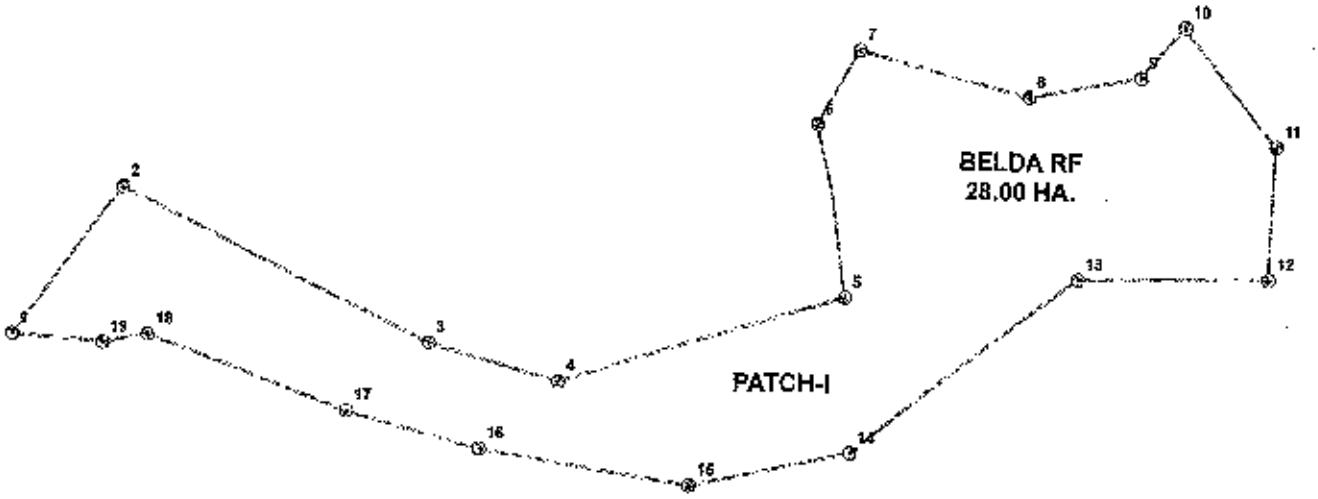
No. F45N11

MAP SHOWING AREA PROPOSED FOR PLANTATION OVER 31.981 HA. IN BELDA RF PERTAINING TO 1.5 TIMES SAFETY ZONE FOR DUBUNA-SERKADIHI IRON & MN ORE MINES OF OMC LTD..

SCALE:4000

0 50 100 200 300 400

Meters





CO-ORDINATES & BOUNDARY DESCRIPTION

PATCH-I

PILLAR NO. From	PILLAR NO. To	LONGITUDE	LATITUDE	Bearing	Distance in mtr.
1	2	85°38'42.000"	21°42'10.800"	36°35'20"	215.5
2	3	85°38'45.600"	21°42'18.000"	115°58-19	404.3
3	4	85°39'00.000"	21°42'10.800"	105°51-47	158.5
4	5	85°39'03.600"	21°42'10.800"	73°6-5	351.75
5	6	85°39'14.400"	21°42'14.400"	349°50-41	204.15
6	7	85°39'14.400"	21°42'21.600"	29°49-12	100.1
7	8	85°39'18.000"	21°42'25.200"	104°23-43	209.5
8	9	85°39'21.600"	21°42'21.600"	79°43-31	134.7
9	10	85°39'28.800"	21°42'21.600"	40°51-19	77.65
10	11	85°39'28.800"	21°42'25.200"	141°46-8	175.1
11	12	85°39'32.400"	21°42'21.600"	182°29-58	154.7
12	13	85°39'32.400"	21°42'14.400"	269°34-33	223.7
13	14	85°39'25.200"	21°42'14.400"	237°40-18	339.5
14	15	85°39'18.000"	21°42'07.200"	257°54-57	191.6
15	16	85°39'10.800"	21°42'07.200"	279°6-19	252.1
16	17	85°39'00.000"	21°42'07.200"	285°9-54	163.9
17	18	85°38'56.400"	21°42'10.800"	289°59-53	249.7
18	19	85°38'45.600"	21°42'10.800"	258°56-4	53.7
19	1	85°38'45.600"	21°42'10.800"	274°33-23	107.4

PATCH-II

1	2	85°38'42.000"	21°42'00.000"	86°16-0	206.5
2	3	85°38'49.200"	21°42'00.000"	86°24-54	271.99
3	4	85°39'00.000"	21°42'00.000"	161°37-55	67.2
4	5	85°39'00.000"	21°41'56.400"	260°4-44	230.02
5	6	85°38'52.800"	21°41'56.400"	265°35-37	223.93
6	1	85°38'45.600"	21°41'56.400"	331°31-20	102.526

Regional Manager
Odisha Mining Corporation Ltd.
BARBIL-758035

Forest Section Officer
Town Section

Forest Range Officer
Keonjhar Range

INDEX

- ML BOUNDARY PILLAR
- PLANTATION BOUNDARY

Certificate:-

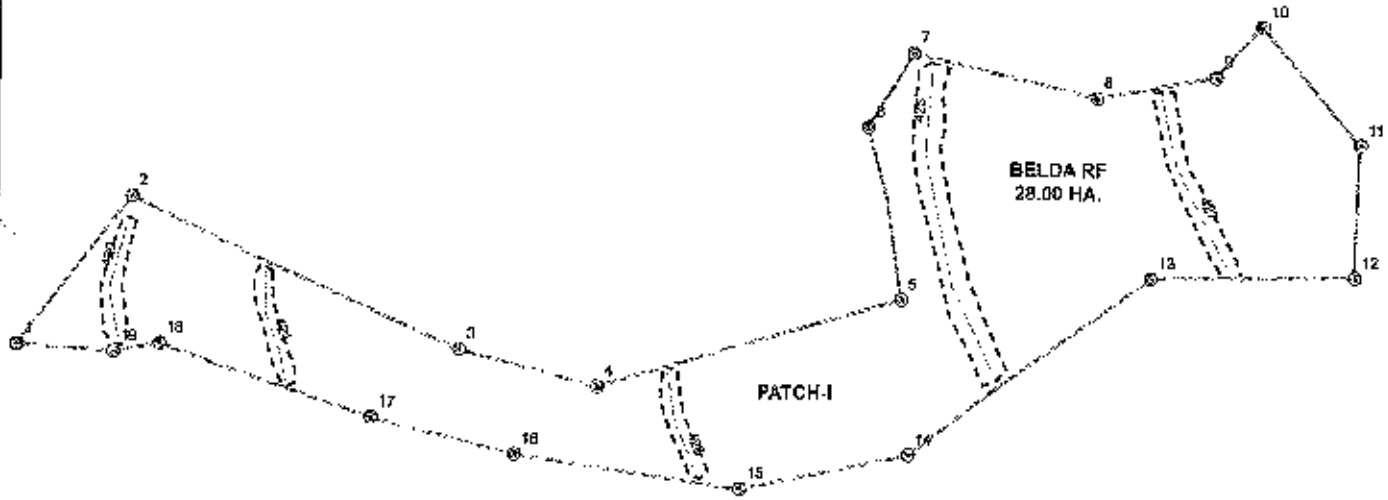
1. Certified that the identified degraded forest land are two patches.
2. Certified that the said degraded forest land has not been allotted earlier to any other project.
3. Certified that the identified site has been properly demarcated with 4 ft. height RCC pillars.
4. Certified that GPS co-ordinates of all posted pillars along with pillar no. and distance between pillars in inscribed in the RCC pillars.
5. Certified that a durable Sign board depicting the name of the project, Scheme, Year and status of the forest land along with the extent of the area is erected in the site.

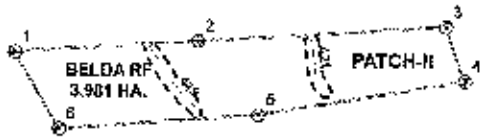
TREATMENT PLAN OF THE AREA PROPOSED FOR PLANTATION OVER 31.981 HA. IN BELDA RF PERTAINING TO 1.5 TIMES SAFETY ZONE FOR DUBUNA-SERKADIHI IRON & MN ORE MINES OF OMC LTD..

SCALE:8000

0 50 100 200 300 400

Meters





CO-ORDINATES & BOUNDARY DESCRIPTION					
PATCH-I					
PILLAR NO.		LONGITUDE	LATITUDE	Bearing	Distance in mtr.
From	To				
1	2	85°38'42.000"	21°42'10.800"	36°35'20"	215.5
2	3	85°38'45.600"	21°42'18.000"	115°58-19	404.3
3	4	85°39'00.000"	21°42'10.800"	105°51-47	158.5
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9	10	85°39'28.800"	21°42'21.600"	40°51-19	77.65
10	11	85°39'28.800"	21°42'25.200"	141°46-8	175.1
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19	1	85°38'45.600"	21°42'10.800"	274°33-23	107.4
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1	2	85°38'42.000"	21°42'00.000"	86°16-0	206.5
2	3	85°38'49.200"	21°42'00.000"	86°24-54	271.99
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Regional Manager
Odisha Mining Corporation Ltd.
BARBIL-758035

Forest Section Officer
Joda Section

Forest Range Officer
Keonjhar Range

INDEX

- PLANTATION BOUNDARY
- BOUNDARY PILLARS
- CONTOUR
- STAGGERED TRENCH

ANNEXURE-XV

OMC | ODISHA NEW OPPORTUNITIES

Letter No.11868 /OMC/F&E/2021
August 09, 2021

To

The Scientist-F and Head,
Forest Ecology & Climate Change Division,
Tropical Forest Research Institute (TFRI),
(Indian Council of Forestry Research & Education),
P.O. RFRC, Mandla Road,
Jabalpur-482021
Madhya Pradesh

Sub.: Work Order for conducting Pilot study on raising short rotation forestry crops for intermittent periods at Dubuna Sakradihi Iron and Manganese Ore Mines in Keonjhar District of Odisha.

Ref.: Your acceptance vide email dtd. 21.07.2021

Sir,

OMC is pleased to award the work for 'Pilot study on raising short rotation forestry crops for intermittent periods at Dubuna Sakradihi Iron and Manganese Ore Mines in Keonjhar District of Odisha. The total work value shall be **₹31.388Lakh** (Rupees Thirty One Lakh Thirty eight Thousand eight hundred) only **including applicable GST** as per the scope of work given below:

1.0 SCOPE OF WORK

1.1 Short term:

i) Vegetation survey and phyto-sociological assessment of the site and nearby forest for screening suitable species.

ii) Soil profile studies and analysis of soil samples for their physico-chemical characteristics and micro-nutrients.

iii) Selection of short rotation forest tree species on the basis of vegetation survey, soil parameters and climatic conditions.

iv) Quantify potential carbon sequestration by trees after regular time interval. Long term:

v) Development of model to raise short rotation tree crop for augmentation of ecological services during mining lease period at Dubna-Sakradihi Iron and Manganese Ore Mines.

1.2 Long term:

Development of model to raise short rotation tree crop for augmentation of ecological services during mining lease period at Dubna-Sakradihi Iron and Manganese Ore Mines.

2.0 TIME SCHEDULE

i) "Zero date" shall be considered as the date of receipt of work order/LOI.

ii) Eighteen (18) months from the date of issue of LoI/work order

3.0 OBLIGATIONS OF ODISHA MINING CORPORATION (OMC)

To enable the TFRI, Jabalpur to carry out their commitments in respect of the scope of services as per clause -1.0 above, OMC shall provide any relevant information / data / reports / facilities as may be required by the TFRI, Jabalpur from time to time for completion of the work.

4.0 GENERAL CONDITIONS:

i) OMC reserves the right to terminate the work order/Agreement at any point of time, if the progress of the work is not found satisfactory. Such termination shall be final and binding upon the TFRI, Jabalpur.

ii) In case of any dispute arising out of this contract, the Managing Director/ Chairman, OMC shall settle the same and his decision shall be final and binding on the TFRI, Jabalpur.

iii) For any justified reason the time of extension of contract period can be decided by MD/Chairman, OMC only.

iv) The subject indicating the lease and details of the data generated shall not be published in any manner nor discussed in any Seminar/Technical Forum without prior permission of the OMC's Management.

v) The TFRI, Jabalpur is to facilitate timely execution of the study.

vi) Once the work order is issued in favour of the TFRI, Jabalpur by Head Office, the agreement shall be executed at Head Office valid for a contract period of twenty months from the date of issue of LoI/work order by OMC. The TFRI, Jabalpur can receive the work order in soft copy from OMC for transferring the same in a stamp paper with appropriate value in Agreement form.

6.0 FEES AND TERMS & CONDITIONS

6.1 The TFRI, Jabalpur fee for conducting 'Pilot study on raising short rotation forestry crops for intermittent periods at Dubuna Sakradihi Iron and Manganese Ore Mines in Keonjhar District of Odisha' as per the scope of services as detailed under Clause-1.0 above shall be **₹31.388 Lakh** (Rupees Thirty One Lakh Thirty eight Thousand eight hundred) only including applicable GST **with the following payment terms:**

i) Release of 50% of the work value as advance along with the work order on submission of demand letter/Pro-forma Invoice by TFRI, Jabalpur, An Institute of ICFRE.
ii) Release of 25% of the work value after completion of one year from the date of release of 1st payment.
iii) Release of balance 25% after completion of the project and submission of the final report as per the scope of work.

6.2 **TAXES AND DUTIES**

a) The above fee is inclusive of "GST".

b) The Invoice should contain the following particulars as required under section 31 read with Rule 46 of CGST Rules;

1. **Tax Invoice:** The Invoice/Bill should be mentioned as "**Tax Invoice**" (on the Top)
2. At the top of the Invoice submitted to the recipient(OMC) should mention "**Original for Buyer**(in case of supply of Goods)/**Original for Recipient**(in case of supply of services)"
3. **Name & Address of Supplier:** Name (as per GST Registration Number), address and Goods and Services Tax Identification Number of the Supplier
4. **Invoice Number:** A consecutive serial number not exceeding sixteen (16) characters, in one or multiple series, containing alphabets or numerals or special characters- hyphen or dash and slash symbolised as "-" and "/" respectively, and any combination thereof, unique for a financial year;
5. **Invoice Date:** Date of its issue;
6. **Name & Address of Recipient:** Name, address and Goods and Services Tax Identification Number or Unique Identity Number, of the recipient(OMC);
7. **HSN/SAC Classification:** Harmonized System of Nomenclature (HSN) code for goods or SAC code for services;
8. **Description**: Description of goods or services;
9. **Qty/UQC:** Quantity in case of goods and unit or Unique Quantity Code thereof;
10. **Invoice value of Supply:** Total value of supply of goods or services or both;
11. **Taxable Value of supply:** Taxable value of the supply of goods or services or both taking into account discount or abatement, if any;
12. **Rate of tax:** Central tax, State tax, Integrated tax, Union territory tax or Cess;
13. **Amount of taxes:** Amount of tax charged in respect of taxable goods or services (Central tax, State tax, Integrated tax, Union territory tax or Cess);

14. **Place of Supply:** Place of supply along with the name of the State with state code, in the case of a supply in the course of Inter-State Trade or Commerce;
15. **Address of Delivery:** Address of delivery where the same is different from the place of supply;
16. **RCM:** Whether the tax is payable on reverse charge basis; and
17. **Signing requirement:** Signature or digital signature of the supplier or his authorised representative.
    I. The TFRI, Jabalpur has to file required GST returns properly, so that Input Tax Credit of the GST paid on Invoices of the TFRI, Jabalpur can be availed by OMC.
    III. The TFRI, Jabalpur is required to submit proof of GST deposited against the Invoice(s) submitted to OMC under this agreement.
    IV. If due to any reason attributable to the TFRI, Jabalpur, Input Tax Credit of the GST paid is not available to OMC, the same shall be recovered from the TFRI, Jabalpur against any amount due under this agreement or any other running agreement entered by the TFRI, Jabalpur with OMC, or the TFRI, Jabalpur shall deposit the same amount to OMC.
    V. The TFRI, Jabalpur hereby undertakes to comply with the GST Act and Rules as applicable to this work and shall indemnify OMC Ltd, against any liability imposed under GST Act, for any reason attributable to the TFRI, Jabalpur.

E-Invoicing: The TFRI, Jabalpur shall comply with provisions of E-Invoicing under GST Act (if applicable to the TFRI, Jabalpur).

c) TDS as applicable shall be deducted by OMC and deposited with Income Tax Authority as **per the Income Tax Act, 1961**. TDS certificate to this effect shall be issued by OMC to the TFRI, Jabalpur as **per provisions of Income Tax Act**.

6.3 **OTHER PAYMENT TERMS:**

i) The TFRI, Jabalpur shall comply with all Laws applicable to workers/employees engaged for this work, like Minimum Wages Act, EPF Act, ESI Act, Workmen Compensation Act, Bonus Act, etc.

ii) The TFRI, Jabalpur shall comply with all its statutory obligations under the contract as applicable.

iii) The Tax /Pro-forma invoice in triplicate in respect of above works is to be submitted to the Head, F&E Department, OMC Ltd., Bhubaneswar.

iv) The payment shall be made to the TFRI, Jabalpur by account payee cheques/RTGS facility. The TFRI, Jabalpur should submit its Bank details for such financial transaction through Bank Mandate Form.

7.0 CO-ORDINATION OF WORK:

Mines Manager, Dubna Sakradihi Mines/Regional Manager, Barbil will co-ordinate the work at site to ensure minimum interference of work carried out by the TFRI, Jabalpur.

8.0 FORCE MAJEURE:

Either party shall be relieved of its obligations and responsibilities under this contract if the performance of this contract is wholly or partially prevented and/or delayed by act of GOD and any other causes beyond the control of either party such as fire, flood, strike, lockout, riot or civil commotion, epidemic, war and acts of Government etc. Either party shall promptly give notice to the other party of any force majeure event affecting its obligations under this contract along with documentary evidence from any competent authority connected with the cause. If such notice is given, the obligations and responsibilities of the party giving notice as well as the corresponding obligation and responsibilities of the other party shall be relieved to the extent made necessary by and during the continuance of force majeure.

9.0 DISPUTE RESOLUTON MECHANISM:

If any dispute or difference arises out of this work order letter in course of the execution of this work or within 3 months of the completion thereof the same shall be adjudicated and decided by the Civil Court at Bhubaneswar.

11/08/202

Executive Director (F&E)

No.11869../OMC/F&E/2021 August 09, 2021

Copy forwarded to Director (Fin.)/Regional Manager, Barbil for information and necessary action.

11/08/2021

Executive Director (F&E)

No.11870../OMC/F&E/2021 August 09, 2021

Copy forwarded to Manager (Mining),Dubna Sakradihi Mines for information and necessary action. To co-ordinate with the TFRI, Jabalpur in order to complete the study within stipulated time.

11/08/20

Executive Director (F&E)

ANNEXURE-XVI

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION
Phone No- 06766-254315, email ID- dfo.keonjhar@odisha.gov.in

No. 9184 /Mining-98/2011
Dated, Keonjhar, the 21-12-2021

To

The Executive Director, F&E,
M/s OMC Ltd, OMC House,
Bhubaneswar- 751001

Sub: Proposal for non-forestry use of 1213.27 ha of forest land for mining of Iron and Manganese ore in Dubuna –Sakradihi Mines in favour of Odisha Mining Corporation Ltd in Keonjhar District of Odisha.

X-Sub: Demand of . . . : funds towards approved Site Specific Conservation Plan.

Ref: Memo No. 13876 dt. 20.12.2021 of Principal Chief Conservator of Forests, (WL), CWLW, Odisha, Bhubaneswar.

Sir

With reference to the aforementioned memo on the captioned subject, the Principal Chief Conservator of Forests, (WL), CWLW, Odisha, Bhubaneswar has approved the Site Specific Conservation Plan in respect of Dubuna - Sakradihi Mines of M/s Odisha Mining Corporation Ltd with a financial outlay of Rs. 600.867 lakh. Hence, you are requested to deposit the said approved amount of Rs. 600.867 lakh (Rupees six crore eighty-six thousand seven hundred) only towards scheme for Site Specific Wildlife Conservation Plan through e-portal of MoEF&CC as provided in the **https://parivesh.nic.in/** and the proof/evidence of the deposit of fund be submitted to this office for further necessary action at this end.

Yours faithfully,
21/12/21
Divisional Forest Officer,
Keonjhar Division.

Memo No. 9185 / Dated. 21-12-2021
Copy forwarded to the Regional Chief Conservator of Forests, Rourkela Circle for favour of kind information and necessary action.

21/12/21
Divisional Forest Officer,
Keonjhar Division.

Memo No. 9186 / Dated. 21-12-2021
Copy forwarded to the Principal Chief Conservator of Forests, Forest Diversion and Nodal Officer, FC Act, O/o the Principal Chief Conservator of Forests, Odisha, Bhubaneswar/ Principal Chief Conservator of Forests, (WL), CWLW, Odisha, Bhubaneswar for favour of kind information and necessary action.

21/12/21
Divisional Forest Officer,
Keonjhar Division.

AGENCY COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 11-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349994
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
Address.	DMC HouseKhordha
Amount(in Rs)	209108458/-

Amount In Words :Twenty Crore Ninety-One Lakh Eight Thousand Four Hundred and Fifty-Eight Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	160825830349994 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

यूनियन बैंक Union Bank of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 11-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349994
MoEF/SG File No.	8-26/2019-FC
Location.	ORRISA
Address:	DMC House Khordha
Amount(in Rs)	209108458/-

Amount In Words :Twenty Crore Ninety-One Lakh Eight Thousand Four Hundred and Fifty Eight Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	160825830349994 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

After making successful payment, User Agencies may send a line of confirmation through Email: helpdeskcampa@corpbank.co.in

Note:After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date to Email: cb0371@unionbankofindia.com

Sl. No.	Particulars	Amount
1	Scheme for Gap Planting and Soil & moisture conservation activities within 100 m	25942300.00
2	Scheme for one and half time safety zone	13853900.00
3	RWMP	109225558
4	SSWLCP	600.867 Lakh
Total		209108458/-

17/03/2022
S. Mohapatra
Dy. General Manager (Fin)

UBINI52207 6649463

OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS (WILDLIFE) &

CHIEF WILDLIFE WARDEN, ODISHA

Government of Odisha, Forest, Environment & Climate Change Department

PRAKRUTI BHAWAN, PLOT NO.1459, SAHEED NAGAR, BHUBANESWAR- 751007

Phone: 0674-2602250. Website: www.wildlife.odisha.gov.in, Email: odishawildlife@gmail.com

No. 13946 / CWLW-FDWC-FD-0053-2021

Dated, Bhubaneswar the 30 December, 2021

To

The General Manager (Geo),

Power of Attorney Holder,

Odisha Mining Corporation Ltd., Bhubaneswar

Sub: Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese Ore in Dubuna-Sakradihi Mines in favour of M/s Odisha Mining Corporation (OMC) Limited in District Keonjhar, Odisha - Approval of Site Specific Wildlife Conservation Plan

Sir,

It is to intimate that you have to implement a Site Specific Wildlife Conservation Plan for the above mining project in compliance to the Condition No.11 in Para-A i.e. conditions which need to be complied prior to handing over of forest land by the State Forest Department and compliance is to be submitted prior to Stage-II approval, stipulated in letter in File No.8-26/2019-FC dated 06.05.2021 of Government of India, MoEF&CC, FC Division while granting Stage-I approval under Section-2 of the Forest (Conservation) Act, 1980 to the above diversion proposal.

The Site Specific Wildlife Conservation Plan in respect of the above project is hereby approved with financial forecast of Rs.600.867 lakh (Rupees six crore eighty-six thousand seven hundred) only for implementation of the activities in project impact area in Keonjhar/ Bonai Division, as detailed in the approved plan.

The total cost of Rs.600.867 lakh (Rupees six crore eighty-six thousand seven thousand) only may be deposited in State CAMPA fund through e-portal (https://parivesh.nic.in) for implementation of activities in project impact area within the above forest divisions. It is further requested to take note of the following conditions for future compliance.

- The plan may be revisited after 5 years and the user agency will give undertaking to contribute towards the revised cost of the Conservation Plan till the project period, if any.
- Should there be need for Site Specific Wildlife Conservation Plan after expiry of the present plan period, the user agency shall submit another such plan at least one year before expiry of the present Conservation Plan and deposit the outlay amount upon its approval. In case of delay, it will be dealt as per law for violations of Forest (Conservation) Act, 1980 and Environment (Protection) Act, 1986.

P.T.O.

- The user agency shall give an undertaking to bear the differential cost in case of enhancement of wage rate during implementation of the plan.

Yours faithfully

Encl: Copy of approved SSWLCP

PCCF (WL) & CWLW, Odisha

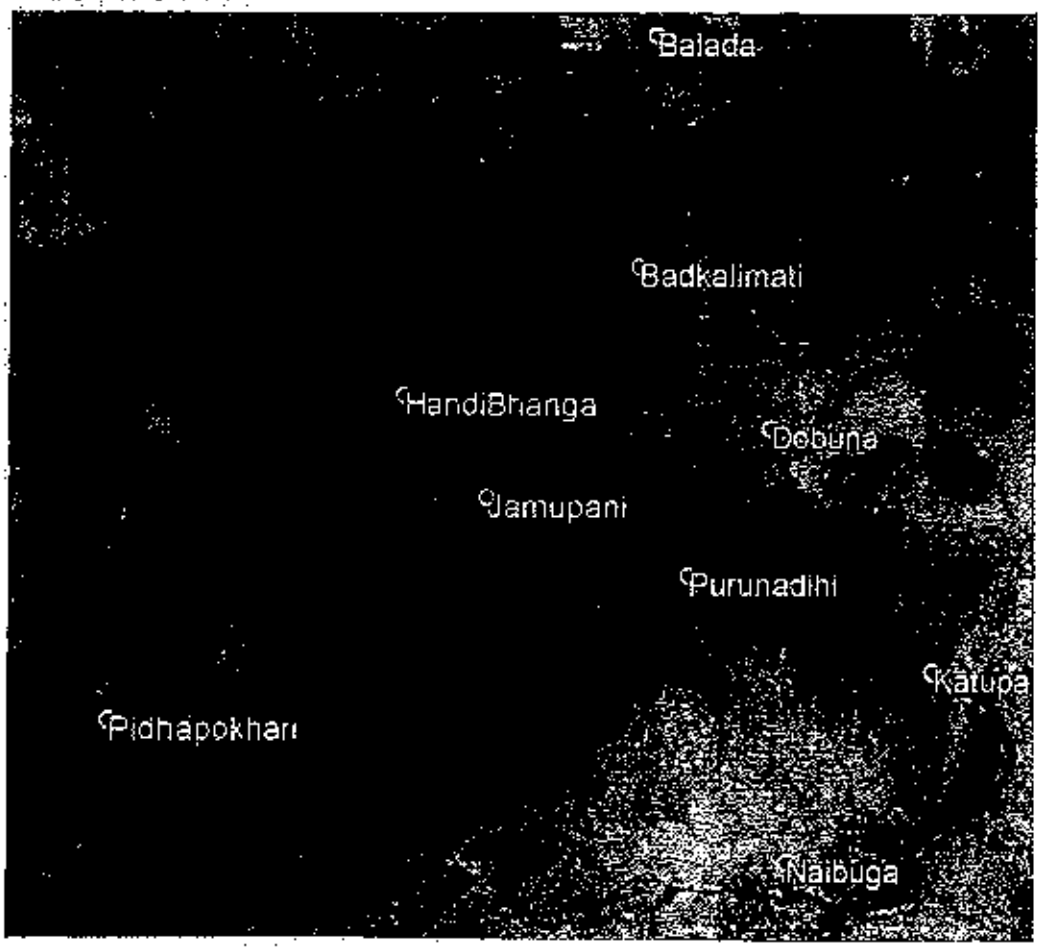
Memo No. 13877 /dt 20/12/2021

Copy forwarded for information and necessary action to the –

1. Special Secretary to Government of Odisha, F&E Department, Bhubaneswar with reference to that Deptt. Memo No.FE-DIV-FLD-0031-2021-9415/F&E dt 21.05.2021
2. Principal Chief Conservator of Forests, Odisha with reference to his memo No.11124 dt 07.07.2021
3. Regional Chief Conservator of Forests, Rourkela Circle with reference to his memo No.3066 dt 29.10.2021
4. Divisional Forest Officer, Keonjhar/ Boarl Division alongwith a copy of the approved SSWLCP

PCCF (WL) & CWLW, Odisha

Site Specific Wildlife Conservation Plan for Dubna-Sakradihi Iron & Manganese Ore Mines of M/s Odisha Mining Corporation, Ltd at Village Dubna, Jampani, Naibuga etc. under Keonjhar District, Odisha.



Prepared by

DIVISIONAL FOREST OFFICER,

KEONJHAR DIVISION

Preface

Precambrian iron ores of the Singhbhum-North Orissa region occur in eastern India as part of the Iron Ore Group (IOG) within the broad horse-shoe shaped synclinorium. More than 50% of Indian iron ore reserves occur in this region. Massive-hard, flaky-friable, blue dust and lateritic varieties of iron ores are the major ore types, associated with banded hematite, jasper and shales.

In Keonjhar Bonai belt many mining leases for excavations of iron & manganese ore have been grated and being implemented. Working in Dubna- Sakradihi Iron & Manganese mine of Odisha Mining Corporation Limited has been suspended since 2006 due to want of Statutory Clearances.

This Wildlife Plan has been prepared in compliance to In Principle approval for diversion of 1243.27 ha of Forest land and ToR condition for Environment clearance. In preparation of this plan OMC Officials and consultants of CHANDANAM have contributed in facts & figures and helped in drafting the Plan. The Divisional Forest Officer, Bonai Division has also furnished the requisite information for preparation of this plan. I express thanks to those contributed for preparation of this Plan. On implementation it is expected to reduce Human-Wildlife Conflict in the locality and also help Forest staff for a better wildlife management.

Thanking all

Place: Keonjhar

Dated:

Divisional Forest Officer
Keonjhar Division

Divisional Forest Officer
Keonjhar Division

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Executive Summary

- Odisha Mining Corporation Limited (OMC) was incorporated on 16th May 1956 as a Joint Venture Company of Govt. of Odisha and Govt. of India with the objective of harnessing the mineral wealth of the State of Odisha through exploration, extraction as well as value addition.
- Four years later, following the withdrawal of the Govt. of India from the company, OMC became a wholly State-owned Corporation of Govt. of Odisha on 17th Nov 1961. As of now, it continues to be a wholly owned corporation of the Odisha Government.
- The major minerals mined by OMC are Chrome, Iron, Manganese and Bauxite which cater to the requirement of mineral based industries such as steel, sponge iron, pig iron, ferro-manganese, ferro-chrome, alumina etc.
- Dubna-Sakradihi Iron & Manganese Ore Mine is the amalgamated leases of Dubna manganese lease over an area of 1134.419 ha and Sakradihi Iron Ore mining lease over an area of 564.55 ha.
- Total lease area of Dubna-Sakradihi Iron & Manganese ore lease after amalgamation is 1332.019 ha.
- As per Rule 3 (2) of Mineral (Mining by Government Company) Rules, 2015 the lease is deemed to be valid till dt 28.12.2029.
- Out of total 1332.019 ha of ML area, the total forest land within amalgamated ML area is 1243.27 ha.
- The project is located in village Handibhanga, Jampani, Dubna, Purunadihi under Barbil Tahasil and village Naibuga, Basantapur under Jhumpura Tahasil of Keonjhar district.
- Naibuga RF and Pedipokhari RF come under Keonjhar Forest Division.
- The project is bounded by Latitude: $21^0 48'37.35634"$ to $21^0 51'52.01868"$N and Longitude: $85^0 22'17.8389"$ to $85^0 24'26.47792"$ E. The mine find place in Survey of India Topo Sheet No. F 45 N 5 (73G/5).
- The total Project area is 1332.019 ha out of which Forest area is 1243.27 ha and Non Forest Land is 88.749 ha.
- Total cost of the project is Rs 132.63 crore.
- It is an Iron & Manganese Mining Project & Non Linear in nature.
- At present the mining status is "Non Operational".

- The lease area is connected with Joda town at a distance of 25 km through a State road which runs via Banspani. The State road meets NH-20 linking Rourkela and Panikoili from where district Headquarter Keonjhar is at a distance of 80 km. The nearest railway station is at Nayagarh (on Padapahar-Barajamda-Gua branch line of S E Railway) which is at a distance of 5 km towards North. The nearest railway station serviced by passenger train is Barbil (on S E Railway's Barajamda-Bolani branch line) which is at 30 km distance towards North.
- OMC has filed the diversion proposal vide Proposal No FP/OR/MIN/30349/2017 (State Serial No: OR-069/2017). On consideration, the MoEF & CC, New Delhi has issued the "In Principle Approval Oder" vide File. No 8-26/2019 FC dated 6th May, 2021.
- The project neither forms a part of any National Park nor Wildlife Sanctuary nor any other Protected Area. It is also not coming within Eco Sensitive Zone of any National Park nor Wildlife Sanctuary.
- OMC Ltd has applied for Environmental Clearance vide proposal no. IA/OR/MIN/74300/2018 dt 12.04.2018 on line for production of 3.00 MTPA Iron Ore and 0.05 MTPA Manganese Ore.
- After considering the proposal, MoEF & CC, Impact Assessment Division has issued TOR (Terms of Reference) vide F. No 23-241/2018-IA-III (V) dated 27th May, 2019.
- This Site Specific Wildlife Conservation Plan is being prepared in accordance with the above conditions of Forest Clearance and TOR Condition of Environment Clearance.
- The project impact area is considered to be the area within 10 km radius from periphery of the ML boundary. The area within ZOI has been computed to be 492.80 Sq. km and coming within Keonjhar District/Keonjhar Division and Sundargarh District/Bonai Division.
- There are many Mining leases around this Dubna-Sakradihi Mine and having overlapping ZOI. Most of the other mines are located towards North, North West and North East.
- Considering the overlapping nature of the ZOI, an additional area coming within 10km to 15.00 km mainly towards non overlapping zone of impact from the Project Boundary is considered for interventions.
- Dubna-Sakradihi Mine of OMC Ltd is located in Joda-Badbil-Koira Iron & Manganese Belt.
- In Keonjhar Division -54 mines in ZOI, In Bonai Division- 16 mines in Zone of Impact.
- It is observed that Forest is the major land use pattern (39.2%) followed by agriculture (25.06%). Scrub land also occupies a major land mass (25.08%).
- Shifting cultivation though observed in very few places, it has been noticed through Satellite Imagery. Its percentage is only 0.04%.

- The total Mining Lease area consists of Six villages and two (2) Reserved Forests. The six villages are Handibhanga, Jampani, Dubna, Purunadihi, Naibuga and Basantapur.
- There are 70 villages within Zone of Impact (Keonjhar- 47, Sundargarh-13). The demographic profile of the Zone of Impact villages that the total population is 56635 in 12842 House hold.
- The per family members are 4 which indicates a nucleolus family. The SC and ST Population is 8.68% and 62.25% respectively. The tract is tribal area with 62% tribal.
- The flora/Forest cover of the Core Zone and buffer zone at present is of similar nature. Most of forest is of Dry Deciduous Mixed Forests. On the nalla banks moist vegetation is observed. Mango, Jamun, Arjun, Kendu (*D. Excellesa*) species indicates moist luxturiant vegetation in patches.
- The forests observed in this zone of impact can be broadly classified as 3CNorth Indian Moist Deciduous Forest and 5BNorthern Tropical Dry Deciduous Forest as per Champion and Seth classification of the forest types of India on basis of climate, moisture condition and eco-types.
- The forests under Keonjhar Division have been proposed to be managed under Improvement Working Circle.
- The Forests under Bonai Division are under Selection Working Circle.
- There is a Wildlife (Overlapping) working circle for management of wildlife of both the divisions.
- The Zone of Impact is a Moist Sal Forest and Dry Deciduous Mixed Forests.
- This is a good habitat for Wildlife including mega animals. The Zone of Impact is not coming within any Protected Area or its Eco-Sensitive Zone. Though there is no recognized Elephant corridor within the Zone of Impact, the movement of elephant is frequently noticed in the zone.
- The nearest Protected area is Similipal Sanctuary / Tiger Reserve which is about 73 km from the project. Due to mining the animal movement is erratic and poaching by putting loops / electric livewire and other brutal methods are recently observed.
- There is one identified corridor namely Karo (Keonjhar)-Karampada (Saranda, Jharkhand) INTERSTATE outside the Zone of Impact - about 19 km away from the project. There are some mining activities on this corridor which has resulted in the random and scattered movement of Elephants.
- Movement of Elephants in this tract is influenced by River Baitarani, Railway line and mining activities. The Elephants usually enter from Jharkhand and the presence of Elephants is felt on three sides of the project.

- Animal lovers are not happy with the situation and degradation due to mining & developmental projects. Man Animal Conflict has become a cause of social concern. Forest staffs are also on strain due to animal depredation.
- Elephants coming from Jharkhand are posing a greater problem that the resident elephant herd. People want a permanent solution to the problem.
- As mining activities are in rising trend, more and more mining leases granted due to heavy demand on Iron Ore in domestic and International market, the problem solving measures are not clearly perceptible.
- As per the approved Mining Plan, the reserve/Resource of Iron ore is estimated to be 25.7524 Million Ton of +45% Fe. This reserve has been established by Detailed Exploration. The Reserve / Resource for Manganese Ore is established to be 1.146 Million Ton of +10% Mn grade.
- Considering the deposit wise geological parameters of the ore body and the geo-technical observations, conventional open cast method of mining is opted for developing the deposit by controlled blasting and drilling and using the HEMM for excavating the blasted materials and transported to the proposed crushing and screening plant.
- To ensure yearly production schedules, mode of mining is mechanical. The same method will be continued throughout the anticipated life of the mine and the Mine is categorized under 'A' Category.
- The annual targeted production is 3.0 MTPA for Iron Ore and 0.05MTPA for Manganese Ore. By considering the geo-technical properties of Ore and waste rock of different identified deposits of the Mine, 80% of the total production will be produced by Drilling & Blasting and rest 20% by excavation.
- During the Plan Period Deposit No 2D, 3D and 8D will be operated.
- There are 4 Waste Dumps for Iron ore and one for manganese Ore. All the dumps are within the ML area.
- The proposed development / production during the plan period is such that a part of the Pit will be demineralized and shall be utilized for sequential back filling of the generated waste.
- During plan period 12.259 million tons of waste likely to be generated and will be dumped on surface and for pit reclamation in mined out pit by Back Filling the generated waste during 4th and 5th year of the plan period.

- Mining pit is designed maintaining an average pit slope which varies from 21^0 to 35^0 for the various deposits of the mine. The variation in bench parameters is mainly based on geo-technical properties and hill slope. Accordingly the height of the active mine face is about 4-6 meter where as bench width is in between 8-10 meter.
- Deep hole drilling and blasting will be made to break hard laminated and massive ore and waste rock. Drilling shall be carried-out using 115/150mm dia drill machines with 2.5 to 3m burden and 3-3.5m spacing. Hole will be charged with Slurry explosives and initiated using electronic detonator / NONEL
- The area receives moderate rainfall about 1269 mm per annum. The general ground water table in the lease area is around 485m (MSL). The ultimate Pit working shall be much above the general ground water table. Mine quarries made prior to stoppage of mining activities at Dubna- Sakradihi mine have reached a depth of 694m (MSL) and Quarry -5B in the Manganese Pit, a small portion of the pit in the mine forms the deepest pit floor. With the proposed production development plan for iron and manganese, there will be three quarries (Deposit-2D, 3D & 8D) for Iron and 2 quarries in Deposit -5Top and 6B for manganese.
- The catchment area of the Mine is 164.09 ha with an annual rainfall of 1269.1 mm and infiltration rate is 10L/s. The total water flowing through the lease will be approximately 1.04Mcum per year.
- Since the mine is located at high altitude, the rain water flows down through natural drainage course and maximum water will be infiltrated before discharge to natural drainage.
- From mining pits water evacuation is being provided by 4 numbers of Pump of 10HP Capacity during rainy season.
- Four numbers of Check dams and boulder carters have been constructed on northern sides of Deposit -5 Top to protect surface run off. During this plan period there is proposal to construct 17 numbers of Check dams in the ML area.
- Mineral reject ore- Material containing 45-55% Fehas been considered as Mineral Reject for Iron Ore where as for manganese Ore containing 10-25% Mn is categorized as sub grade Ore generated during mining process.
- About 0.44Million Ton and 0.07 Million Ton of Iron and Manganese sub grade ore are generated respectively during the ensuing plan period. During subsequent Plan period (within the lease period) 0.508 MT and 0.0364 MT of sub-grade will likely to be generated for iron ore and Mn Ore excavation respectively. The entire sub grade will be blended with high grade ore and sold at pit head.

- Mining Lease area is more or less covered with laterite, lateritic clay, shale and BHJ with very meager top soil. Top Soil if any encountered during lateral development of mine pit shall be stored at the earmarked site within the lease area and will be utilized for plantation purpose over the reclaimed part of the pit.
- On an average road gradient is maintained at 1 in 16 and at steeper places, it will not be less than 1 in 12. It is also ensured that there is clear view of the road ahead for longer distance and sharp curves obstructing site for less than 30m distance are totally avoided.
- Transportation For iron ore deposits, blasted material will be loaded with hydraulic excavators (diesel powered) of bucket capacity of 3.0 – 4.5 cu.m bucket capacity in 35 t dumpers and will be transported to proposed crushing & screening plant for production of CLO & fines.
- Waste generated will be transported to proposed waste dumps. Matured and inactive portion of the dump slopes shall be rehabilitated with plantation.
- Average water requirement for the mining and allied activities at the mines both for the domestic as well as the industrial use is 335 KLD. (m^3). Out of 335 m^3, 112m^3 (ground water) and 223m^3(Surface water) per day respectively is required.
- The peak water requirement shall be about 123m^3 (ground water) and 302m^3 surface water respectively.
- Dubna –Sakradihi Mining project provides permanent and direct employment to 132 people and generate indirect employment for several hundred. Most of the directly employed are under skilled category.
- With the present rate of mining at 3.0 MTPA of Iron Ore and 0.05 MTPA of Manganese Ore as of 31.10.2019 based on the re-estimated and updated ore reserves of the mine, the anticipated life span of the mine extends beyond 17 years with the production of Mn ore from 10th year onwards, once the iron ore reserves exhausted.
- Mining Lease area is more or less covered with laterite, lateritic clay, shale and BHJ with very meager top soil. Top Soil if any encountered during lateral development of mine pit shall be stored at the earmarked site within the lease area and will be utilized for plantation purpose over the reclaimed part of the pit.
- There is no perennial water course within the lease area. Seasonal nalla exists within the lease area, which discharges run off water after taking adequate protective measures to the Baitarani river.
- The lease area is drained by several first and third order streams, which are seasonal, which drains into the perennial Jalpa nalla and southern side drains to Ghagra, Dalki etc.

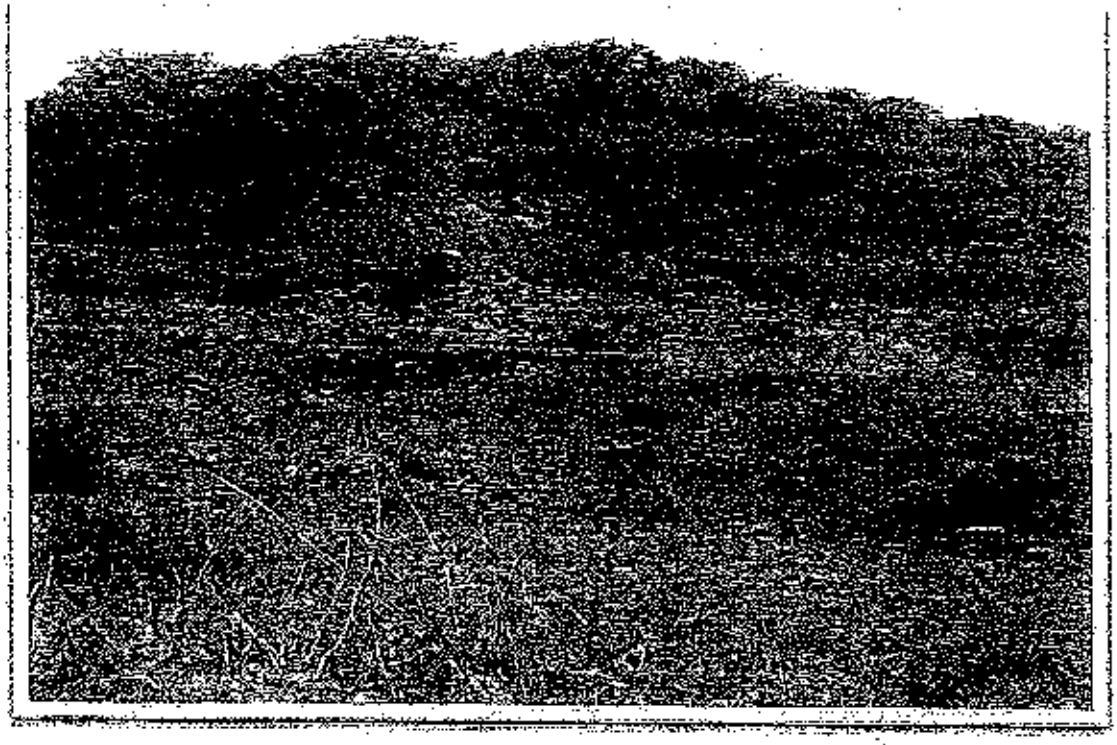
- Mining activity contribute to the pollution of air due to operation of heavy earth moving equipment and transportation.
- The sources of Noise within the mine areaWorking of heavy earth moving machinery, Plying of ore and waste carrying tipper trucks and due to the controlled blasting activity which is restricted 2-3 times a week.
- Dust emission sources were identified based on mining activities of the project.
- For diversion of Forest area 1243.27 ha, sampling tree enumeration has been conducted. As per sample enumeration and extrapolation there are 1,57,761 number of sound trees , 86,571 number of unsound trees in virgin forest land over 984.671 ha and 22481 number of sound trees and 20569 numbers of unsound trees in broken up forest land over 258.599 ha involved in the mining lease i.e. Dubna- Sakradihi Iron and manganese Mine.
- During mining operation within this valid lease period about 30% of the enumerated/ projected trees will be removed and it will have an adverse impact on Biological environment.
- The proposed project envisages re-opening of Dubna-Sakradih Iron & Manganese ore mine with iron ore production to 3.0 MTPA & Manganese ore production to 0.05 MTPA.
- The CSIR-NEERI has recommended regulate/guide the mode of transportation for mineral evacuation based on EC capacity of the mines in view of high dust pollution and noise generation due to road transport. Minimum 70% by public railway siding, Through Conveyor belt and maximum 30% by Road- direct to destination or other public railway siding or above.
- For Mn Ore option 100% by 10/17 Ton trucks or option above.
- The maximum production of 3.0 MTPA (iron ore) and 300 working days per year have been considered for calculation.
- The increase in truck traffic due to re-opening of Dubna Sakradih mine (Iron Ore) i.e. 0.9 MTPA (30%) is expected to be 400 trucks/day i.e. 200 loaded and 200 unloaded per day or 100 PCU per hour (considering mineral transportation for 12 hours per day) which will use Dubuna-Sakradih-Nayagarh Road (KIDCO Road) before joining Joda-Keonjhar Expressway (NH-20) for mineral evacuation.
- With present level of traffic and the predicted increase in existing traffic due to the project, carrying capacity of Dubuna-Sakradih-Nayagarh Road (SH-10) during operational phase of the project has been estimated by comparison with the recommendations stipulated by Indian Road Congress (IRC).

- The road carrying capacity values have been determined as per the guidelines of IRC: 64-1990. As per "IRC: 64-1990: Guidelines for Capacity of Roads in Rural Areas"
- During plan period 12.259 million tons of waste likely to be generated and will be dumped on surface and for pit reclamation in mined out pit by Back Filling the generated waste during 4th and 5th year of the plan period.
- The effect of this mining project on flora and fauna couldn't be assessed in isolation. There are number of mining projects around this project. The cumulative production of surrounding mines is very high in comparison to this mine.
- The Working Plan Officer, in its last plan has already indicated about degradation that has been started and accelerating in a path of degradation. Due to reopening of mine, further degradation of Lease area due to expanded broken up area is feared.
- Out of enumerated trees 287382 number, about 30% of trees (86215 number) likely to be removed during remaining lease period i.e. within 27.12.2029. This will affect the immediate surroundings.
- Due to increase in noise level, the animals / birds may be keep away from the area.
- There is occasional elephant movement within the ML area. They may be disturbed and more man animal conflict in the vicinity / zone of impact may be observed.
- The increased traffic from Mine area to Nayagarh Station Railway siding may prohibit crossing of animals/ elephants across the Bamebari-Palashponga road. This may led to fragmentation of habitat and may have associated problems.
- The project "Dubna-Sakradihi Iron & Manganese" mine is located in the Joda- Koida-Jharkhand Iron Belt.
- There are hundreds of mines (Iron, Iron & Manganese) and mining operation is associated with air, water pollution, heavy traffic, Noise & vibration, loss of forest growth /natural vegetation. The synergic impact of mines of the zone of impact is very heavy than the individual impact.
- On examination of changed ground position, it is proposed to implement the following interventions at project cost by User agency.
- Provide adequate protection to available vegetation which is not worked out within the present lease period i.e.27.12.2029.
- Solar fencing around the all Mining pits to prevent animal fall to quarry.
- Construction of Masonry / vegetative Check dams on Ghagra, Jalpa & Dalki nala in order to check silt in the runoff and allow clean water to outside the lease area. (In consultation with Forest / Soil Conservation Officials)

- Plantation of short rotation species on vacant / non mineralized areas – not likely to be broken up within the present lease period.
- Adequate Solar lighting arrangement around habitations to keep wild animals away for habitation within ML area.
- Cattle immunization Program in all core villages.
- Awareness camps for children / villagers on various Road safety measures and about animal behaviors and how to respond in case of animal intrusion to the Habitation.
- The above interventions are to be implemented within ML in addition to measures suggested in the approved Mining Plan.
- The forest department will take up / implement the following measures i.e. Habitat Improvement, Planting of Fruit Bearing Species / Bamboo, Providing Clean Drinking water to animals, Creation of Water holes / maintenance of old one, Deployment of "Gaja sathi", Construction of watch Towers, Construction of a Staff barrack, Integrated Fire management, Providing Logistic Support, Augmenting Flow of intelligence, Providing Trap Camera & Accessories, Providing machans, Providing Grain Bins (Metal), Provisions for Corpus Fund, Awareness Program, installation of early warning system and Monitoring & Evaluation.
- The total project cost is estimated to be Rs 600.867 Lakh (Keonjhar Division: 375.752 lakh and Bonai Division Rs225.115 Lakh.) **(Rupees Six Crore Eighty Six Thousand And Seven Hundred OnlyOnly)**
- This plan is valid for 10 years i.e. from 2021-22 to 2030-31***(In order to extract the total mineral reserve , OMC will final extension of the present lease period from 27.12.2029 to 26.12.2049, for a period of another 20years).*** Another plan will be prepared one year prior to expiry of this plan, if such necessity is felt by the Chief Wildlife Warden.
- The Plan may be reviewed periodically and effectiveness of plan prescription may be evaluated. If required it may be modified after 5 year of implementation.
- This Wildlife Conservation plan has been prepared in compliance to conditions Stipulated in the Stage-I order for Diversion of 1243.27ha & TOR granted for Environment Clearance. The OMC has prepared a SSWLCP in response of Environmental Clearance directives by the EAC in their 14th Meeting held on 25.04.2011, Govt. of India, New Delhi ,
- The plan though approved in 2016 no work has been implemented by U/A. No work has also been executed by Forest Department as the User Agency has not depusited the demanded amount.
- This plan is prepared keeping in view of directives contained in the Stage-I approval order & TOR. On event of its approval it will supersede the previous approved plan.

CHAPTER-I

LOCATION OF PROJECT & ITS AREA



CHAPTER-I

LOCATION OF PROJECT & ITS AREA

1.0 Introduction:

Odisha Mining Corporation Limited (OMC) was incorporated on 16th May 1956 as a Joint Venture Company of Govt. of Odisha and Govt. of India with the objective of harnessing the mineral wealth of the State of Odisha through exploration, extraction as well as value addition.

Four years later, following the withdrawal of the Govt. of India from the company, OMC became a wholly State-owned Corporation of Govt. of Odisha on 17th Nov 1961. As of now, it continues to be a wholly owned corporation of the Odisha Government.

The major minerals mined by OMC are Chrome, Iron, Manganese and Bauxite which cater to the requirement of mineral based industries such as steel, sponge iron, pig iron, ferro-manganese, ferro-chrome, alumina etc.

OMC has been growing steadily over these years and today it stands as the largest State PSU in the mining sector of the country. That OMC has been classified as a "Gold Category State PSU", is a 100% debt free profit making corporation, is a testament to the excellent processes and systems put in place by the management team.

OMC owns 36 mining leases consisting of Eleven (11) iron ore leases, Three (3) manganese ore leases, Five (5) Iron &manganese ore leases, Eleven (11) chromite leases, One (1) limestone lease, Four (4) gemstone (semiprecious ruby/corundum) and One (1) Bauxite lease only in Odisha State. The major minerals mined by OMC are chrome, iron, manganese and Bauxite. At the present rate, OMC is producing about 10% of total iron ore production and about 30% of the total chrome ore production of the State.

Dubna-Sakradihi Iron & Manganese Ore Mine is the amalgamated leases of Dubna manganese lease over an area of 1134.419 ha and Sakradihi Iron Ore mining lease over an area of 564.55 ha. It comes under the jurisdiction of Barbil and Jhumpura Tahasil of Keonjhar Dist., Odisha. Dubna mining lease was executed on 08.09.1971 over 1135.419 ha for a period of 20 years and Sakradihi mining lease was executed on 28.12.1959 over 564.55 ha for a period of 30 years. Total lease area of Dubna-Sakradihi Iron & Manganese ore lease after amalgamation is 1332.019 ha. The period of 1st RML for amalgamated lease was w.e.f

28.12.1989. Application for renewal of amalgamated lease w.e.f. dt 28.12.2009 for another 20 years has been made by OMC Ltd. As per Rule 3 (2) of Mineral (Mining by Government Company) Rules, 2015 the lease is deemed to be valid till dt 28.12.2029. Out of total 1332.019 ha of ML area, the total forest land within amalgamated ML area is 1243.27 ha.

1.1 Location of the Project:

The project is located in village Handibhanga, Jampani, Dubna, Purunadihi under Barbil Tahasil and village Naibuga, Basantapur under Jhumpura Tahasil of Keonhar district. Naibuga RF and Pedipokhari RF come under Keonjhar Forest Division. The project is bounded by Latitude: $21^0$48'37.35634" to $21^0$51'52.01868"N and Longitude: $85^0$22'17.8389" to $85^0$24'26.47792" E. The mine find place in Survey of India Topo Sheet No. F 45 N 5 (73G/5) (Scale 1:50000). The location map is given at **Plate No. I**

(a) Forest Administrative Jurisdiction:

According to the Forest Administrative Jurisdiction, it comes under Keonjhar Forest Division in Champua Range. It comes under Rourkela Circle.

(b) Civil Administrative Jurisdiction:

As per Civil Administrative structure, it is in Village Handibhanga, Jampani, Dubna, Purunadihi, Naibuga, Basantapur, Naibuga RF, and Pedipokhari RF under Barbil Tahasil in Keonjhar district.

Forest Jurisdiction		Civil Jurisdiction	
Unit	Name	Unit	Name
Beat	Bamebari	Village	Handibhanga, Jampani, Dubna, Purunadihi, Naibuga, Basantapur, Pedipokhari,
Section	Bamebari	Tahasil	Barbil, Jhumpura
Range	Champua	Sub Division	Champua
Division	Keonjhar	District	Keonjhar
Circle	Rourkela	Division	Sambalpur

Table 1 Forest and Civil Jurisdiction

1.1.1 Extent of Project Area & Land Schedule:

The project area is 1332.019 ha coming under six revenue villages and two Reserved Forest as detailed below.

Sl. No.	Name of Village	Forest land	Non-Forest land	Total
1	Dubna	76.037	6.839	82.876
2	Jampani	64.828	9.552	74.38
3	Purunadihi	2.394	2.134	4.528
4	Handibhanga	5.497	7.061	12.558
5	Nalbuga	290.16	56.12	346.28
6	Basantapur	31.018	7.043	38.061
7	Pedipokhari RF	725.158	0	725.158
8	Nalbuga RF	48.178	0	48.178
	Total	**1243.27**	**88.749**	**1332.019**

Table 1 Extent of project area

1.1.1(i) Details of Forest land / Non Forest land Involved:

The total Project area is 1332.019 ha out of which Forest area is 1243.27 ha and Non Forest Land is 88.749 ha. The detail land break up is as furnished above. The area under reserved Forests comes in Nalbuga RF: 48.178 ha and Pedipokhari RF: 725.158ha.

1.2 Cost of the Project:

Total cost of the project is Rs 132.63crore.

1.3 Nature & Land involved in the Project:

1.3.1 Nature of the Project:

It is an Iron & Manganese Mining Project & Non Linear in nature. At present the mining status is "Non Operational".

1.3.2 Approach to the Project:

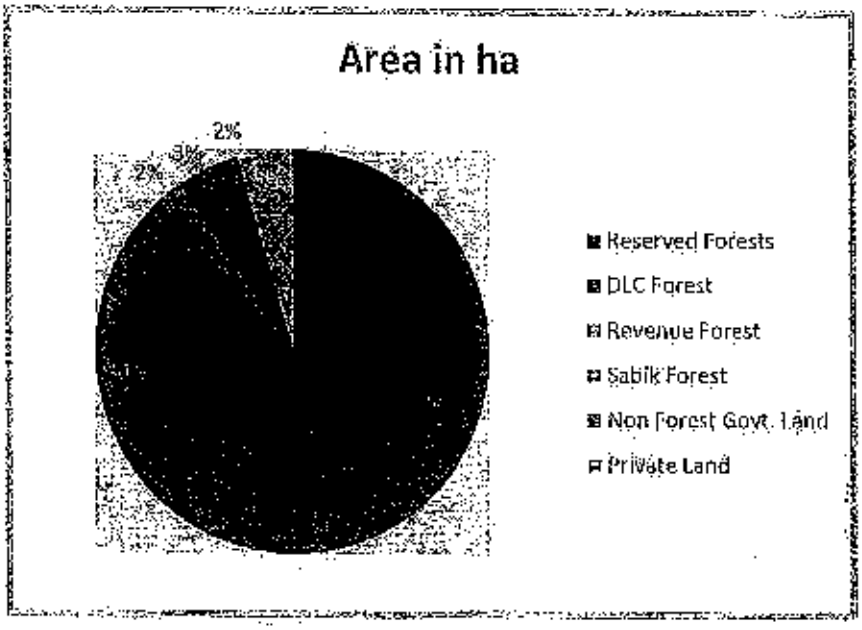
The lease area is connected with Joda town at a distance of 25 km through a State road which runs via Banspani. The State road meets NH-20 linking Rourkela and Panikoili from where district Headquarter Keonjhar is at a distance of 80 km. The nearest railway station is at Nayagarh (on Padapahar-Barajamda-Gua branch line of S E Railway) which is at a distance of 5 km towards North. The nearest railway station serviced by passenger train is Barbil (on S E Railway's Barajamda-Bolani branch line) which is at 30 km distance towards North.

1.3.3 Land details of the Project:

The project involves Forest, Non Forest & Private land. The break up of land is as follows.

Sl. No.	Category of Forest	Area in ha	Percentage
1	Reserved Forests	773.336	58.1
2	DLC Forest	402.743	30.2
3	Revenue Forest	28.992	2.2
4	Sabik Forest	38.199	2.9
5	Non Forest Govt. Land	30.161	2.3
6	Private Land	58.588	4.4
	Total	1332.019	100.0

Table 2 Land details of the project



1.4 Statutory Clearances:

A) Status of Forest Clearance:

The Dubna- Sakradihi Mining Lease is over 1332.019 ha out of which 1243.27 ha is of Forest kisam. OMC has filed the diversion proposal vide Proposal No FP/OR/MIN/30349/2017 (State Serial No: OR-069/2017). On consideration, the MoEF & CC, New Delhi has issued the "In Principle Approval Order" vide File. No 8-26/2019 FC dated 6th May, 2021 (Enclosed as Annexure-II).

B) Status of Wildlife Clearance:

The project neither forms a part of any National Park nor Wildlife Sanctuary nor any other Protected Area. It is also not coming within Eco Sensitive Zone of any National Park nor Wildlife Sanctuary. Hence Clearance u/s 29 of the Wildlife (Protection) Act, 1972 is not necessary for this project.

C) Status of Environmental Clearance:

OMC Ltd has applied for Environmental Clearance vide proposal no. IA/OR/MIN/74300/2018 dt.12.04.2018 on line for production of 3.00 MTPA Iron Ore and 0.05 MTPA Manganese Ore. After considering the proposal, MoEF & CC, Impact Assessment Division has issued TOR (Terms of Reference) vide F. No 23-241/2018-IA-III (V) dated 27th May, 2019 (Annexure-IV).

1.4.1 Stipulated Condition under which plan to be prepared:

The MoEF & CC, New Delhi has issued the "In Principle Approval Order" vide File. No 8-26/2019 FC dated 6th May, 2021 (Enclosed as Annexure-II) for diversion of 1243.27 ha of forest land subject to several conditions. The stipulated condition A.11 is reads as follows:

"11. A Site Specific wildlife management Plan shall be prepared by the State Government in consultation with the PCCF (Wildlife) for the protection and conservation of wildlife of the area. Comments of the Project Elephant Division of the MoEF & CC (Copy enclosed) shall be addressed in the said plan and a copy of approved plan shall be submitted to the Ministry along with the compliance of Stage-I approval. Entire cost of implementation of the provisions of the Wildlife Management Plan shall be deposited in to the account of CAMPA of the State." The comment of the Project Elephant Division of the MoEF & CC is given at Annexure-III.

MoEF & CC, IA Division has issued TOR with several conditions to comply. Under stipulated Condition of TOR (A. Special Condition no. 13) there is a direction to prepare site specific wildlife Conservation Plan for the Project. The Condition reads as follows.

"13) Wildlife Conservation Plan is to be prepared in consultation with Chief Wildlife Warden and submit."

This Site Specific Wildlife Conservation Plan is being prepared in accordance with the above conditions of Forest Clearance and TOR Condition of Environment Clearance.

CHAPTER-II

PROJECT & ITS IMPACT AREA



CHAPTER-II

Project & Its Impact Area

2.0 Description of Project Area & its Impact Area:

This is a mining project. Dubna- Sakradihi Iron & Manganese Mine is an amalgamated lease of two ML i.e. Dubna Manganese ML and Sakradihi Iron ML. The total amalgamated ML area is 1332.019 ha. The lease is valid up to dt 27.12.2029. The mine is not in operation due to want of Satutory Clearances. 93.34% of the lease area is forest land.

The project impact area is considered to be the area within 10 km radius from periphery of the ML boundary. The area within ZOI has been computed to be 492.80 Sq. km and coming within Keonjhar District/Keonjhar Division and Sundargarh District/Bonai Division. The district wise area within Zone of Impact is as follows.

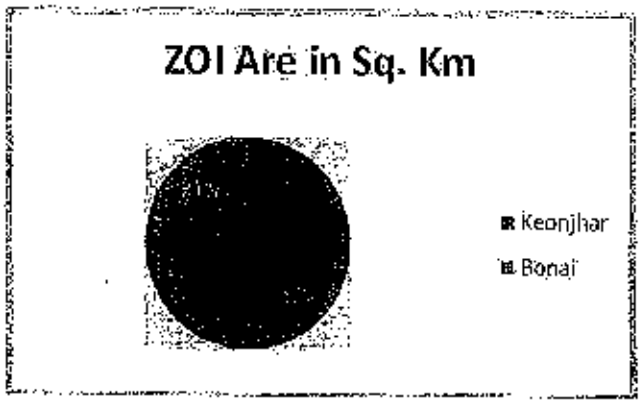
2.1 Location:

The project is located in village Handibhanga, Jampani, Dubna, Purunadihi, Naibuga, Basantapur, Naibuga RF, Pedipokhari RF under Barbil Tahasil in Keonjhar district and bounded by Latitude: 21°48'37.35634" to 21°51'52.01868" N and Longitude: 85°22'17.8389" to 85°24'26.47792" E. The ML area finds place in Survey of India Topo Sheet No. F 45 N 5 (73G/5) (Scale 1:50000). The location map is given at **Plate No -I**

2.2 Zone of Impact:

Sl No	Name of District	Forest Division	Area in Sq. Km (within 10 km radius)	Percentage
1	Keonjhar	Keonjhar	388.40	78.81
2	Sundargarh	Bonai	104.40	21.19
	Total		492.80	100.00

Table 3 Zone of Impact area



2.2.1 Status of Overlapping Zone of Impact with other projects:

There are many Mining leases around this Dubna-Sakradihi Mine and having overlapping ZOI. Most of the other mines are located towards North, North West and North East.

Considering the overlapping nature of the ZOI, an additional area coming within 10km to 15.00 km mainly towards non overlapping zone of impact from the Project Boundary is considered for interveritions.

The additional area is indicated in Plate No-I.

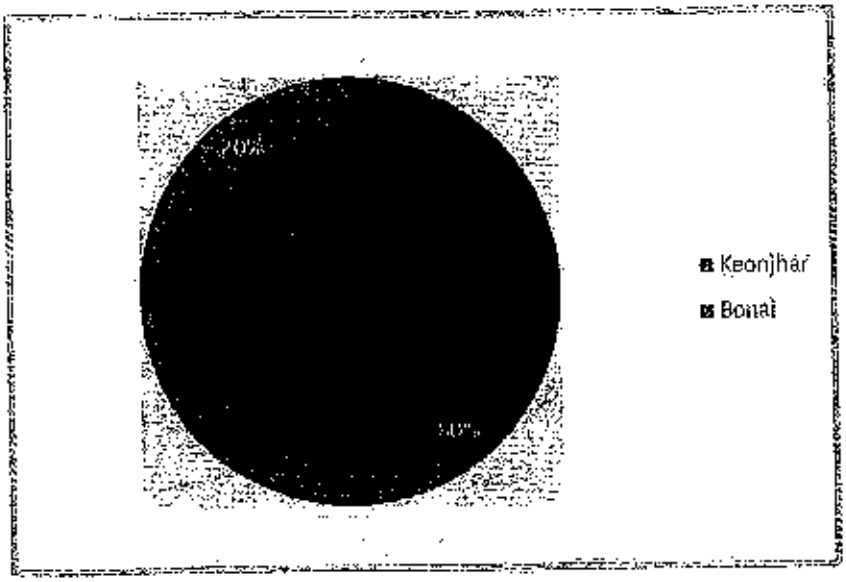
Dubna-Sakradihi Mine of OMC Ltd is located in Joda-Badbil-Kolra Iron & Manganese Belt, Some of the important Mines coming within ZoI are indicated at Para 2.8 below. In Keonjhar Division -54 mines in ZOI, In Bonai Division- 16 mines in Zone of Impact. The location/relative position is depicted in Plate No-II

2.2.2 Additional Zone of Impact Considered:

Due to overlapping Zone of Impact, though study is limited to 10 km radius area, for all other purposes Additional Zone of Impact is taken towards non overlapping areas i.e. mostly towards South and South West direction, The additional area taken as ZOI vis a vis ZOI within 10 km radius is furnished below.

Sl No	Name of District	Name of Forest Division	Area in Sq. Km (within 10 km radius)	Percentage	Additional ZOI area (10km – 15km) in Sq.Km	Total area considered in Sq. Km	Percentage	Percentage of additional area w.r.t 10km ZOI
1	Keonjhar	Keonjhar	388.40	78.81	258.3	646.70	80.24	66.50
2	Sundargarh	Bonai	104.40	21.19	54.9	159.30	19.76	52.59
	Total		492.80	100.00	313.20	806.00	100.00	63.56

Table 8 Additional zoi area



2.3 Land Use Pattern:

The land use pattern of Zone of Impact and Lease area has been studied & analysed. Help of Satelite imagery has been taken.

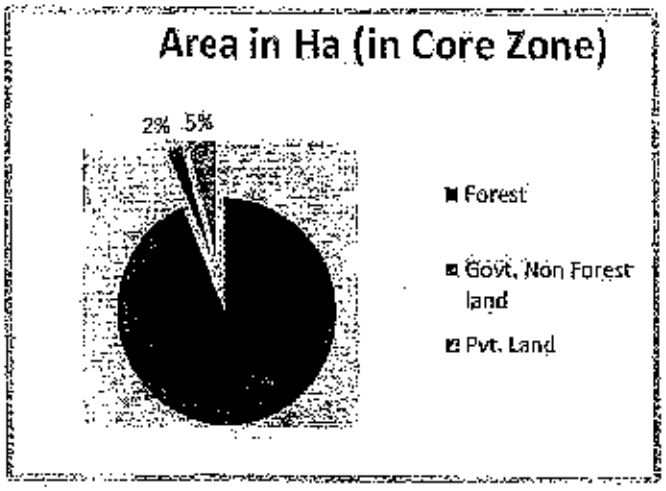
2.3.1 Core Zone:

The land use pattern (as per kisam) has been described under Para 1A.2. The abstract is reproduced below for appreciation.

Pre Mining Landuse Plan			
Sl No	Kisam (Category of Land)	Area in Ha	Percentage
1	Forest	1243.27	93.3
2	Govt. Non Forest land	30.161	2.3
3	Pvt. Land	58.588	4.4
	Total	1332.019	100.0

Table 5 Pre mining landuse plan

For the above facts it is observed that the ML area is mostly a Forested area (93.3%). The private holdings mostly agricultural land constitutes 5% of the total land within ML area.



Land Use Plan (Present Mining Stage):

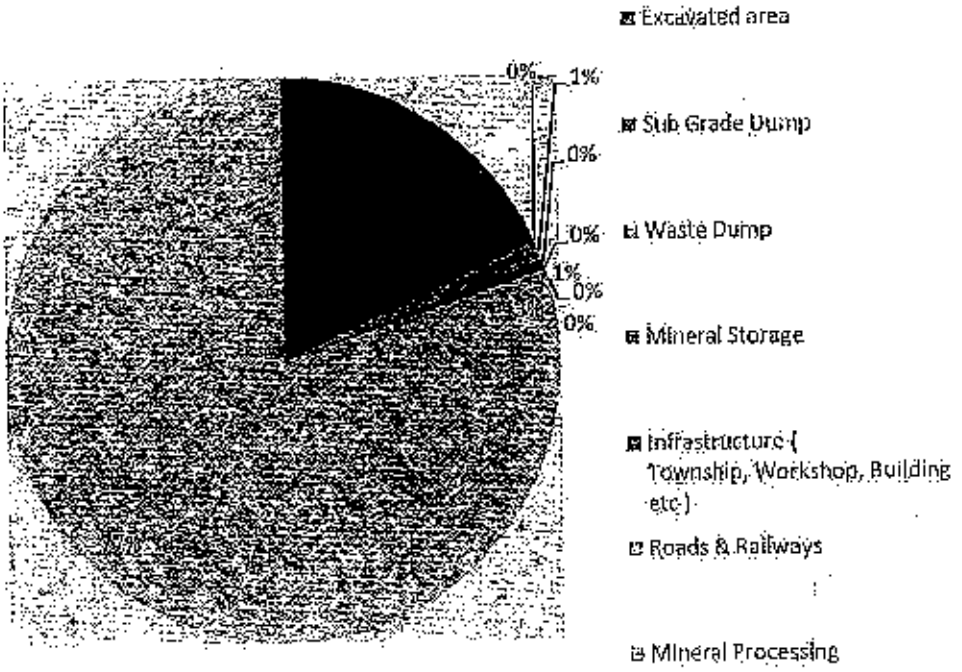
The existing land use pattern & Conceptual Land use pattern as projected in approved Mining Plan (2020-21 to 2024-25) is as follows

Landuse pattern Existing & Conceptual Stage)

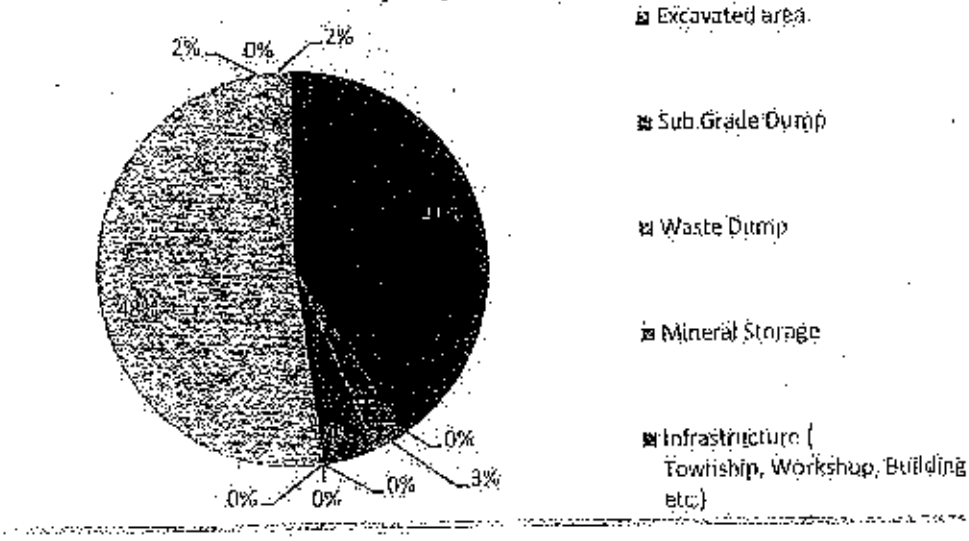
Sl No	Particulars	Existing land Use (in ha)	Percentage	Conceptual Land use (in ha)	Percentage
1	Excavated area	242.5577	18.2	1045.4580	78.49
2	Sub Grade Dump	00	0.0	00	0.00
3	Waste Dump	14.806	1.1	78.5963	5.90
4	Mineral Storage	4.2724	0.3	108.0274	8.11
5	Infrastructure (Township, Workshop, Building etc)	3.3891	0.3	3.3305	0.25
6	Roads & Railways	9.2687	0.7	3.7701	0.28
7	Mineral Processing	0.0	0.0	5.00	0.38
	Sub-Total	**274.2939**	**20.6**	**1244.1823**	**93.41**
8	Statutory barrier (Safety Zone)	33.7227	2.5	33.7227	2.53
9	Green Belt	0	0.0	1.1827	0.09
10	Other utilities	1024.0024	76.9	52.9313	3.97
	Total	**1332.019**	**100**	**1332.019**	**100**

Table 6 Landuse pattern Existing and conceptual stage

Land Utilization at present



Land Utilization At Conseptual (As projected)

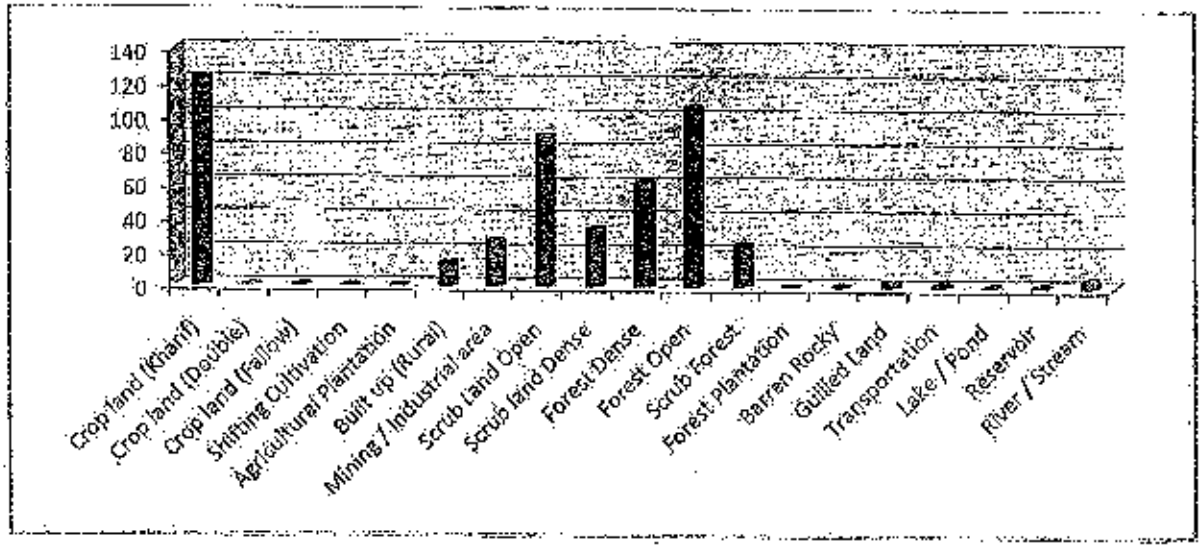


2.3.2 Zone of Impact (Buffer Zone):

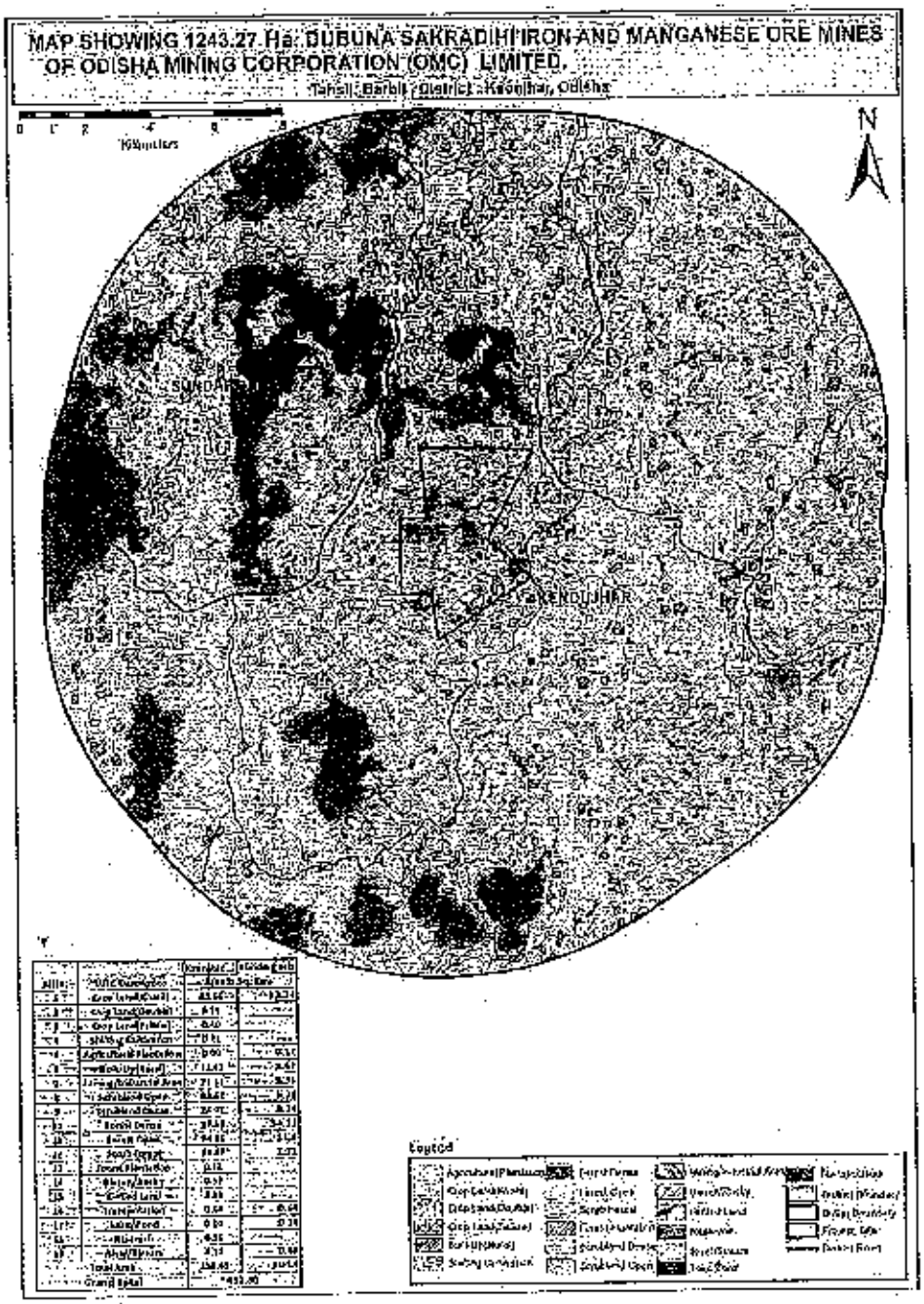
On satellite imagery study the land use pattern of Zone of Impact (10km Radius area) is as follows..

Landuse Pattern (ZOI) Zone					
Sl No	Land Use Description	District (Area in Sq. Km)		Total (in Sq. Km)	Percentage
		Keonjhar	Sundargarh		
1	Crop land (Kharif)	89.67	33.24	122.91	24.94
2	Crop land (Double)	0.59	0	0.59	0.12
3	Crop land (Fallow)	0.40	0	0.4	0.08
4	Shifting Cultivation	0.21	0	0.21	0.04
5	Agricultural Plantation	00	0.14	0.14	0.03
6	Built up (Rural)	11.43	2.67	14.1	2.86
7	Mining / Industrial area	21.32	5.51	26.83	5.44
8	Scrub Land Open	83.62	5.71	89.33	18.13
9	Scrub land Dense	26.02	8.24	34.26	6.95
10	Forest Dense	27.68	34.11	61.79	12.54
11	Forest Open	94.61	11.6	106.21	21.55
12	Scrub Forest	23.47	1.72	25.19	5.11
13	Forest Plantation	0.18	0	0.18	0.04
14	Barren Rocky	0.52	0	0.52	0.11
15	Gullied Land	2.82	0	2.82	0.57
16	Transportation	0.64	0.64	1.28	0.26
17	Lake / Pond	0.09	0.14	0.23	0.05
18	Reservoir	0.96	0	0.96	0.19
19	River / Stream	4.17	0.68	4.85	0.98
20	Total	388.4	104.4	492.80	100.00

Table 7 Land use pattern (ZOI)



From Analysis, it is observed that Forest is the major land use pattern (39.2%) followed by agriculture (25.06%). Scrub land also occupies a major land mass (25.08%). Shifting cultivation though observed in very few places, it has been noticed through Satellite imagery. Its percentage is only 0.04%.



2.4 Habitation:

The area is well populated. There are habitations in core & zone of impact.

2.4.1 Core Zone:

Villages within the Project: The total Mining Lease area consists of Six villages and two (2) Reserved Forests. The six villages are Handibhanga, Jampani, Dubna, Purunadihi, Naibuga and Basantapur. The land coming within the revenue village boundary and Mining lease area is furnished below.

Sl No	Name of Village	Forest land	Non Forest land	Total
1	Dubna	76.037	6.839	82.876
2	Jampani	64.828	9.552	74.38
3	Purunadihi	2.394	2.134	4.528
4	Handibhanga	5.497	7.061	12.558
5	Naibuga	290.16	56.12	346.28
6	Basantapur	31.018	7.043	38.061
	Total	**469.934**	**88.749**	**558.683**
	% to total village area	84.11	15.89	100.00
	% to Total Lease area	35.28	6.66	41.94

Table 8 Villages within the core area

The demographic profile of core villages (As per 2011 census) is furnished below.

Demographic Profile of Core villages							
Name	No_HH	TOT_P	TOT_M	TOT_F	P_SC	P_ST	P_LIT
HandiBhanga	87	408	210	198	0	365	152
Naibuga	340	1683	833	850	246	1163	427
Purunadihi	169	786	424	362	128	416	344
Dobuna	293	1396	703	693	383	496	793
Basantapur	44	193	99	94	85	66	154
Jampani	0	0	0	0	0	0	0
Total	933	4466	2269	2197	842	2506	1870
Percentage			50.81	49.19	18.85	56.11	41.87

Table 9 Demographic profile

2.4.2 Occupational Profile (Core Zone):

Occupational profile of Core Zone									
Sl No	Village	TOT_ WORK_P	MAIN WORK_P	MAIN _CL_P	MAIN _AL_P	MAIN _HH_P	MAIN _OT_P	MARG WORK_P	NON_ WORK_P
1	Handibhanga	169	85	4	7	0	74	84	239
2	Nalbuga	769	284	52	109	2	121	485	914
3	Purunadihi	395	393	15	0	1	377	2	391
4	Dobuna	595	452	4	0	1	447	143	801
5	Basantapur	51	49	0	0	1	48	2	142
6	Jampani	0	0	0	0	0	0	0	0
	Total	3585	1423	135	131	14	1143	2162	4026
	Percentage	47.10	39.69	3.77	3.65	0.39	31.88	60.31	52.90

Table 10Occupation profile of the core zone

From the above occupational profile it is observed that out of 39.69% of population are main workers and mostly engaged in other than agricultural/own house hold business. Form field study it is noticed that mostly they are engaged in mining and allied activities.

2.4.3 Zone of Impact (Buffer Zone):

There are 70 villages within Zone of Impact (Keonjhar- 47, Sundargarh-13). The demographic profile of the Zone of Impact villages (as per 2011 Census data) is as follows.

Demographic Profile of Villages (ZOI)								
District	No of village	No_HH	TOT_P	TOT_M	TOT_F	P_SC	P_ST	P_LIT
Keonjhar	47	8685	39062	19702	19360	3273	24073	16979
Sundargarh	23	4157	17573	8753	8820	1645	11183	8908
Total	70	12842	56635	28455	28180	4918	35256	25887
Percentage				50.24	49.76	8.68	62.25	45.71

Table 11 Demographic profile Buffer zone

From the above data it is observed that the total population is 56635 in 12842 House hold. Theper family members are 4 which indicates a nucleolus family. The SC and ST Population is 8.68% and 62.25% respectively. The tract is tribal area with 62% tribal.

2.5 Flora& Fauna:

The flora/Forest cover of the Core Zone and buffer zone at present is of similar nature. Most of forest is of Dry Deciduous Mixed Forests. On the nalla banks moist vegetation is observed. Mango, Jamun, Arjun, Kendu (*D. melanoxylon*) species indicates moist luxuriant vegetation in patches. The list of flora & fauna has been authenticated by the DFO, Keonjhar and is given at Annexure- VIII.

2.5.1 (Flora) Core Zone:

On detail study the flora recorded in core zone is furnished below.

Details of Flora Recorded in Core Zone			
Sl no	Species	Scientific name	Family
Tree			
1	Bela	*Aegle marmelos*	*Rutaceae*
2	Mahancem	*Allanthus excelsa*	*Simaroubaceae*
3	Ankala	*Alagium salvifolium*	*Cornaceae*
4	Chhatia	*Alstonia schoalris*	*Apocynaceae*
5	Dhaura	*Anogeissus latifolia*	*Combretaceae*
6	Neem	*Azadirachta indica*	*Meliaceae*
7	Simili	*Bombax ceiba*	*Malvacease*
8	Kasi	*Bridelia retusa*	*Euphorbiaceae*
9	Char	*Buchanania lanzan*	*Anacardiaceae*
10	Kumbhi	*Careya arbora*	*Lecythidaceae*
11	Khakada	*Casearia eliptica*	*Salicaceae*
12	Sunari	*Cassia fistula*	*Caesalpiniaceae*
13	Chuli	*Cassine glaura*	*Celastraceae*
14	Sisoo	*Dalbergia sissoo*	*Fabaeceae*
15	Mankada kendu	*Diospyros embryateric*	*Ebenaceae*
16	Kendu	*Diospyros melanoxylon*	*Ebenaceae*
17	Bara	*Ficus bengalensis*	*Moraceae*
18	Dimiri	*Ficus racemosa*	*Moraceae*
19	Jari	*Ficus virens*	*Moraceae*
20	Gambari	*Gmelia arborea*	*Verbanaceae*
21	Korai/kurchi	*Holarrhena antidtsenterica*	*Apocynoideae*
22	Sidha	*Lagerstroemia parviflora*	*Lychraceae*
23	Patuli	*Lagerstroemia specioca*	*Lychraceae*
24	Jia	*Lannea coromandelica*	*Anacardiaceae*
25	Mahula	*Madhuca letifolia*	*Sapotaceae*
26	Kamala	*Mallotus philippensis*	*Euphorbiaceae*
27	Aam	*Mangifera indica*	*Anacardiaceae*
28	Achhu	*Morinda pudica*	*Rubiaceae*
29	Gangasiuli	*Morinda tinctoria*	*Oleaceae*
30	Bandhan	*Ougeinia oojeinensis*	*Papilonaceae*
31	Amloki	*Phyllanthus emblica*	*Euphorbiaceae*
32	Karanja	*Pongamia pinnata*	*Papilonaceae*

33	Piasal	*Pterocarpus marsupium*	*Fabaeceae*
34	Kusum	*Schleichera oleosa*	*Sapindaceae*
35	Bhalia	*Semecarpus anacardium*	*Anacardiaceae*
36	Sal	*Shorea robusta*	*Dipterocarpaceae*
37	Jamu	*Syzygium cumini*	*Myrtaceae*
38	Tentuli	*Tamarindus indica*	*Caesalpiniaceae*
39	Bahada	*Terminalia bellerica*	*Combretaceae*
40	Harida	*Terminalia chebula*	*Combretaceae*
41	Asun	*Terminalia tomentasa*	*Combretaceae*
42	Pani Gamhari	*Trewia nudiflora*	*Euphorbiaceae*
43	Barkuli	*Zizíphus jujuba*	*Rhamnaceae*
44	Acasia	*Acacia pennínervis*	*Fabaeceae*
45	Ambada	*Spondias pinnata*	*Anacardiaceae*
46	Ashoka	*Saraca asoca*	*Fabaeceae*
47	Aswastha	*Ficus religiosa*	*Moraceae*
48	Bheru	*Chloroxylon swietenia*	*Rutaceae*
49	Chakhunda	*Samanea saman*	*Fabaeceae*
50	Champa	*Mangolia champaca*	*Mangoliaceae*
51	Debadaru	*Polyalthia longifolia*	*Annonaceae*
52	Dhatiki	*Ziziphus mauritiana*	*Rhamnaceae*
53	Eucalipatus	*Eucalyptus globoles*	*Myrtaceae*
54	Gauva	*Psidum guajava*	*Myrtaceae*
55	Kadamba	*Neolamrckia cadamba*	*Rubiaceae*
56	Kaju	*Anacardium occidentale*	*Anacardiaceae*
57	Kanchana	*Bauhinia variegeta*	*Fabaeceae*
58	Kanjar	*Cascabela thevetia*	*Apocynoideae*
59	Khaira	*Senegalia catechu*	*Fabaeceae*
60	Kulita	*Diaspyros sylvatia*	*Febenaceae*
61	Kurein	*Holarrhena floribunda*	*Apocynoideae*
62	Kuruma	*Adina cordifolia*	*Rubiaceae*
63	Palasa	*Butea monasperma*	*Fabaeceae*
64	Panasa	*Artocarpus heterophyllus*	*Moraceae*
65	Pudhei	*Schleichera*	*Sapindaceae*
66	Radhachuda	*Peltophorum pterocarpum*	*Fabaeceae*
67	Sindura	*Bixa orllana*	*Bixaceae*
68	Teak	*Burmese teak*	*Lamiaceae*
69	Tentla	*Cassia fistula*	*Fabaeceae*
Shurbs			

70	Ata	*Annona squamosa*	*Annonaceae*
71	Arakha	*Calotropis gigantea*	*Asclepiadaceae*
72	Koli	*Carossa carandas*	*Apocynoideae*
73		*Croton spp.*	*Euphorbiaceae*
74		*Eupatorium odoratum*	*Asteraceae*
75	Putus	*Lantana camara*	*Verbanaceae*
76	Putus	*Lantana indica*	*Verbanaceae*
Herbs			
77	Shialkanta	*Argemone mexicana*	*Papaveraceae*
78	Barcha	*Leonotis nepetifolia*	*Lamiaceae*
79	Lajwanti	*Mimosa pudica*	*Mimosaceae*
80	Bisalyakarani	*Tridax procumbans*	*Asteraceae*
81		*Xanthium stumarium*	*Asteraceae*
Grass			
82	Bans	*Bambusa bambos*	*Gramineae*
Climber			
83	Atundi	*Combertum decandrum*	*Combretaceae*

Table 12 Flora(Core zone)

2.5.2 (Flora) Zone of Impact (Buffer Zone):

Flora as Recorded in the Zone of Impact			
Sl no	Name	Scietific Name	Family
Tree			
1	Amba	*Magnifera indica*	*Anacardiaceae*
2	Ambada	*Spondias pinnata*	*Anacardiaceae*
3	Amla	*Embelica officinalies*	*Phyllanthaceae*
4	Anchu	*Morinda tinctoria*	*Rubiaceae*
5	Ankula	*Alangium salvifolium*	*Cornaceae*
6	Arjuna	*Termanalia arjuna*	*Combretaceae*
7	Asan	*Termanalia tomentosa*	*Combretaceae*
8	Aswatha	*Ficus religiosa*	*Moraceae*
9	Babul	*Acacia nilotica*	*Mimosaceae*
10	Bahada	*Terminalia bellerica*	*Combretaceae*
11	Bandhan	*Dugenia bojeinensis*	*Fabaceae*
12	Bankhajuri	*Phoenix sylvestris*	*Arecaceae*
13	Bata	*Ficus bengalensis*	*Moraceae*
14	Barkoili	*Ziziphus mauritiana*	*Rhamnaceae*
15	Baruna	*Crateva religiosa*	*Capparaceae*
16	Baula	*Mimusops elengi*	*Sapotaceae*

17	Bel	*Aegle marmelos*	*Rutaceae*
18	Bhalia	*Semecarpus anacardium*	*Anacardiaceae*
19	Champa	*Michelia champaca*	*Magnoliacea*
20	Char	*Buchanania lanzen*	*Anacardiaceae*
21	Chauli	*Cassine glauca*	*Celastraceae*
22	Chhatian	*Alstonia scholaris*	*Apocynaceae*
23	Chhotarai	*Dillenia aurea*	*Dilleniaceae*
24	Chhuinpatuali	*Stereospermum angustifolium*	*Bignoniaceae*
25	Dhalasiris, Tentra	*Albizia procera*	*Mimosaceae*
26	Dhaman	*Grewa tilifolia*	*Tiliaceae*
27	Dhaura	*Anogeissua latifolia*	*Combretaceae*
28	Dimiri	*Ficus racemosa*	*Moraceae*
29	Gambhari	*Gmelina arborea*	*Verbenaceae*
30	Gandhapalas	*Milliusa velutina*	*Annonaceae*
31	Gangasiuli	*Nycatanthes arbotristis*	*Oleaceae*
32	Gohira	*Acacia leucophloea*	*Mimosaceae*
33	Harida	*Termanalia chebula*	*Combretaceae*
34	Indrajal, Kurel	*Holarrhena antidyssentrica*	*Apocynaceae*
35	Jamu	*Syzyglum cumini*	*Myrtaceae*
36	Jari	*Ficus virens*	*Moraceae*
37	Jeuth	*Artocarpus lakoocha*	*Moraceae*
38	Kadam	*Anthocephalus cadamba*	*Rubiaceae*
39	Kalichua	*Diospyros sylvatica*	*Ebenaceae*
40	Kamalagundi	*Malloutus phillippensis*	*Euphorbiaceae*
41	Kanchan	*Bauhinia racemosa*	*Caesalpiniaceae*
42	Kandha	*Citrus aurantium*	*Rutaceae*
43	Karada	*Clestanthus collinus*	*Euphorbiaceae*
44	Karanja	*Pongamia pinnata*	*Fabaceae*
45	Kasi	*Bridelia retusa*	*Euphorbiaceae*
46	Kendu	*Diospyros melanoxylon*	*Ebenaceae*
47	Khair	*Acacia catechu*	*Mimosaceae*
48	khakda	*Casearia elliptica*	*Salicaceae*
49	kharal	*Gardenia turgida*	*Rubiaceae*
50	Kumbi	*Careya arboea*	*Lecythidaceae*
51	Kurum, Haldu	*Adina cordifolia*	*Rubiaceae*
52	Kusum	*Scleichera oleosa*	*Sapindaceae*
53	Mahul	*Madhuca latifolia*	*Sapotaceae*
54	Mahanimba	*Ailanthus excelsa*	*Simaroubaceae*

55	Mai	*Lannea coromandelica*	*Anacardiaceae*
56	Mankada kendu	*Diospyros embryopteris*	*Ebenaceae*
57	Neem	*Azadiarachta indica*	*Meliaceae*
58	Nimburomoi	*Bursera serrata*	*Burseraceae*
59	Oau	*Dillenia indica*	*Dilleniaceae*
60	Palash	*Butea monosperma*	*Fabaceae*
61	Paldhua	*Erythrina indica*	*Fabaceae*
62	Panas	*Artocarpus heteicphyllus*	*Moraceae*
63	Panigambari	*Trewia nudiflora*	*Euphorbiaceae*
64	Panipatuli	*Lagerstroemia speciosa*	*Lythraceae*
65	Piasal	*Pterocarpus marsupium*	*Fabaceae*
66	Pitamal	*Garuga pinnata*	*Burseraceae*
67	Rai	*Dillenia pentagyna*	*Dilleniaceae*
68	Rith	*Sapindus emarginatus*	*Sapindaceae*
69	Rohini	*Soymida febrifuga*	*Meliaceae*
70	Sagwan	*Tectona grandis*	*Verbenaceae*
71	Sajana	*Moringa oleifera*	*Moringaceae*
72	Sal	*Shorea robusta*	*Dipterocarpaceae*
73	Salai	*Boswellia serrata*	*Burseraceae*
74	Sidha	*Lagerstroemia parviflora*	*Lythraceae*
75	Simili	*Bombax ceiba*	*Bombacaceae*
76	Sisoo	*Dalbergia sissoo*	*Fabaceae*
77	Siris	*Albizia lebbeck*	*Mimosaceae*
78	Sunari	*Cassia fistula*	*Caesalpiniaceae*
79	Tala	*Borassus flabellifer*	*Arecaceae*
80	Tambal(Ahi Dimbiri)	*Ficus hispicia*	*Moraceae*
81	Tentuli	*Tamarindus indica*	*Caesalpiniaceae*
82	Acasia	*Acacia pennivervis*	*Fabaceae*
83	Ashok	*Saraca asoca*	*Fabaceae*
84	Bheru	*Chloroxylon swietenia*	*Rutaceae*
85	Chakunda	*Sameanea saman*	*Fabaceae*
86	Debadaru	*Polyalthia longifolia*	*Annonaceae*
87	Dhatiki	*Ziziphus mauritiana*	*Rhamnaceae*
88	Eucalipatas	*Eucalyptus globules*	*Myrtaceae*
89	Gauva	*Psidum guajava*	*Myrtaceae*
90	Kaju	*Anacardium occidentale*	*Anacardiaceae*
91	Kaniar	*Cascabela thevetia*	*Apocynoideae*
92	Kulita	*Diaspyros sylvatia*	*Febenaceae*

93	Kurein	*Holarrhena floribunda*	*Apocynoideae*
94	Pudhei	*Schleichera*	*Sapindaceae*
95	Radhachuda	*Peltophorum pterocarpum*	*Fabaceae*
96	Sindura	*Bixa orellana*	*Bixaceae*
97	Teak	*Burmese teak*	*Lamiaceae*
98	Tentla	*Cassia fistula*	*Fabaceae*
99	—	*Trema orientalis*	*Cannabaceae*
Bamboo			
100	Daba-Bans	*Bambusa arundinacede*	*Poaceae*
101	Tinwa Bans	*Cephalostachyum pergracile*	*Poaceae*
102	Salia bans	*Dendrocalamus strictus*	*Poaceae*
Shrubs			
103	Ata	*Annona squamosa*	*Annonaceae*
104	Agabadhu	*Premna obtusifolia*	*Lamiaceae*
105	Agnijhal	*Clausena excavata*	*Rutaceae*
106	Ankhukoli	*Carissa opaca*	*Apocynaceae*
107	Ankula	*Alangium salvifolium*	*Alanginaceae*
108	Arakha	*Calotropis gigantea*	*Asclepiadaceae*
109	Asadhua	*Capparis zeulanica*	*Capparaceae*
110	Ata	*Annona squamosa*	*Annonaceae*
111	Balgaba	*Jatropha gossypifolia*	*Euphorbiaceae*
112	Bantala	*Ardisia solanacea*	*Myrsinaceae*
113	Banachireita	*Leea asiatica*	*Vitaceae*
114	Banbiri	*Vigna radiata*	*Fabaceae*
115	Banchakunda	*Cassia tora*	*Caesalpiniaceae*
116	Babnnali	*Jasminum arborescens*	*Verbenaceae*
117	Begunja	*Vitex negurido*	*Olacaceae*
118	Bhabhadalia	*Olax scandens*	*Oleaceae*
119	Bhersunga	*Murraya koenigii*	*Rutaceae*
120	Bholupadi, Lantana	*Lantana camera*	*Verbenaceae*
121	Chianl	*Clerodendrum inerme*	*Verbenaceae*
122	Dhatiki	*Woodfordia fruticosa*	*Lythraceae*
123	Dhatura	*Datyra spp.*	*Solanaceae*
124	Gangoi	*Melastoma malabathricum*	*Melastomataceae*
125	Kamini	*Murraya exotica*	*Rutaceae*
126	Kantielkoili	*Zizphas oenopila*	*Rhamnaceae*
127	Kaskasijhari	*Ficus parasitica*	*Moraceae*
128	Kathamanjuati	*Lawsonia inermis*	*Lythraceae*

129	Kharkhari	*Clerodendrum viscosum*	*Verbenaceae*
130	Koli	*Carissa carandas*	*Apocynaceae*
131	Kuruda	*Gardenia gummifera*	*Rubiaceae*
132	Lal-bherenda	*Jatropha gossypifolia*	*Euphorbiaceae*
133	Lankajada	*Ricinus communis*	*Euphorbiaceae*
134	Mirgichra, Barenga	*Grewa elastica*	*Tiliaceae*
135	Mossu	*Aporosa dioica*	*Phyllanthaceae*
136	Murarphal	*Helicteres isora*	*Sterculiaceae*
137	Nahalbeil	*Cipadssa baccifera*	*Meliaceae*
138	Saplia	*Actinodaphna angustifolia*	*Lauraçeae*
139	Salra	*Catunaregam nutans*	*Rubiaceae*
140	Sunaragada	*Grewia helicterifolia*	*Tiliaceae*
141		*Parthenium hysteraphorus*	*Asteraceae*
Climbers & Lianas			
142	Akanbhindi	*Cissampelos pareira*	*Menispermaceae*
143	Anantmula	*Hemidesmus indicus*	*Asclepiadaceae*
144	Anantmula	*Tylophora indica*	*Asclepiadaceae*
145	Atundi	*Combretum decandrum*	*Combretaceae*
146	Badichand	*Symphorema polyandrum*	*Verbenaceae*
147	Bahumruga	*Flagellaria indica*	*Flagellariaceae*
148	Baldlank	*Mucuna pruriens*	*Fabaceae*
149	Bana alu	*Dioscrea hispida*	*Dioscoreaceae*
150	Ban olua	*Amorphophallus bulbifer*	*Arecaceae*
151	Banbiri	*Vigna radiata*	*Fabaceae*
152	Bankolthi	*Atylosa scarabaeoides*	*Fabaceae*
153	Bankunduru	*Trichosanthes cucumerina*	*Cucurbitaceae*
154	Banmurg	*Rhaseolus sublobatus*	*Fabaceae*
155	Bansimba	*Lablab purpureus*	*Fabaceae*
156	Batralata	*Salacia prinoides*	*Celastraceae*
157	Bichuati	*Tragia involucrata*	*Euphorbiaceae*
158	Dantari	*Acacia pennata*	*Mimosaceae*
159	Dhalakatirani	*Derris scandens*	*Fabaceae*
160	Dudhuloi, Suamloi	*Ichnocarpus frutescens*	*Apocynaceae*
161	Durarikoili	*Opilia amentacea*	*Opiliaceae*
162	Durkoli	*Erycibe paniculata*	*Convolvulaceae*
163	Ganj	*Meilletia auriculata*	*Fabaceae*
164	Gohirakanta	*Dalbergia spinosa*	*Fabaceae*
165	Gopakanhu	*Cryptolepis buchananill*	*Asclepiadaceae*

166	Handiphuta	*Pueraria tuberosa*	*Fabaceae*
167	Hoya	*Hoya parasitica*	*Asclepiadaceae*
168	Kaincha	*Abrus precatorius*	*Fabaceae*
169	Kalakatirani	*Derris trifoliata*	*Fabaceae*
170	Kankada	*Momordica dioica*	*Cucurbitaceae*
171	Kathakatrirani	*Dalbergia candentensis*	*Fabaceae*
172	Khamba Alu	*Dioscorea alata*	*Dioscoreaceae*
173	Kosa-alu	*Dioscorea pubera*	*Dioscoreaceae*
174	Kunjafata	*Ipomoea quamoclit*	*Convolvulaceae*
175	Latapalas	*Butea parviflora*	*Fabaceae*
176	Marda	*Milletia racemosa*	*Fabaceae*
177	Matka	*Solena amplexicaulis*	*Cucurbitaceae*
178	Muturilaha	*Smilax macrophylla*	*Smilacaceae*
179	Nirmuli	*Cuscuta spp.*	*Cuscutaceae*
180	Nentei	*Caesalpinia crista*	*Caesalpiniaceae*
181	Panayiri	*Aristolochia indica*	*Aristolochiaceae*
182	Pani alu	*Dioscorea oppositifolia*	*Dioscoreaceae*
183	Pichhuli	*Gouania leptostachya*	*Rhamnaceae*
184	Raigidi	*Pentatropis capensis*	*Asclepiadaceae*
185	Satabari	*Asparagus racemosus*	*Asparagaceae*
186	Siali	*Bauhinia vahlii*	*Caesalpiniaceae*
Herbs			
187	Agnijal	*Vernonia cinerea*	*Asteraceae*
188	Anakarati	*Solanum xanthocarpum*	*Solanaceae*
189	Badianla	*Phyllanthus fraternus*	*Phyllanthaceae*
190	Baingaloi	*Tragia plukenetii*	*Euphorbiaceae*
191	Bajramuli	*Sida spinosa*	*Malvaceae*
192	Banachanda	*Cleome viscosa*	*Cleomaceae*
193	Banhaldi	*Curcuma aromatica*	*Zingiberaceae*
194	Barcha	*Leonotis nepetifolia*	*Lamiaceae*
195	Basanga	*Justicia adhatoda*	*Acanthaceae*
196	Bhui-aonla	*Phyllanthus niruri*	*Phyllanthaceae*
197	Bhuin-neem	*Andrographis paniculata*	*Acanthaceae*
198	Bisalyakarani	*Tridax procumbens*	*Asteraceae*
199	Chepti	*Evolvulus alsinoides*	*Convolvulaceae*
200	Gayatulasi	*Leucas aspera*	*Lamiaceae*
201	Haldigundi	*Spilanthes calva*	*Asteraceae*
202	Iswarjata	*Celosia cristata*	*Amaranthaceae*

203	Krushnaparni	*Desmodium polycarpum*	*Fabaceae*
204	Lajwanti	*Mimosa pudica*	*Mimosaceae*
205	Madanga	*Loranthus spp.*	*Loranthaceae*
206	Mayurachulia	*Celosia argentea*	*Amaranthaceae*
207	Panikenduli	*Crinum defixum*	*Amaryllidaceae*
208	Salparni	*Desmodium gangeticum*	*Fabaceae*
209	Shialkanta	*Argemone mexicana*	*Papavaraceae*
210	Talmuli	*Curculigo orchioides*	*Hypoxidaceae*
211	Tulsi	*Ocimum sanctum*	*Lamiaceae*
212		*Eupatorium odoratum*	*Asteraceae*
213		*Xanthium stumarium*	*Asteraceae*
Grasses			
214	Chhana	*Imperata arundinaceae*	*Poaceae*
215	Chorkanta	*Chrysopogon aciculatus*	*Poaceae*
216	Khara	*Cymbopogon spp*	*Poaceae*
217	Duba	*Cynodon dactylon*	*Poaceae*
218	Ghonda bena	*Bothriochloa spp*	*Poaceae*
219	Nalia	*Myriostachya wightiana*	*Poaceae*
220	Panighasa	*Eragrostis spp*	*Poaceae*
221	Phuljhadu	*Thysanolaneria maxima*	*Poaceae*
222	Sabai	*Eulaliopsis binata*	*Poaceae*
223	Sinkhola	*Heteropogon contortus*	*Poaceae*
Orchids			
224		*Acampe carinata*	*Orchidaceae*
225		*Aerides maculosa*	*Orchidaceae*
226		*Dendrobium spp*	*Orchidaceae*
227		*Vanda roxburghii*	*Orchidaceae*

Table 13 Flora (Buffer zone)

2.5.3 Fauna (Core zone)

Fauna as observed in Core area is furnished below.

Fauna as recorded in the Core Zone			
Sl no	Common name	Scientific name	Schedule as per WPA,1972
Mammals			
1	Common House rat /Musa	*Rattus rattus*	V
2	Common Langur/Hanuman	*Semnopithecus entellus*	II
3	Common Mongoose /Hatia Neula	*Herpestes edwardsi*	II

4	House Rat	*Rattus rattus*	V
5	Indian Field mouse	*Mus boduga*	V
6	Indian hare /Thekua	*Lepus nigricollis reficaudatus*	IV
7	Indian Mole Rat/Gatua Musa	*Bandicota bengalensis*	IV
8	Jungle cat/Bana Biradi	*Felis chatis*	II
9	Rhesus Macaque/Patl	*Macaca mulatta*	II
10	Squirrel /Gurdichimusa	*Funambulus pennantii*	IV
Reptiles			
11	Banded krait /Rana	*Bungarus fasciatus*	IV
12	Cobra/Gokhra	*Naja naja*	II
13	Common krait	*Bungarus caeruleus*	IV
14	Common skink	*Mabuya carinata*	
15	Garden lizard	*Calotes versicolor*	
16	Russel's Earth Boa	*Typhlops braminus*	IV
17	Russel's viper	*Daboja russelii*	II
18	Saw scaled viper	*Echis carinatus*	IV
19	Yellow Rat snake	*Ptyas mucosa*	II
Birds			
20	Jungle Bush quaill	*Perdicula asiatica*	IV
21	Shikra /Baja pakhi	*Accipiter badius*	IV
22	Bank myna /Ghunkalika	*Acridotheres ginginianus*	IV
23	Common myna /Bani	*Acridotheres tristis*	IV
24	Common Iora	*Aegithina policicephala*	
25	Quaker babbler	*Alcippe poioicephala*	
26	White Breasted water hen	*Amaurornis phoenicurus*	IV
27	Pond heron	*Ardeola grayii*	IV
28	Jungle Babbler	*Argya striata syn*	IV
29	Spotted owlet	*Athene brama*	IV
30	Cattle egret	*Bubulcus ibis*	IV
31	Crow Pheasant	*Centropus sinensis*	IV
32	White necked stork	*Ciconia episcopus*	IV
33	Purple sunbird	*Cinnyris asiaticus*	IV
34	Pied crested cuckoo	*Clamator jacobinus*	IV
35	Blue Rock pegion	*Columba livia*	
36	House swift	*Copsychus saularis*	IV
37	Magpie Robbin	*Copsychus saularis*	IV
38	Indian Roller	*Coracias benghalensis*	IV
39	Jungle crow	*Corvus macrorhynchos*	IV

40	Common crow	*Corvus splendens*	IV
41	Cuckoo	*Cuculus spp.*	
42	Tree pie	*Dendrocitta vagabaunda*	IV
43	Drongo	*Dicrurus adsimilis*	IV
44	Lesser golden backed woodpecker	*Dinopium benghalensis*	IV
45	Little Egret	*Egretta garzetta*	IV
46	Koel	*Eudynamys scolopaceus*	IV
47	Partidge	*Francolinus spp.*	IV
48	Painted spur fowl	*Galloperdix lunulata*	IV
49	Red jungle fowl	*Gallus gallus*	IV
50	Grey jungle fowl	*Gallus sonneratii*	IV
51	Pied mynah	*Gracifaca contra*	IV
52	White breasted kingfisher	*Halcyon smyrnensis*	IV
53	Shrikes	*Lanius spp*	
54	Yellow cheeked tit	*Parus xanthogenys*	IV
55	Chestnut Headed Bee-eater	*Merops leschenaulti*	IV
56	Small Green Bee -eater	*Merops orientails*	
57	Small Indian Cormorant	*Phalacrocorax niger*	IV
58	Pariah kite	*Milvus migrans*	IV
59	Wagtail	*Motacilla spp*	IV
60	Black Headed oriole	*Oriolus xanthornus*	IV
61	Tailor Bird	*Orthotomus sutorius*	IV
62	House Sparrow	*Passer domesticus*	
63	Pea cock	*Pavo cristatus*	I
64	Spotted Babbler	*Pellorneum ruficeps*	
65	Weaver Bird	*Ploceus spp*	IV
66	Black Ibis	*Pseudibis papillosa*	IV
67	Parrot	*Psittacula eupatria*	
68	Rose Ringed Parakeet	*Psittacula krameri*	
69	Red vent Bulbul	*Pycnonotus cafer*	IV
70	White cheeked Bulbul	*Pycnonotus leucogenys*	IV
71	Spotted Dove	*Spilopelia chinensis*	IV
72	Doves	*Streptopelia spp*	IV
73	yellow legged green pigeon	*Treron phoenicoptera*	IV
74	Common bustard quaill	*Turnix suscitator*	IV

Table 14 Fauna (Core zone)

2.5.4 Fauna (Buffer zone)

Fauna as recorded in Zone of Impact			
Sl no	Common name	Scientific name	Schedule as per WPA, 1972
Mammals			
1	Barking deer(Kutura)	*Muntiacus muntjac*	III
2	Civet/katasha common	*Paradoxurus hermaphroditus*	II
3	Common House rat /Musa	*Rattus rattus*	V
4	Common Langur/Hanuman	*Semnopithecus entellus*	II
5	Common Mongoose / Neula	*Herpestes edwardsii*	II
6	Elephant	*Elephas maximus*	I
7	Grizzled giant squirrel	*Ratufa indica*	II
8	Hyaena /heta bagha	*Hyaena hyaena*	III
9	Indian Field mouse	*Mus booduga*	V
10	Indian fox	*Vulpes bengalensis*	II
11	Indian hare /Thekua	*Lepus nigricollis reficaudatus*	IV
12	Indian Mole Rat/Gatua Musa	*Bandicota bengalensis*	IV
13	Indian Porcupine /Jhinka	*Hystrix indica*	IV
14	Jackal /Bilua	*Canis aureus*	II
15	Jungle cat/Bana Biradi	*Felis chaus*	II
16	Kuji Neula	*Herpestes javanicus*	IV
17	Otther	*Lutra lutra*	II
18	Rhesus Macaque/Pati	*Macaca mulatta*	II
19	Sloth Bear	*Melursus ursinus*	I
20	Squirrel /Gurdichimusa	*Funambulus pennantii*	IV
21	Wild Boar/Barha/Wild pig	*Sus scrofa*	III
Reptiles			
22	Banded krait /Rana	*Bungarus fasciatus*	IV
23	Cobra/Gokhra	*Naja naja*	II
24	Indian krait	*Eutropis caeruleus*	IV
25	Common skink	*Mabuya carinata*	
26	Garden lizard	*Calotes versicolor*	
27	Monitor Lizard	*Varanus bengalensis*	I
28	Python	*Python molurus*	I
29	Russel's Earth Boa	*Typhlops braminus*	IV
30	Russel's viper	*Daboia russelii*	II
31	Saw scaled viper	*Echis carinatus*	IV
32	Yellow Rat snake (Dhamana)	*Ptyas mucosa*	II

Birds			
33	Jungle Bush quaill	*Perdicula asiatica*	IV
34	Shikra /Baja pakhi	*Accipiter badius*	IV
35	Bank myna /Ghunkalika	*Acridotheres ginginianus*	IV
36	Common myna /Bani	*Acridotheres tristis*	IV
37	Common lora	*Aegithina tiphia*	IV
38	Quaker babbler	*Alcippe poliocephala*	IV
39	White Breasted water hen	*Amaurornis phoenicurus*	IV
40	Pond heron	*Ardeola grayii*	IV
41	Jungle Babbler	*Argya striata syn*	IV
42	Spotted owlet	*Athene brama*	IV
43	Cattle egret	*Bubulcus ibis*	IV
44	Crow Pheasant	*Centropus sinensis*	IV
45	White necked stork	*Ciconia episcopus*	IV
46	Purple sunbird	*Cinnyris asiaticus*	IV
47	Pied crested cuckoo	*Clamator jacobinus*	IV
48	Blue Rock pegion	*Columba livia*	
49	House swift	*Copsychus saularis*	IV
50	Magpie Robbin	*Copsychus saularis*	IV
51	Indian Roller	*Coracias benghalensis*	IV
52	Junhle crow	*Corvus macrorhynchos*	IV
53	Common crow	*Corvus splendens*	IV
54	Cuckoo	*Cuculus canorus*	IV
55	Tree pie	*Dendrocitta vagabaunda*	IV
56	Drongo	*Dicrurus adsimilis*	IV
57	Lesser golden backed Woodpecker	*Dinopium benghalensis*	IV
58	Little Egret	*Egretta garzetta*	IV
59	Koel	*Eudynamys scolopaceus*	IV
60	Partidge	*Francolinus spp.*	IV
61	Painted spur fowl	*Galloperdix lunulata*	IV
62	Red jungle fowl	*Gallus gallus*	IV
63	Grey Jungle fowl	*Gallus sonneratii*	IV
64	Pied mynah	*Gracifoca contra*	IV
65	White breasted kingfisher	*Halcyon smyrnensis*	IV
66	Shrikes	*Lanius vittatus*	IV
67	Yellow cheeked tit	*Parus xanthogenys*	IV
68	Chestnut Headed Bee-eater	*Merops leschenaulti*	IV
69	Small Green Bee-eater	*Merops orientalis*	IV

70	Small Indian Cormorant	*Phalacrocorax niger*	IV
71	Pariah kite	*Milvus migrans*	IV
72	Wagtail	*Motacilla spp*	IV
73	Black Headed oriole	*Oriolus xanthornus*	IV
74	Tailor Bird	*Orthotomus sutorius*	IV
75	House Sparrow	*Passer domesticus*	
76	Pea cock	*Pavo cristatus*	I
77	Spotted Babbler	*Pellorneum ruficeps*	
78	Weaver Bird	*Ploceus spp*	IV
79	Black Ibis	*Pseudibis papillosa*	IV
80	Parrot	*Psittacula eupatria*	
81	Rose Ringed Parakeet	*Psittacula krameri*	
82	Red vent Bulbul	*Pycnonotus cafer*	IV
83	White cheeked Bulbul	*Pycnonotus leucogenys*	IV
84	Spotted Dove	*Spilopelia chinensis*	IV
85	Doves	*Streptopelia spp*	IV
86	yellow legged green pigeon	*Treron phoenicoptera*	IV
87	Common bustard quaill	*Turnix suscitator*	IV

Table 15 Fauna (Buffer zone)

2.5.5 Status of Rare, Endangered & Threatened Species:

The animal status as per REJ consideration has been included in different Schedule of the Wildlife Protection Act-1972. The endangered species has been included in the Schedule-I. The schedule of animals observed in Core/Buffer zone has been indicated in the above table.

2.6 Forests within Zone of Impact:

In the Zone of Impact, the following Forest Blocks are situated. The details of Forest Blocks are as follows.

Forest Blocks within Zone of Impact					
Sl No	Name of Forest Block	Total Areain ha	Area within ZOI in Ha	Working Circle assigned	Crop Composition
A	Keonjhar Division				
1	Nayagarh RF	2842.6796	750.0	IWC	Dry Mixed Forest
2	Sidhamatha RF	3146.1273	215	IWC	Sal Forest
3	Naibuga RF	309.8459	309.8459	IWC	Dry Mixed Forest

4	Pedipokhari RF	1487.2714	1487.2714	IWC	Dry Mixed Forest
5	Baitarani RF (A)	2358.8293	895.00	IWC	Moist Sal & its associates
6	Baitarani (B)	1278.4423	125.00		
B	**Bonai Division**				
7	Khajurdihi RF	2125.617	25.0	SWC	
8	Mendhamaruni RF	546.337	178.00	SWC	
	Total	14095.15	3985.117		

Table 16 Forest block in the ZOI

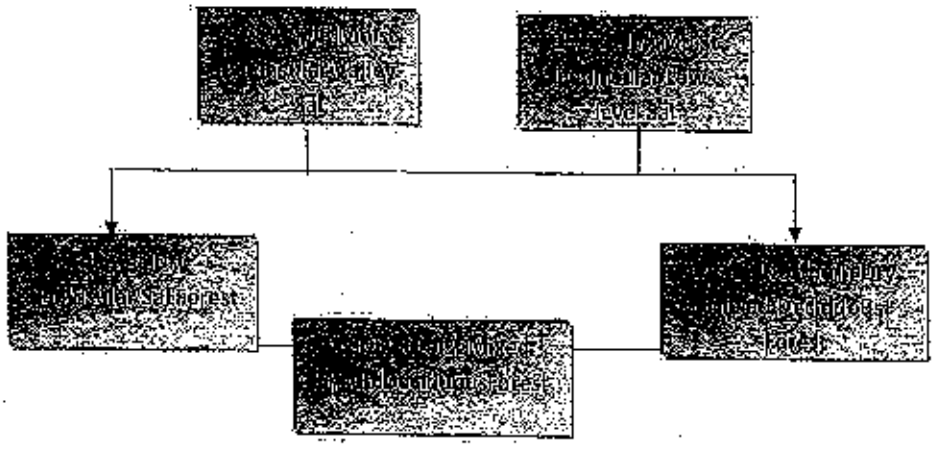
2.6.1 Forest Type:

The forests observed in this zone of impact can be broadly classified as 3CNorth Indian Moist Deciduous Forest and 5BNorthern Tropical Dry Deciduous Forest as per Champion and Seth classification of the forest types of India on basis of climate, moisture condition and eco-types. The sub types noticed are

A) 3C/C2e (*iii*) Moist Peninsular Valley Sal

B) 3C/C2e (*ii*) Moist Peninsular Low-level Sal

Due to constant biotic interference, climate change has reduced rainy days, the forests are now marching towards dryer vegetation and the moist forests recorded long back are now transferred to dry deciduous forests. The subtypes observed are 5B/C_1c Dry Peninsular Sal Forest and 5B/C2 Northern Dry Mixed Deciduous Forest. The Working Plan Officer has described the phenomena as given below.Due to increasing dryness and continued maltreatment, forest types in these divisions are deteriorating in the following sequences



2.6.2 Forest Crop Composition:

Crop Composition: The common associates of sal in this forest are *Terminalia alata, Anogeissuslatifolia, Pterocarpus marsupium, Diospyrus melanoxylon, Terminalia chebula, Terminalia belerica, Lagerstroemia parviflora, Buchanania lanzan, Lannea coromondelica, Dalbergia latifolia.* The common plants are *Gardenia gumifera, Wendlandiatinctoria, Emblica officinalis, Cassia fistula, Morinda tinctoria, Nyctanthus arborstristis, Holarhoena antidysenterica, Antidesma spp., Randia spp., Symplocos racemosa and Oleistanthus collinus.* The common under growths found in this sub-type are *Flemingia chappar, Indigofera puchela, Woodfordia fruticosa, Desmodium spp., Strobilanthes spp.* The common climbers in these forests are *Bauhinia vahlii, Smilax spp., Helecteris ixora. Combretum decandron* usually occurs in valleys and ravines.

2.6.3 Present Management System:

The forests under Keonjhar Division have been proposed to be managed under Improvement Working Circle. The Forests under Bonai Division are under Selection Working Circle. There is a Wildlife (Overlapping) working circle for management of wildlife of both the divisions.

The special objectives of Management set for this Working Circle are within the ambit of the general objectives of management of the Working Plan. These include

i. To conserve, protect and improve wild life habitat with special emphasis on the proposed elephant reserve/corridor.

ii. To promote wild life in general and endangered species of fauna in particular.

iii. To create awareness among the local people regarding the necessity to conserve and protect the wild life and their habitat.

iv. To conserve and develop important wild life habitat for the purpose of eco-tourism.

v. To increase in biodiversity and wildlife population in the divisions.

vi. For prevention of wildlife related crimes.

To improve the situation, the Working Plan Officer has outlined the following strategy

- The habitat needs no improvement, as the natural processes are self-sustaining and self-supporting ones that can very well take care of themselves.
- Biotic interferences have ravaged the natural system.
- In order to achieve the objectives, the following strategies need to be adopted:

Strategies for Wild Life Management.		
1	Biological & Ecological Measures	Habitat improvement, increasing prey-base, weed eradication, corridor linking.
2	Physical Measures	Site specific structures viz Water Harvesting Structures, Check Dams, Water holes, Soil and Water conservation measures.
3	Eco Development Measures	For fringe villages and villages located as islands inside forest blocks. Eco-development measures in the Multiple Use Zones.
4	Administrative Measures	Staff structure & amenities.
5	Landscape Approach	Overall

Table 17 Strategies of wildlife management

2.7 Wildlife Habitat & Movement Pattern of Mega fauna:

2.7.1 Wildlife Scenario:

The Zone of Impact is a Moist Sal Forest and Dry Deciduous Mixed Forests. This is a good habitat for Wildlife including mega animals. The Zone of Impact is not coming within any Protected Area or its Eco-Sensitive Zone. Though there is no recognized Elephant corridor within the Zone of Impact, the movement of elephant is frequently noticed in the zone. The nearest Protected area is Hadgad Willife Sanctuary which is about 94.8 km from the project. Due to mining the animal movement is erratic and poaching by putting loops / electric livewire and other brutal methods are recently observed.

Census data on wild life:

A) Elephant Census

Elephant Census (2012, 2015 & 2017) and Tiger Census (2016) has been conducted by Forest Department. The animals counted are furnished below.

Information on Wildlife (Elephant Census)

Year	Male	Female	Unknown	Young	Total	Male Female ratio
Keonjhar Division:						
2012	23	37	0	13	73	1: 1.60
2015	12	24	1	10	47	1: 2
2017	9	24	0	7	40	1:2.67
Bonai Division						
2012	6	23	0	13	42	1:3.83
2015	11	43	0	11	65	1:3.91
2017	14	38	0	7	59	1:2.71

Table 18 Elephant census data

The male female ratio is around 1: 2.5 to 3.9 which are considered as good. From the above data it is observed that, the population is in a declining stage where as in the state, the population is in increasing trend. It seems that, the elephants are migrating outside due to adverse impact of mining & developments. The male female ratio is in increasing trend, which indicates lesser number of tuskers.

B). Tiger Estimation:

Tiger / Leopard census was conducted during 2016. It is found that there is no tiger / leopard in Keonjhar division. There is 1 Leopard (M) in Bonai Division.

2.7.2 Wildlife Corridors:

There is one identified corridor namely Karo (Keonjhar)-Karampada (Saranda, Jharkhand) INTERSTATE outside the Zone of Impact - about 19 km away from the project. There are some mining activities on this corridor which has resulted in the random and scattered movement of Elephants. Movement of Elephants in this tract is influenced by River Baitarani, Railway line and mining activities. The Elephants usually enter from Jharkhand and the presence of Elephants is felt on three sides of the project. Some of the paths have been depicted basing on frequency of sighting of animals on the path. Plate-I

2.7.2A Movement patterns of the mega fauna:

The movement of the mega animal in this zone is erratic.

2.7.3 HWC Details (Human- Wildlife Conflict):

Crop Depredation

Due to movement of Elephants, crop damage is encountered at many patches / villages for which hue and cry is seen in the locality. The details of Crop damage in the division & compensation paid is as follows.

Information on Crop damage (Champua Range), Keonjhar Division

Year	No of Cases	Area damaged in Ac	Compensation Paid	Remark (Name of Villages affected)
2018-19	1021	228.84	2094420.00	
2019-20	680	164.85	1141540.00	
2020-21	1105	262.05	1795880.00	
2021-22 (till date) June, 2021	16	4.35	136300.00	

Table 19 Information on Crop damage (Champua range)

House Damage:

Information on House damage (Champua Range), Keonjhar Division					
Year	No of Cases	House damage		Compensation Paid	Remark (Name of Villages affected)
		Full	Part		
2018-19	86	45	41	512000.00	
2019-20	106	55	51	556000.00	
2020-21	144	41	103	260000.00	
2021-22 (till date) June, 2021	0	0	0	172000.00	

Table 20:House damage data

Human Kill & Injury:

Information on Human Kill & Injury (Champua Range), Keonjhar Division					
Year	No of Cases	Human (No)		Compensation Paid	Remark (Name of Villages affected)
		Kill	Injury		
2018-19	9	3	6	Kill- 380000.00	
2019-20	5	2	3	Kill-1720000.00 Injury-25000.00	
2020-21	2	2	0	Kill-800000.00 Injury-30000.00	
2021-22 (till date) June, 2021	1	1	0	Kill-40000.00	

Table 21 Human Kill and Injury

Natural Death / Accidental Death of Animals:

Information on Death of Other animals if any (Champua Range), Keonjhar Division				
Year	No of Cases	Animal Death (Species)	Location	Reason of Death
2018-19	1	Herny Badger	Near Jyotipur Village	Road Accident
2019-20	1	Wild Boar-2 (Baby) Female-1	River Bank near Bichha harting	Netural
2020-21	2	Barking Deer Spotted Deer	Inside Baitarani "A" RF Near Dalita village	Hunting Dog Bite
2021-22 (till date) June, 2021	1	Spotted Deer	Near Badaposi Chhak	Accident

Table 22 Natural death /Accidental death of animals

Elephant Death / Kill.

Information on Death of Elephant (Champua Range), Keonjhar Division				
Year	No of Cases	Elephant Death	Location	Reason of Death
2018-19	2	1-Male-12 to 14 years 2-Male Calf-1 month	1-Champakpur KF-150 meters away from Baitarari 2-Mahaparbat DPF, Near village Hatimara Chhak	1- Due to shock arising from septicemia 2- Due to cardial (there is Fighting among the male elephant & Female Elephant
2019-20	NIL			
2020-21	4	1-Gender could not be asertained, 2-Male (Tusker), 3-Male, 4-Female	1-Kasia-KF, 2-Chamakpur KF, 3-Baitarani A RF, 4-Baitarani A RF	2-Due to Accute Tympanitis, 3-Due to Electrocution, 4-Due Electrocution
2021-22 (till date) June, 2021	NIL			

Table 23 Elephant death /kill

Information on Crop Damage (Koira Range), Bonai Division.				
a) Crop Damage				
Year	No of Cases	Area Damaged in Ac	Compensation Paid	Remark (Name of Villages affected)
2018-19	59	22.88	228800	Khajuridihi, Deoghar, Gidei, Kunchapani, San Raxy, kusumdihi, Pindipokhari, Motuhanuman, Karuadara, Jamdihi, Hurkul Tola, Purunapani, San Roxy, Girjatola (Toda), Teherei, Bhanjapali, Kalmang, San-Indpur, Sogasahi
2019-20	177	65.51	657300	Sonua, Ranisal, Badpatuli, Patmunda, Kadalla, Khajuridihi, Soyamba, Purunapani, Kalta, Jhirpani, Topadihi, Kunchapani- Jamdihi (Sarlanga), Sargigarh, Baldihi, Sanua, Bhanjapali, Gidei, Malda, Teherei, Deoghar, Nuagaon, Kalamang, San-Indpur, San-Roxy, Sanpatuli, Sargigarh, Dhublabeda, Kadalla, Saelanga

2020-21	238	108.47	1084700	Bad-Indpur, Gidei, Gonua, Jamdihi, Kadodiha, Kalta, Kanhusahi, Koira, Kundruburu, Motu Hanuman, Nuagaon, Oraghat, Sanindpur, Segasahi, Soyamba, Teherei, Deoghara, Kasira, Rengalbeda, Pindipokhari, Bad-Indpur, Jamdihi, Kasira,
2021-22 (till date)	- Nil -			

Table 24Crop damage (Koira Range), Bonai division

b) House Damage. (Koira Range)

Year	No. of Cases	House damage		Compensation Paid	Remark (Name of Villages affected)
		Full	Part		
2018-19	11	6	5	70000	Soyamba, Ganua, Khajurdihi, Ranisal, Jamdihi, Purunapani.
2019-20	75	33	42	414000	Gidei, Kusumdihi, Sunua, Patmunda, Sanpatuli, Khajuridihi, Baldihi, Kadalia, Giriposh, Ranisal, Badpatuli, Podadihi, Mithrida, Kudamusa, Jamidihi, Kunchapani, Kundurubrru, Teheri, Araghat. Purunapani, Soyamba,Koira,
					Kalmanga (Sankhapada), Koira(Tukuda), Kusumdihi,
2020-21	54	22	32	284000	Gidei, Sanpatuli (Gomianali), Badpatuli, Gonua, Bhanjpali (Sagadbhanga), Mandajoda, Koira (Tukutola), Harischandrapur, Rengalbeda,Tentulidihi, Balijodi, Nuagaon, Kunchapani, Bad-Indpur, Jamdihi, Kundruburu, Motuhanuman, Nadikasira, Soyamba, Kalmanga, Oraghat (Paramsahi), Kalamang, Sarlanga, Teherei, Sanua
2021-22 (till date)	- Nil -				

Table 25 House damage (Koira Range)

c) Human Kill & Injury (Koira Range)

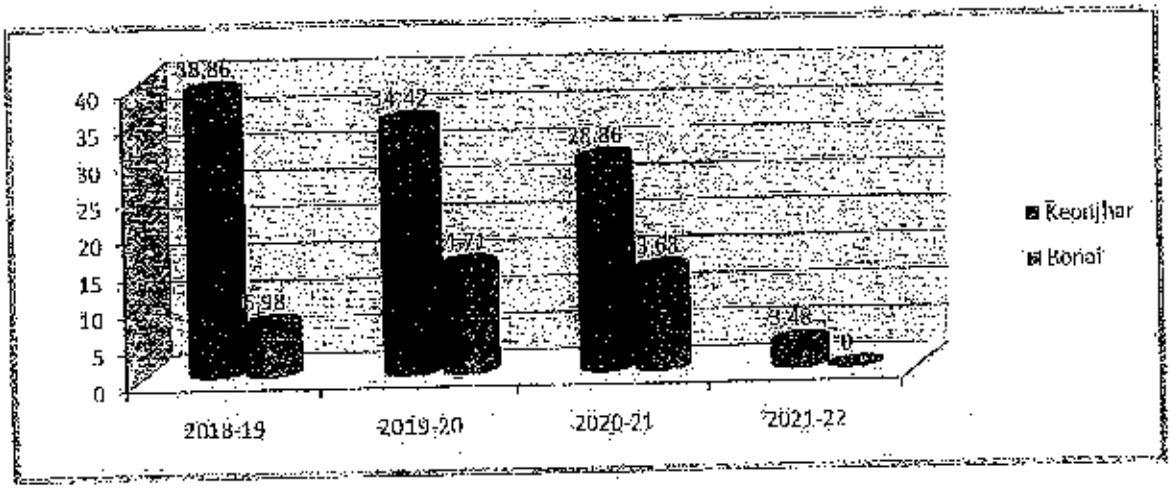
Year	No. of Cases	Human (No)		Compensation Paid	Remark (Name of Villages affected)
		Kill	Injury		
2018-19	1	1	-	400000	Kalamanga
2019-20	1	1	-	400000	Mandajoda
2020-21	- Nil -				
2021-22 (till date)	- Nil -				

Table 26 Human kill and injury (Koira Range)

Abstract of Compensation paid:

	Keonjhar Division (in lakh Rs)				Bonai Division (in Lakh Rs)			
Year	Crop Damage	House damage	Human Kill & Injury	Total	Crop Damage	House damage	Human Kill & Injury	Total
2018-19	29.94	5.12	3.80	38.86	2.28	0.70	4.0	6.98
201920	11.41	5.56	17.45	34.42	6.57	4.14	4.0	14.71
2020-21	17.96	2.60	8.30	28.86	10.84	2.84	0	13.68
2021-22	1.36	1.72	0.40	3.48	0	0	0	0

Table 27 Abstract of Compensation paid



Public View on Man Animal Conflict:

Animal lovers are not happy with the situation and degradation due to mining & developmental projects. Man Animal Conflict has become a cause of social concern. Forest staffs are also on strain due to animal depredation. Elephants coming from Jharkhand are

posing a greater problem that the resident elephant herd. People want a permanent solution to the problem. As mining activities are in rising trend, more and more mining leases granted due to heavy demand on Iron Ore in domestic and international market, the problem solving measures are not clearly perceptible.

2.8 Other Projects within ZOI & and their Impact Zone:

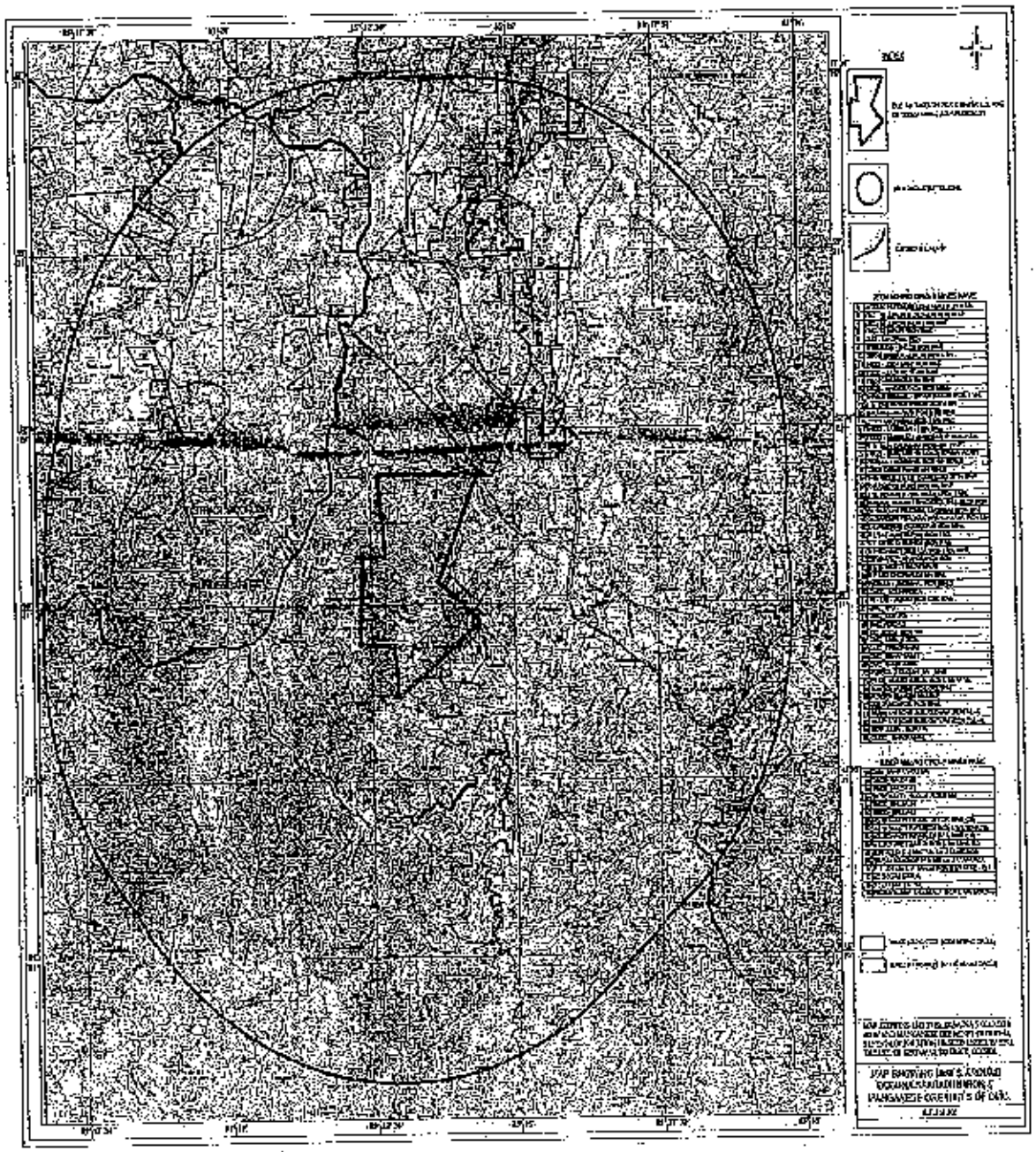
The zone of impact is a mining belt. There are many Iron & Manganese Ore Mines. Some of the important Mines indicated below. In Keonjhar Division-54 mines in ZOI, In Bonai Division- 16 number in Zone of Impact. The mines coming within ZOI has been discussed above. (Para 2.2.1)

Mines name (Keonjhar Division)		
Sl No	Sl No indicated on map	Name of the Mine coming within Zone of Impact of the Project & indicated on map
1	2	Indrani Pattanaik, Uchaaball Iron&Mn
2	3	KMC-39, Jururi & Jalahuri Iron Mine
3	4	KMC-54, Jururi Iron & Mn Mine
4	5	KMC-73 ,Jururi Iron Mine
5	6	OMC-Banspani Iron
6	9	Serajuddin-Balda Iron Mine
7	10	Tarini Mineral-Jururi Iron&Mn
8	11	TISCO-Joda (East) Iron Mine
9	12	TISCO-Joda (West) Mn Mine
10	13	TISCO-Manmora Mn Mine
11	16	TISCO-Khandbandh Iron Mine
12	18	Bhanja Mineral-Inganijharan Iron & Mn
13	19	B.C. Deb Inganijharan Iron & Mn
14	20	Malarai Jalhari Iron & Mn Mines
15	21	ESSEL Unchabali Iron & Mn Mine
16	23	TISCO-Bamebari-2 Mn Mine
17	24	TISCO-Baneikala (Bamebari Block-I) Mn
18	25	R .B.Das Dalpahar Iron Mn Mines
19	27	TISCO Bamebari (Block-3)Joribahal Mn
20	29	Patnaik Jaribahal Iron-Mn
21	30	TISCO Tiring Pahar Mn Mines
22	33	Shri Metaliks Ltd. Khandband Iron Mine

23	34	ILG Pandya Jajang Iron Mn Mine
24	35	S.N.Mohanty-Unchabali Iron & Mn
25	38	Mineraltrading Syndicate Bhulbeda Iron
26	42	Sorojini Pradhan Baitarani Iron Mine
27	44	Sorojini Pradhan Inganijharan Iron Mine
28	45	KC Pradhan Champakpur Iron Mine
29	48	R B Das Kundrupani Iron & Mn
30	50	SC Padhi Gurubeda Iron Mine
31	51	TP Mohanty Naibaga Iron & Mn Mine
32	52	Dipak-Steel Khandbandhi Iron
33	53	SN Mohanty Khuntapani
34	55	Narayani Sons Surukagururia Iron Rml-41
35	58	S N Dasmohapatra Katasahi Mn Mine
36	60	OMDC-Dalki
37	61	OMC-Parlipada
38	62	OMDC-Bhadrasahi
39	63	OMC Dubna
40	64	OMC Roida 78
41	65	IDC, Roida Iron & Mn Mine
42	66	OMC SGBK, Koida
43	67	OMC Tiringpahar
44	68	OMC Mahaparbat
45	69	OMC Khandaband
46	72	Rungta Katasahi Mn Mine
47	73	ESSEL Jajang Jururi Iron & Mn Mine
48	74	Rungta Jajangiron Ore Mine
49	75	Rungta Silloda Mn Mine
50	80	OCL Kundaposi Iron Mine
51	81	Narayani Sons Suruguturia IRO ML-99
52	82	Narayani Sons Suruguturia IRO ML-41
53	84	Serajuddin Guruda
54	89	OMDC, Bhadrasahi
Bonai Division		
1	4	OMM-Sanpatholi Mn
2	10	TISCO-Malda B5
3	11	TISCO-Malda B3

4	16	SN Mohanty-Ganua Iron-Mn
5	18	TISCO-Malda B1
6	19	TISCO-Malda B2
7	23	MG Mohanty Patabeda Iron Mine(28)
8	24	MG Mohanty Patabeda Iron & Mn Mine(19)
9	25	MG Mohanty Patabeda Iron Mine(14)
10	26	MG Mohanty Ganua Iron And Mn Mine(82)
11	27	SUN Alloys & Mineral Ltd. Patamunda
12	29	Orissa Manganese & Min, Ltd-Patamunda
13	36	P.K. Ahluwalia Ganua Iron &Mn Mine-23.3
14	38	BC Dogra Ganua
15	54	BC Dogra Dalita
16	65	Pawan Kumar Ahluwalia Iron And Mn Ganua-86

Table 28 Mines in Keonjhar Division



2.8.1 Wildlife Conservation Plan approved & in Implementation Stage:

List of Wildlife Conservation Plan approved & in Implementation Stage			
Sl no	Project	Amount in Lakh Rs	Approval order
1	Khandabandh Iron & Mn Mines of Tata Steel Ltd	692.20	843 dt. 28.01.2016
2	Joda East Iron & Manganese Mines of M/s Tata Steel Ltd	819.91	3195 dated 25.04.2016
3	Dubuna-Sakradihi Iron & Mn Mines of M/s OMC Ltd	1218.423	9432 dated 30.11.2016
4	Sirlkagutu Iron Mines of M/s Prakash Industries Ltd	138.25	6562 dated 25.07.2017
5	Baitarani Iron Ore Mine of Dr. Sarojini Pradhan	121.20	770 dated 27.01.2021
6	33KV line from Jaroli substation to Basantapur of M/s PMPL	318.12	8381 dated 01.09.2021 (Kjr Div-171.48, Bonai Divl. 146.64)

Table 29 List of Wildlife conservation plan approved & in implementation stage

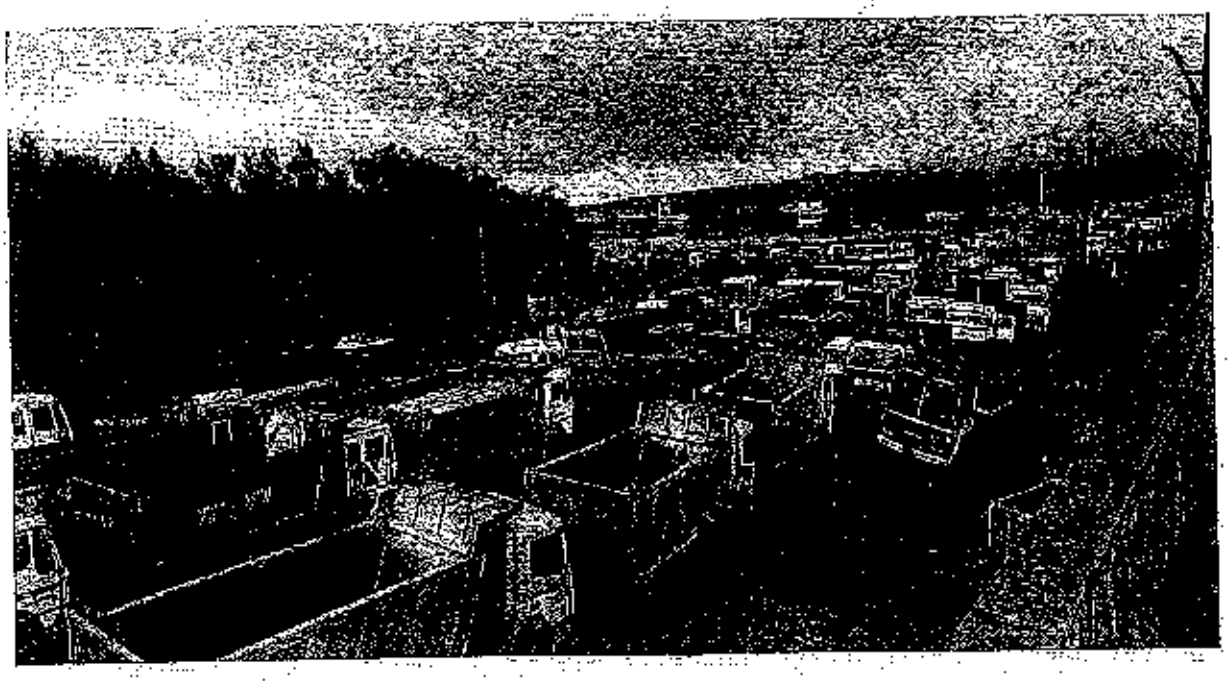
2.9 Interventions implemented by Forest department

The interventions being implemented are

I. Habitat improvement by plantation, Water body Creation.
II. Protection by patrolling and involving VSS members in management.
III. Fire protection measures.
IV. Improved surveillance
V. Public awareness through meetings / posters/ hoardings.

CHAPTER-III

PROJECT & ITS PROBABLE IMPACT



CHAPTER-III

Project & Its Probable Impact

3.0 Project description:

Dubna – Sakradihi Mining lease is an amalgamated Mining Lease of Dubna Mining lease and Sakradihi Mining Lease. The amalgamated Mining lease area is 1332.019 ha. The lease is valid up to 27.12.2029. It is an Iron & manganese Mine. The Mining operation in the project is stopped Since April 2006 due to want of Statutory Clearances. The M/s OMC Ltd has taken steps for obtaining both Forest and Environment Clearance to reopen the mine for the remaining period of the Mining Lease.

The Current Reviewed Mining Plan has been approved by the IBM vide letter no RMP/A/41-ORI-BHU/2019-20 dated 04.02.2020 and valid from 1st April'2020 to 31st March'2025.

As per the approved Reviewed Mining Plan, this mine is coming under "Category "A" Fully Mechanized Opencast Mine".

3A.Period of lease and date of expiry of lease:

Application for 1st RML of amalgamated lease with effect from 28.12.2009 for lease period of 20 years has been made by OMC Ltd. No renewal has been graned by the Government of Odisha. Now as per rule 3(2) of Mineral (Mining by Government Company) Rules, 2015 the lease is deemed to be valid till 27.12.2029. Hence the amalgamated lease will expire on dt 27.12.2029 in consideration with the lease tenure of Sakradihi Lease. The lease area of Dubna- Sakradihi Iron & Manganese Ore Lease after amalgamation is 1332.019 ha.

3B. Reserve / Resource:

As per the approved Mining Plan, the reserve/Resource of Iron ore is estimated to be 25.7524 Million Ton of +45% Fe. This reserve has been established by Detailed Exploration.The Reserve / Resource for Manganese Ore is established to be 1.146 Million Ton of +10% Mn grade. This reserve has also been established by Detailed Exploration.

3C. Present Mining Methods:

Considering the deposit wise geological parameters of the ore body and the geo-technical observations, conventional open cast method of mining is opted for developing the deposit by controlled blasting and drilling and using the HEMM for excavating the blasted materials

and transported to the proposed crushing and screening plant, where in the faces are gradually advanced side wards, lowering benches to win ores situated at lower levels by involving drilling / blasting/ ripping and dozing and excavation of the hard laminated ore, semi hard lateritic ore and soft friable ore respectively. To ensure yearly production schedules, mode of mining is mechanical. The same method will be continued throughout the anticipated life of the mine and the Mine is categorized under 'A' Category.

3D. Designed Parameters:

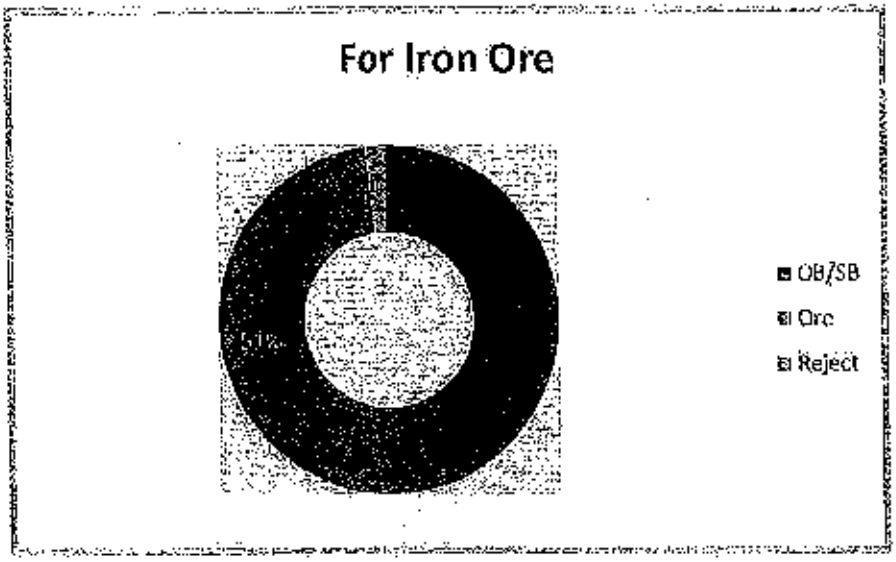
The annual targeted production is 3.0 MTPA for Iron Ore and 0.05MTPA for Manganese Ore. By considering the geo-technical properties of Ore and waste rock of different identified deposits of the Mine, 80% of the total production will be produced by Drilling & Blasting and rest 20% by excavation.

a) Mining Pit:

During the Plan Period Deposit No 2D, 3D and 8D will be operated. The tentative excavation, ore, Reject from each deposit is predicted as follows.

Production / Excavation for Iron Ore (all units in Million Ton)								
Year	Pit No	Total Excavation	Top Soil	OB/SB/IB	ROM		Mineral Reject	Ore / waste ratio (T/ T)
					Ore	Mineral Reject		
2020-21	Deposit-2D	0.55	-	0.26	0.27	0.02	0.02	1:0.90
2021-22	Deposit-2D	1.46	-	0.36	1.09	0.01	0.01	1:0.33
	Deposit-3D	0.99	-	0.44	0.50	0.05	0.05	1:0.80
	2nd Yr Total	2.45	-	0.80	1.59	0.06	0.06	1:0.48
2022-23	Deposit-2D	1.29	-	0.38	0.89	0.02	0.02	1:0.42
	Deposit-3D	1.87	-	0.80	1.00	0.07	0.07	1:0.75
	Deposit-8D	2.76	-	1.74	0.91	0.11	0.11	1:1.69
	3rd Yr Total	5.92	-	2.92	2.80	0.20	0.20	1:0.97
2023-24	Deposit-2D	2.61	-	1.20	1.38	0.029	0.029	1:0.85
	Deposit-3D	2.68	-	1.33	1.31	0.04	0.04	1:0.99
	Deposit-8D	0.421	-	0.18	0.24	0.001	0.001	1:0.75
	4th Yr Total	5.71	-	2.71	2.93	0.07	0.07	1:0.90
2024-25	Deposit-2D	3.15	-	1.64	1.51	-		1:1.09
	Deposit-3D	1.62	-	0.57	1.01	0.04	0.04	1:0.54
	Deposit-8D	1.39	-	0.96	0.39	0.044	0.044	1:2.03
	5th Yr Total	6.16	-	3.17	2.91	0.084	0.084	1:1.04
During Plan Period		20.79	-	-	10.50	0.4345	0.4345	1:0.90

Table 3D Production /Excavation for Iron Ore (all units in million tons)



Production / Excavation for Manganese Ore (all units in Million Ton)								
Year	Pit No	Total Excavation	Top Soil	OB/ SB/IB	ROM		Mineral Reject	Ore / waste ratio T/ T
					Ore	Mineral Reject		
2020-21	Deposit-5 Top	0.12	-	0.100	0.01	0.01	0.01	1:1
2021-22	Deposit-5 Top	0.3933	-	0.360	0.0222	0.0111	0.0111	1:5.0
	Deposit-6B	0.1967	-	0.180	0.0056	0.0111	0.0111	1:10.80
	2nd Yr Total	0.5900	-	0.54	0.0278	0.0222	0.0222	1:10.80
2022-23	Deposit-5 Top	0.5227	-	0.50	0.0182	0.0045	0.0045	1:10.80
	Deposit-6B	0.3273	-	0.30	0.0015	0.0227	0.0227	1:22.0
	3rd Yr Total	0.8500	-	0.80	0.0227	0.0273	0.0273	1:16.00
2023-24	Deposit-6B	0.556	-	0.52	0.027	0.0090	0.0090	1:14.44
	Deposit-5 Top	0.134	-	0.12	0.013	0.0010	0.0010	1:8.57
	4th Yr Total	0.69900	-	0.64	0.040	0.010	0.010	1:12.80
2024-25	Deposit-5 Top	0.3688	-	0.319	0.049	0.001	0.001	1:6.38
During Plan Period		2.6188		2.399	0.1495	0.0705	0.0705	10.68

Table 31 Production /Excavation for Manganese Ore (all units in Millions ton)



b) Waste Dump:

There are 4 Waste Dumps for Iron ore and one for manganese Ore. All the dumps are within the ML area. The waste Dump Details are furnished below.

Waste Dump (For Iron Ore)			Waste Dump (Manganese)		
Dump No	RL in Mts	Area in ha	Dump No	RL in Mts	Area in ha
WD1	612-630	1.97	WDM 1	754-774	1.10
WD2	613-620	7.78	WD1M	715-754	6.72
WD3	580-607	10.25			
WD4	619-639	1.525			
Total area under Dump		21.525			7.82
Besides dumping of waste , there is a provision for back filling in quarry no. 6A					

Table 32 Waste Dump details

For Protection of Dump the following measures are to be taken.

i) 2303 m Retaining wall around Waste dump,
ii) 2330 m Garland drain,
iii) Four Silting tank &
iv) 17 numbers of Check dam (Size 22.2x2.23x3.63m) suggested.

c) Use of Top Soil / Mineral waste:

The Top soil previously generated and Mineral rejects produced during this plan period. The utilization of Top soil / Mineral reject (Sub grade) (For Iron Ore / Mn Ore) is as follows

Year	Top Soil (in Cum)		Mineral Rejects (in MCum)			
	Reuse /Spreading	Storage	Back Filling	Storage	Blending	Beneficiation
2020-21	1814	0	0	0	0.01	0
2021-22	6074	0	0	0	0.024	0
2022-23	3782	0	0	0	0.084	0

2023-24	4567	0	0	0	0.0282	0
2024-25	1754	0	0	0	0.0336	0
For Manganese Ore						
2020-21	2169	0	0	0	0.005	0
2021-22	4108	0	0	0	0.011	0
2022-23	2138	0	0	0	0.0136	0
2023-24	331	0	0	0	0.0050	0
2024-25	647	0	0	0	0.0005	0

Table 33 Utilization of Top soil /Mineral

The proposed development / production during the plan period is such that a part of the Pit will be demineralized and shall be utilized for sequential back filling of the generated waste. During plan period 12.259 million tons of waste likely to be generated and will be dumped on surface and for pit reclamation in mined out pit by Back Filling the generated waste during 4th and 5th year of the plan period.

d) Proposed method of working and integrated mechanization.

During the current mining plan period, the projected annual handling including Ore and waste rock from the mine varies from 0.55 to 6.20 million Ton per annum for iron ore production and 0.12 to 0.85 million ton for manganese ore production. The annual ore production for the mine is 3.0 Million Ton of Iron Ore and 0.05 Million Ton of manganese Ore. Waste rock handling varies from 0.26 to 3.17 Million Ton per annum to produce Iron Ore and 0.10 to 0.80 million ton to produce manganese ore. The proposed total annual handling capacity of loading units provided at mine as a whole is 9.52 Million Ton (considering Peak handling).

List of Mining machinery proposed to be deployed in the mine for the mining and the allied activities is furnished below.

Mining machinery proposed to be deployed		
Sl No	Parameters	HEMM Fleet
1	Excavator, 2.5-4.5 cum	14
2	Excavator, 0.9-2.0 cum	4
3	Loader, 2.5 -4.5 cum	8
4	Dumper 35-50T	27
5	DG Set (30KV)	3
6	Drill 115-150 mm with compressor	5
7	Dozer , 324 KW	3

8	Motor Grader, 125 KW	2
9	Explosive Van	1
10	Service Van	1
11	Pick up Van	2
12	Water sprinkler	3
13	Water tanker (12KL)	1
14	Diesel Browser	2
15	Tyre handler	1
16	Portable lights for face lighting	15
17	Cranes, 5T	1
18	Crane, 15T	1
19	Rock Breaker	1
20	Ambulance	2
21	Vehicle Mounted Mist Cannon Gun	3
22	Staff Bus	2

Table 34 Mining machinery proposed to be deployed

e) Bench Geometry:

Mining pit is designed maintaining an average pit slope which varies from 21^0 to 35^0 for the various deposits of the mine. The variation in bench parameters is mainly based on geo-technical properties and hill slope. Accordingly the height of the active mine face is about 4-6 meter where as bench width is in between 8-10 meter.

f) Drilling & Blasting:

Deep hole drilling and blasting will be made to break hard laminated and massive ore and waste rock. Drilling shall be carried-out using 115/150mm dia drill machines with 2.5 to 3m burden and 3-3.5m spacing. Hole will be charged with Slurry explosives and initiated using electronic detonator / NONEL

g) Minimum and maximum depth of water table based on observations from nearby wells and water bodies Maximum and minimum depth of Workings.

The area receives moderate rainfall about 1269 mm per annum. The general ground water table in the lease area is around 485m (MSL). The ultimate Pit working shall be much above the general ground water table. Mine quarries made prior to stoppage of mining activities at Dubna- Sakradihi mine have reached a depth of 694m (MSL) and Quarry -5B in the Manganese Pit, a small portion of the pit in the mine forms the deepest pit floor. With the

proposed production development plan for iron and manganese, there will be three quarries (Deposit-2D, 3D & 8D) for Iron and 2 quarries in Deposit -5Top and 6B for manganese.

The proposed working depth for above five quarries is as follows:

Sl No	Quarry ID	Present Level in m		Level Proposed (End of Plan Period) in m		Level / Depth at the end of lease period in m	
		Top	Bottom	Top	Bottom	Top	Bottom
For Iron Ore							
1	Deposit-2D	708.79	662.51	708	600	712	576
2	Deposit-3D	652	648	666	594	680	588
3	Deposit-8D	681	595	678	588	680	552
For Manganese Ore							
1	Deposit-5 Top	718	684	732	684	740	554
2	Deposit -6B	745	726	744	720	750	702

Table 35B Proposed working depth of quarries

h) Mine discharge:

The catchment area of the Mine is 164.09 ha with an annual rainfall of 1269.1 mm and infiltration rate is 10l/s. The total water flowing through the lease will be approximately 1.04Mcum per year. Since the mine is located at high altitude, the rain water flows down through natural drainage course and maximum water will be infiltrated before discharge to natural drainage. From mining pits water evacuation is being provided by 4 numbers of Pump of 10HP Capacity during rainy season. Four numbers of Check dams and boulder carters have been constructed on northern sides of Deposit -5 Top to protect surface run off. During this plan period there is proposal to construct 17 numbers of Check dams in the ML area.

i) Production of Sub grade ore & Management.

Mineral reject ore- Material containing 45-55% Fehas been considered as Mineral Reject for Iron Ore where as for manganese Ore containing 10-25% Mn is categorized as sub grade Ore generated during mining process. About 0.44Million Ton and 0.07 Million Ton of Iron and Manganese sub grade ore are generated respectively during the ensuing plan period. During subsequent Plan period (within the lease period) 0.508 MT and 0.0364 MT of sub-grade will likely to be generated for iron ore and Mn Ore excavation respectively. The entire sub grade will be blended with high grade ore and sold at pit head.

j) Top Soil Management:

Mining Lease area is more or less covered with laterite, lateritic clay, shale and BHJ with very meager top soil. Top Soil if any encountered during lateral development of mine pit shall be stored at the earmarked site within the lease area and will be utilized for plantation purpose over the reclaimed part of the pit.

k) Haul Road:

On an average road gradient is maintained at 1 in 16 and at steeper places, it will not be less than 1 in 12. It is also ensured that there is clear view of the road ahead for longer distance and sharp curves obstructing site for less than 30m distance are totally avoided.

l) Transportation:

Transportation For iron ore deposits, blasted material will be loaded with hydraulic excavators (diesel powered) of bucket capacity of 3.0 – 4.5 cu.m bucket capacity in 35 t dumpers and will be transported to proposed crushing & screening plant for production of CLO & fines. Waste generated will be transported to proposed waste dumps. Whereas, in manganese ore deposits blasted material will be loaded using hydraulic excavators of 0.9 – 2.0 cu. m bucket capacity in 25 t capacity tippers and will be transported to proposed mobile crushing & screening plant for production of Manganese of -40 +10 mm size. Front end loaders & hydraulic excavators of 0.9 – 3.0 cu.m bucket capacity will be deployed for required re-handling works. The CLO & fines generated from the processing plants will be loaded by loader of 0.9-3.0 cu.m capacity & transported through 25 t tippers dumpers to the respective stockyards.

m) Precautionary measures:

Matured and inactive portion of the dump slopes shall be rehabilitated with plantation. The planting program for the plan period is as follows.

Year	Plantation in Ha	No of Saplings	Type of Saplings
2020-21	1.185	3600	Local indigenous species will be planted in consultation with Local Forest officials
2021-22	1.460	3650	
2022-23	0.45	1125	
2023-24	1.50	3000	
2024-25	0.524	1300	
Total	5.398	12735	

Table 36 Planting program for the plan period

n) **Total Water requirement:**

Quantity (cum per day) of water required for mining;

Average water requirement for the mining and allied activities of the mines both for the domestic as well as the industrial use is 335 KLD. (m^3). Out of 335 m^3, 112m^3 (ground water) and 223m^3(Surface water) per day respectively is required. The peak water requirement shall be about 123m^3 (ground water) and 302m^3 surface water respectively for the activity as mentioned above.

o) **Socio- Economic Benefits:**

Employment potential:

Dubna -Sakradihi Mining project provides permanent and direct employment to 132 people and generate indirect employment for several hundred. Most of the directly employed are under skilled category and the respective distribution /number is as follows.

Deployment of Man Power		
Manpower	Category	No
OMC Departmental workforce	Executive	33
	Supervisory/Clerk	46
	Highly skilled	11
	Semi skilled	9
	Unskilled	33
	Total	**132**
	Piece rated	66
On Contract	All category	401
	Total	**599**

Table 37 Deployment of man power

Socio-economics

There is no project affected persons within the lease area. However, OMC is carrying out Socio welfare activities and also proposed measures to mitigate the socio economic impact. During the period 2018-19, amount spent towards various activities are mentioned below:

- Rs 11.02 lakh was spent towards providing transports facility, uniforms, books and shoes for school and college children and training for skill development. The monitory aid would definitely have a positive impact on the quality of education.

- Rs 4.15 lakh was spent on drinking water supply through tanks, Rs 11.79lakh has been spent on providing health, safety and medical facilities for local villagers at Surla dispensary.
- Rs 3.19 lakh has been spent on donation to sports, and social and cultural organizations.
- Rs 1.72 crores has been spent towards Direct and Indirect employment to the local inhabitations.

In addition to above, every ton of ore produced from the mine, 30% fo royality will be contributed towards District Mineral Fund.

p) Life of the Mine:

With the present rate of mining at 3.0 MTPA of Iron Ore and 0.05 MTPA of Manganese Ore as of 31.10.2019 based on the re-estimated and updated ore reserves of the mine, the anticipated life span of the mine extends beyond 17 years with the production of Mn ore from 10th year onwards, once the iron ore reserves exhausted.

3.1 Project Impact on Flora & Fauna:

3.1.1 Impact on Soil:

Mining Lease area is more or less covered with laterite, lateritic clay, shale and BHJ with very meager top soil. Top Soil if any encountered during lateral development of mine pit shall be stored at the earmarked site within the lease area and will be utilized for plantation purpose over the reclaimed part of the pit.

3.1.2 Impact on Water & Water Regime

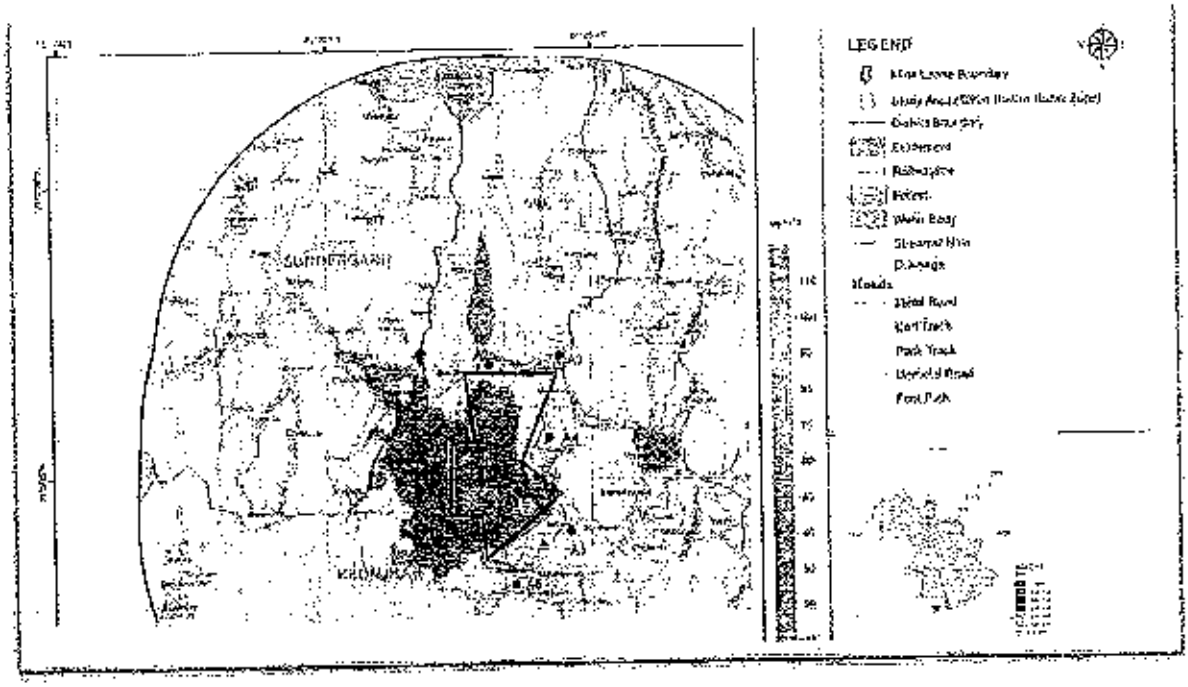
There is no perennial water course within the lease area. Seasonal nalla exists within the lease area, which discharges run off water after taking adequate protective measures to the Baitarani river. The lease area is drained by several first and third order streams, which are seasonal, which drains into the perennial Jalpa nalla. The jalpa nalla flows from west to east and at the south–east it joins Baitarani river, which flows from south–north, situated at 4.5km towards east of lease area. Besides jalpa nalla, there are two more perennial streams namely Dalki nalla and Gharga nalla which flows from east-west , south of the lease areal finally joins Baitarani river. Further south is a perennial nalla Malda nalla, flows from South-north and north–east. Which joins Baitarani river at 3.5km south-east of the mining lease. Though the mine falls in the vicinity of catchment (part of area) of a Baitarani perennial river, as mentioned above under impact on the water quality, presently the mine has

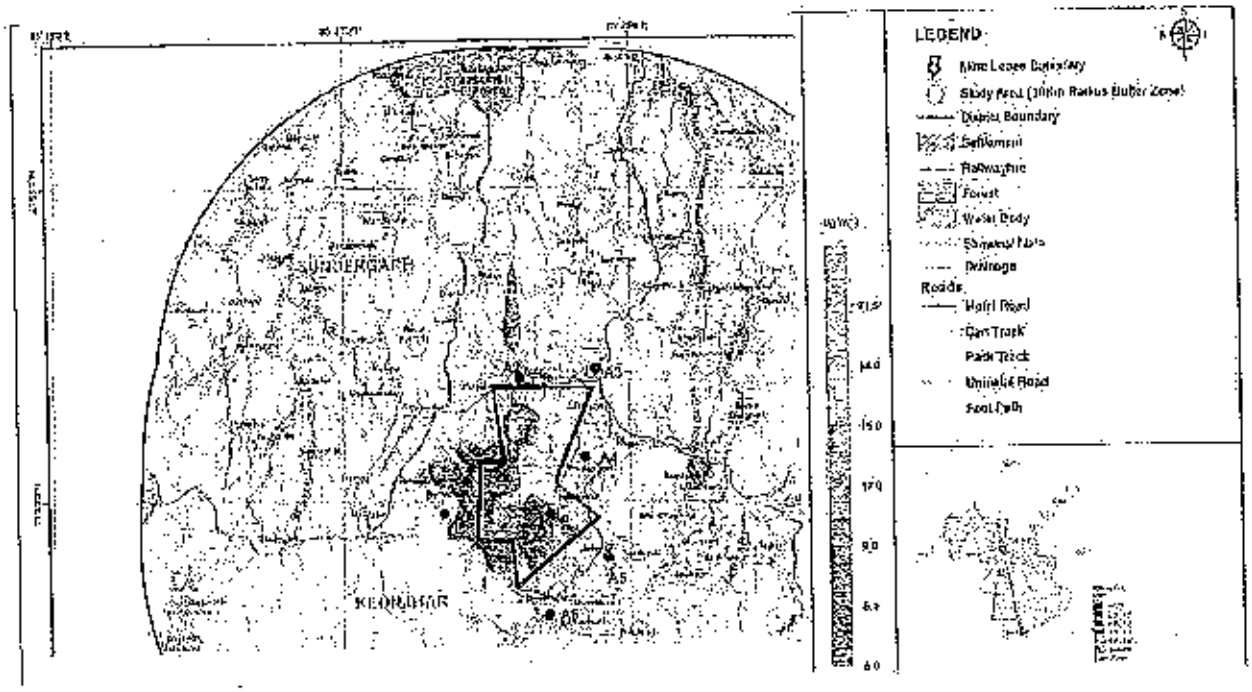
adequate protective measures to avoid any wash-offs from the surface dumps and minerals stack yard. Also excessive engineering protective measures are proposed, to manage the impact on the water regime.

3.1.3 Impact on Air (including Noise)

Mining activity contribute to the pollution of air due to operation of heavy earth moving equipment and transportation. It is necessary to know the level of the pollutants which exist in the atmosphere. Mining lease area is considered as core zone and the area falling within 10km radius from buffer zone. The quality of air within the core and buffer zone is estimated by collecting air samples for the AAQ monitoring. Locations of monitoring station are selected on the basis of wind direction and the monitoring is done simultaneously. The wind direction and the meteorological conditions and considered and correlated during the monitoring.

AAQ for PM_{10}: Considering all monitored days of meteorological data, Ground Level Concentrations (GLCs) were computed for PM_{10} emission from mine related activities. The maximum ground level concentration due to propose mine, during without control measures scenario and during control measures scenario, will be~112 $\mu g/m^3$& ~23 $\mu g/m^3$respectively and are likely to occur within mine lease on south-eastern side in both scenario. Predicted Isopleths for PM_{10} concentrations, during without control measures and during control measures scenario, have presented below respectively.


LEGEND
Mine Lease Boundary
Study Area (10Km Radius Buffer Zone)
District Boundary
Settlement
Railway line
Forest
Water Body
Stream/ Nala
Drainage
Roads
Metal Road
Cart Track
Path Track
Unmetal Road
Foot Path
SUNDERGARH
KEONJHAR


LEGEND
Mine Lease Boundary
Study Area (10Km Radius Buffer Zone)
District Boundary
Settlement
Railway line
Forest
Water Body
Stream/ Nala
Drainage
Roads
Metal Road
Cart Track
Path Track
Unmetal Road
Foot Path
SUNDERGARH
KEONJHAR

3.1.4 Ambient Noise Level:

Noise is defined as any sound that can produce undesired physiological can psychological effects in an individual. As per the guideline, noise levels within the core zone near sources and in buffer zone have been recorded. The sources of Noise within the mine area:

- Working of heavy earth moving machinery.
- Plying of ore and waste carrying tipper trucks.
- Due to the controller blasting activity which is restricted 2-3 times a week.

In the buffer zone, noise produced is due to the plying of vehicles.

Noise quality standards

NAAQs	Leq limit dB(A)	
	Day	Night
Industrial areas	75	70
Residential area	55	45

3.1.5 Fugitive emission:

Dust emission from mining activity: Dust emission sources were identified based on mining activities of the project. Following mining and material handling operations were considered

- Loading of materials (Ore, OB, Mineral rejects
- Drilling
- for dust emission sources: & Truck dumping of materials (Ore, OB, Mineral rejects
- Movement of dumper (wheel) generated dust
- Top soil) into haul trucks & Top soil)
- Unloading of materials (Ore, OB, Mineral rejects
- Wind erosion from waste dump
- Trucks Activity wise dust emissions during excavation of ore have been estimated.

The expected emissions from various mining activities like mining, waste dumping, backfilling and transport of ore and overburden through haul roads wherever applicable have been estimated.

I) Drilling Emission: Volumes from drilling of blast holes are potentially impacted by a number of factors such as depth of hole, moisture content and silt content. The emission factor for dust generation due to drilling for iron ore is estimated to be 0.734764 g/s and for manganese ore is estimated to be 0.4374454 g/s.

ii) Loading / Unloading Operations: Emissions from loading and unloading activities were estimated using the default emission factors using the equations developed by CIMFR. The emission factor for dust generation loading and unloading activities are estimated separately for ore, OB, mineral rejects and top soil for both iron ore mine area and manganese ore mine area. The emission factor of iron ore mining areas for loading of ore, OB, mineral rejects/top soil is estimated to be 0.344050 g/s, 0.476307 g/s and 0.125103 g/s respectively. The emission factor of iron ore mining areas for unloading of ore, OB, mineral rejects/top soil is estimated to be 0.083603 g/s, 0.083408 g/s and 0.074880 g/s respectively. Similarly, the emission factor of manganese ore mining areas for loading of ore, OB, mineral rejects/top soil is estimated to be 0.150635 g/s, 0.342178 g/s and 0.083366 g/s respectively. The emission factor of manganese ore mining areas for unloading of ore, OB, mineral rejects/top soil is estimated to be 0.074880 g/s, 0.075517 g/s and 0.074880 g/s respectively.

iii) Vehicles and wheel generated dust: The contribution to dust emissions from vehicles traveling along unpaved haul road and other roads has been estimated using the equation developed by CIMFR. The emission factor of iron ore mining areas for dust generation due to truck/dumper movement is estimated to be 0.009963 g/s/m (ore), 0.009962 g/s/m (OB), 0.009937 g/s/m (mineral rejects & top soil) whereas manganese ore mining areas is estimated to be 0.009937 g/s/m (ore), 0.009938 g/s/m (OB), 0.009937 g/s/m (mineral rejects & top soil).

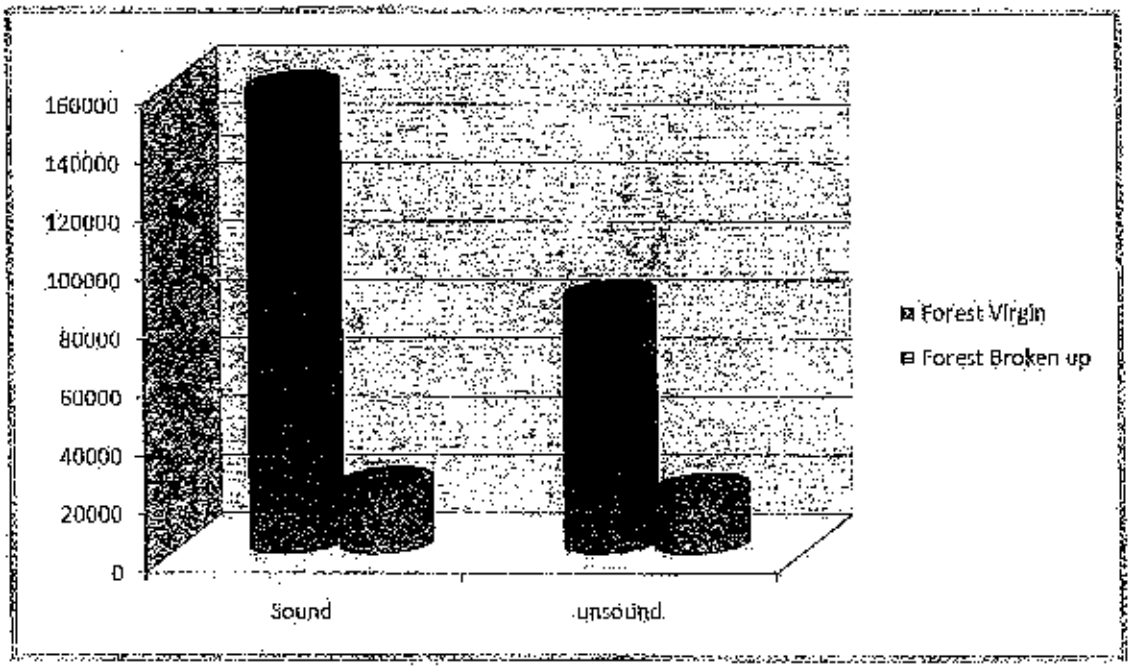
iv) Exposed OB Dump: The emissions contribution due to exposed OB dump has been estimated using the equation developed by CIMFR. The emission factor for dust generation due to exposed OB dump is estimated to be 0.000239 g/s/m2 (iron ore) and 0.000231 g/s/m2 (manganese ore).

3.1.6 Impact on Biological Environment:

For diversion of Forest area 1243.27 ha, sampling tree chumeration has been conducted. As per sample enumeration and extraploration there are 1,57,761 number of sound trees , 86,571 number of unsound trees in virgin forest land over 984.671 ha and 22481 number of sound trees and 20569 numbers of unsound trees in broken up forest land over 258.599 ha involved in the mining lease i.e. Dubna- Sakradihi Iron and manganese Mine.

Number of Trees enumerated in the Lease area during Forest Diversion Proposal					
Land	Sound	Unsound	Total	Area involved in ha	No of trees / ha
Forest Virgin	157761	86571	244332	984.671	248
Forest Broken up	22481	20569	43050	258.599	166
Forest land	180242	107140	287382	1243.270	231

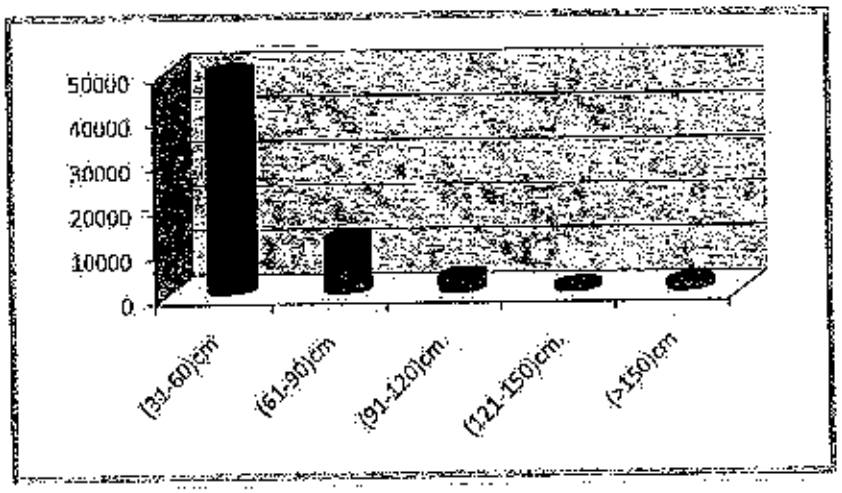
Table 38 Number of trees enumerated in the lease area

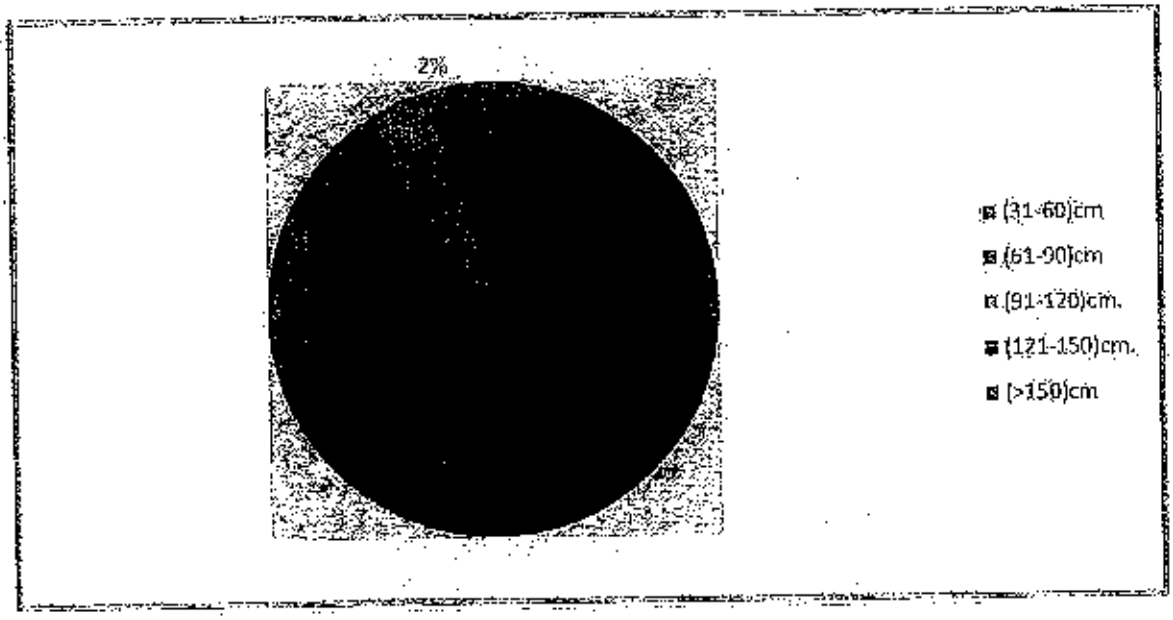


Details of trees enumerated on Sampling							
Sl no	Scientific Name	Local Name	(31-60)cm	(61-90)cm	(91-120)cm.	(121-150)cm.	(≥150)cm
1	Acacia catechu	Khaira	57	40	23	7	3
2	Dalbergia sisoo	Sisoo	77	25	16	3	1
3	Tectona grandis	Teak	392	95	10	1	1
4	Pterocarpus marsupium	Piasal	528	253	67	12	11
5	Dougeinia dougenensis	Bandhan	134	40	13	8	3
6	Gmelina arborea	Ghambhar	493	177	35	10	5
7	Adina cordifolia	Kuruma	43	9	2	1	0
8	Anogeissus latifolia	Dhaura	1334	598	186	46	17
9	Terminalia tomentosa	Asan	4781	1327	282	61	30
10	Manglfera indica	Mango	64	58	45	36	107
11	Syzygium cumini	Jamu	1573	630	171	59	76

12	Diaspórus Melanoxylon	Kendu	7790	698	136	44	31
13	Bridelia retusa	Kasi	795	272	60	20	12
14	Artocarpus integrifolia	Panasa	1	0	1	1	11
15	Misc. Species	Misc	31704	7899	2556	1021	1531
Total			49766	12121	3603	1330	1839

Table 39 Details of trees enumerated on sampling





During mining operation within this valid lease period about 30% of the enumerated/ projected trees will be removed and it will have an adverse impact on Biological environment.

3.1.7 Observation by NEERI, Nagpur:

The proposed project envisages re-opening of Dubna-Sakradih Iron & Manganese ore mine with iron ore production to 3.0 MTPA & Manganese ore production to 0.05 MTPA. The CSIR-NEERI has recommended regulate/guide the mode of transportation for mineral evacuation based on EC capacity of the mines in view of high dust pollution and noise generation due to road transport. The applicable guideline for the proposed proposal is as follows.

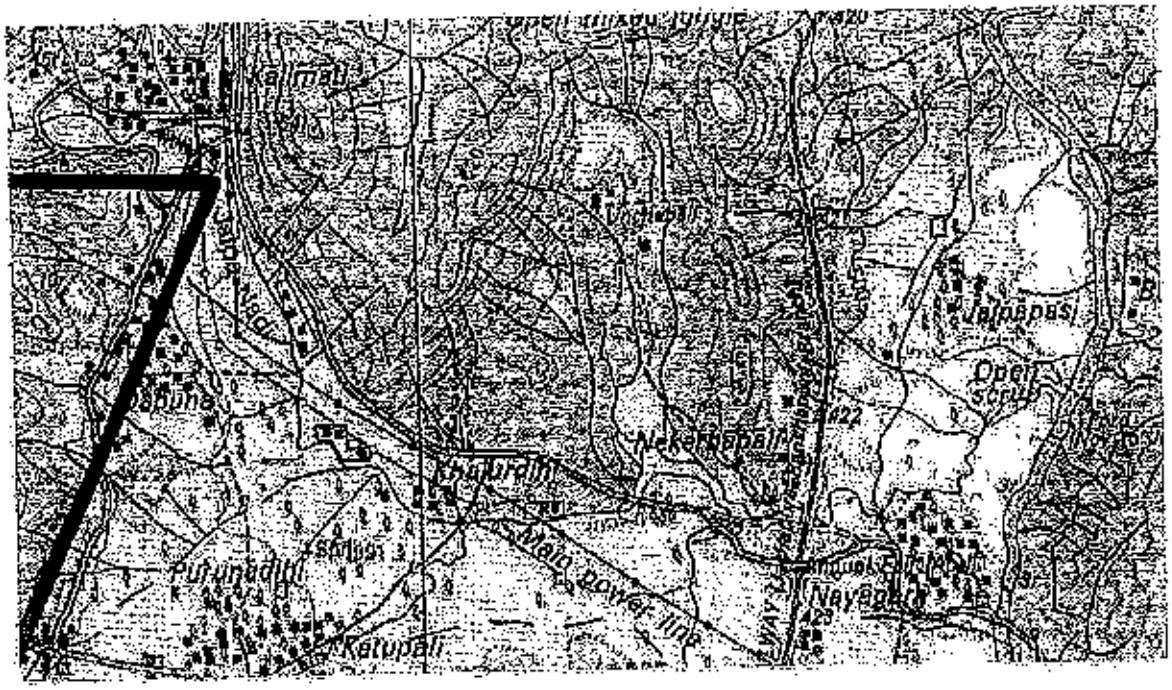
Mode of Transportation as suggested by NEERI		
Code	**EC capacity**	**Suggested Ore Transport Mode (SOTM)**
For Iron Ore		
SOTM2	Between 3 and <5MTPA	Minimum 70% by public railway siding, Through Conveyor belt and maximum 30% by Road- direct to destination or other public railway siding or above option
For Manganese Ore		
SOTM4	<1MTPA	100% by 10/17 Ton trucks or option above

Table 40 Mode of Transportation by NEERI

The maximum production of 3.0 MTPA (iron ore) and 300 working days per year have been considered for calculation. The increase in truck traffic due to re-opening of Dubna Sakradih mine (Iron Ore) i.e. 0.9 MTPA (30%) is expected to be 400 trucks/day i.e. 200 loaded and 200 unloaded per day or 100 PCU per hour (considering mineral transportation for 12 hours per day) which will use Dubuna-Sakradih-Nayagarh Road (KIDCO Road) before joining Joda-Keonjhar Expressway (NH-20) for mineral evacuation. With present level of traffic and the predicted increase in existing traffic due to the project, carrying capacity of Dubuna-Sakradih-Nayagarh Road (SH-10) during operational phase of the project has been estimated by comparison with the recommendations stipulated by Indian Road Congress (IRC). The road carrying capacity values have been determined as per the guidelines of IRC: 64-1990. As per "IRC: 64.1990: Guidelines for Capacity of Roads in Rural Areas"

As per IRC:64" Guidelines for Capacity of Roads in Rural Areas, the recommended design service volume for two lane roads on plain terrain is 15000 Passenger Car Units (PCUs) per day and the reduction factor for shoulder width of 1.8 m is 1. Accordingly, the recommended design service volume comes down to 15000 PCUs/day. The existing average traffic density on road is 22255 PCU/day (Near Kajurdih). Considering the additional capacity of about1200 PCUs/day i.e. 400 trucks/day, for transporting 0.9 million tonnes per annum

ore from Dubna-Sakradih mine through Dubuna-Sakradih-Nayagarh Road (SH10)about 8455 PCU is over the carrying capacity limit.



3.1.8 Solid Waste & Acid Mine Drainage:

Solid waste:

During plan period 12.259 million tons of waste likely to be generated and will be dumped on surface and for pit reclamation in mined out pit by Back Filling the generated waste during 4th and 5th year of the plan period.

Acid mine Drainage:

Overburden and side burden consists of laterite, lateritic clay, shale, and Banded Hematite Jasper. It does not contain any leachable heavy metals or toxic elements and there shall be no acid mine drainage. Further no ore beneficiation is involved at mine site which generates tailings. Therefore, there shall be no impact on drainage water except the presence of suspended solids if any which is being taken care through the adequate engineering protective measures in place and proposed.

3.1.9 Vibration (due to blasting)

With the controlled blasting techniques adopted to excavate the major quantity of production from the mine, each blast hole is divided into two decks and the same is initiated at different delay intervals. Hence the charge per delay is restricted to a charge per deck.

Which reduces ground vibration and noise and will be much below the permissible limit and same is measured by seismogram. Firing is done from a blaster's shelter with the blasting cable and exploder. Also use of in hole delay by NONEL means of initiations. Blasting frequency is restricted to maximum of 2-3 times in a week. It is proposed to undertake Blasting-Ground vibration monitoring studies by an expert agency to determine the maximum charge per delay to restrict the ground vibration level within the permissible limits.

3.1.10 Synergic Impact on Flora & Fauna:

The effect of this mining project on flora and fauna couldn't be assessed in isolation. There are number of mining projects around this project. The cumulative production of surrounding mines is very high in comparison to this mine. The Working Plan Officer, in its last plan has already indicated about degradation that has been started and accelerating in a path of degradation. The effect is summarized below,

Threat to Flora:

- The dense Moist Sal Forests of the region is no more visible to a common eye.
- Forest composition is now of mixed forest with associates of dry forests.
- Crop density is now below 40% in most of the forest blocks and now prescribed to be treated under Rehabilitation Working Circle.
- As this is most important iron & manganese belt situation will continue like the present situation

Threat to Fauna:

The perceptible threats to fauna are as follows:

- Degradation of Quality habitat,
- Increase movement of HEMV and other vehicles have posed threat to animal.
- Mining Lighting, heavy interference with habitat, Increase in population due to mining and related activities gas reduced availability of food, water and shelter for animals.

3.2. Ancillary Impact of the Project on Flora & Fauna:

The impact of mining activities on Integral approach is summarized below.

- Wildlife is migrating from mining zone to forest remaining undisturbed i.e. virgin forests.
- Due to more & more mining lease granted/operated, more forest is sacrificed and there is little room for wild animals for peaceful cohabitation.

- Abstraction of Ground water as mining discharge where water table is punctured has impacted the Ground Water Table.
- Due to runoff, soil erosion the nallas , rivers are highly polluted and overloaded with clay, silt and sedimentary particles and mostly unsuitable for drinking purpose (Without physical / Chemical treatment)
- Natural vegetation is gradually replaced by planted seedlings and the natural environment is not recreated and not possible also.
- Bio diversity is badly hampered.
- Traffic pressure is extremely heavy. Transport trucks / Lorries are seen in the entire zone and movement of animal is badly disturbed.
- Wild animals are slowly thinning out from this zone which indicates a declined unbalanced environment.
- Avifauna concentration is heavily thinned out and few species are noticed in a reduced frequency.
- Air, Water, Soil pollution has degraded the quality of life.
- Economic activities have been developed in the region and living standard of people is higher than 20 years back.
- Agriculture is no more a priority. People are engaged in mostly mining and ancillary activities.
- Social cohesion is in a path of degradation. Individual self centered approach is taking shape and replacing social concern, approach fraternity filling
- Love, affection and "*kind to animals – Jibe Daya*" evaporating in the society.

3.3 Socio Economic Impact of the Project

Employment potential:

Dubna –Sakradihi Mining project provides permanent and direct employment to 132 people and generate indirect employment for several hundred. Most of the directly employed are under skilled category and the respective distribution /number is as follows.

Manpower	Category	No
OMC Departmental workforce	Executive	33
	Supervisory/Clerk	46
	Highly skilled	11
	Semi skilled	9
	Un skilled	33

	Total	132
	Piece rated	66
On Contract	All category	401
	Total	599

Socio –economics

There is no project affected persons within the lease area. However, OMC is carrying out Socio welfare activities and also proposed measures to mitigate the socio economic impact.

During the period 2018-19, amount spent towards various activities are mentioned below:

- Rs 11.02 lakh was spent towards providing transports facility, uniforms, books and shoes for school and college children and training for skill development. The monitory aid would definitely have a positive impact on the quality of education.
- Rs 4.15 lakh was spent on drinking water supply through tanks, Rs 11.79lakh has been spent on providing health, safety and medical facilities for local villagers at Surla dispensary.
- Rs 3.19 lakh has been spent on donation to sports, and social and cultural organizations.
- Rs 1.72 crores has been spent towards Direct and indirect employment to the local Inhabitations.

In addition to above, every ton of ore produced from the mine, 30% fo royality will be contributed towards District Mineral Fund.

3.3.1 Impact on Traffic:

a) Haulage & Transport within M.L Area Transportation between M.L Area & Dispatch Point:

For handling the ore stacks at mine-site, 4nos. of wheel loader (2.5-4.5cum) is provided to keep in tune with quantum of handling.
For handling the generated waste rock to the dematerialized portion/waste dump of the pit, 35-50 tonner dumper, are used.

b) Transportation to Outside:

Most of the ore will be transported from nearest Rail Head / Siding, Which is about 5 km (Nayagarh Station). Transportation from mining storage bin to Station will be by Road.

3.4 Impact /Effect on Movement of Mega Fauna:

- Due to reopening of mine, further degradation of Lease area due to expanded broken up area is feared.

- Out of enumerated trees 287382 number, about 30% of trees (86215 number) likely to be removed during remaining lease period i.e. within 27.12.2029. This will affect the immediate surroundings.
- Due to increase in noise level, the animals / birds may be keep away from the area.
- There is occasional elephant movement within the ML area. They may be disturbed and more man animal conflict in the vicinity / zone of impact may be observed.
- The increased traffic from Mine area to Nayagarh Station Railway siding may prohibit crossing of animals/ elephants across the Bamebari-Palashponga road. This may led to fragmentation of habitat and may have associated problems.

CHAPTER-IV

IMPACT MITIGATION MEASURES



CHAPTER-IV
Impact Mitigation Measures& Financial Projection

4.0 Adverse Impacts of the Project & Mitigation Measures suggested:

The project "Dubna-Sakradihi Iron & Manganese" mine is located in the Joda- Koida-Jharkhand Iron Belt. There are hundreds of mines (Iron, Iron & Manganese) and mining operation is associated with air, water pollution, heavy traffic, Noise & vibration, loss of forest growth /natural vegetation. The synergic impact of mines of the zone of impact is very heavy than the individual impact. The adverse impact and suggestive mitigation measures are as narrated below.

4.1 Adverse Impact on Air & Mitigation Measures:

a) Adverse Impact:

Fugitive dust generation, Heavy Burnt Gases from Vehicles, Noise due to operation of HEMM, transport Lorries, Blasting are contributing to reduction of Air Quality. Increase in PM_{10}, $PM_{2.5}$ and other suspended particles in air will adversely affect the health of animals, The human being, labours & associated staffs will use PPE (Personal Protective Equipments depending upon their working field / living places. The animals, Birds will be subjected to the adverse impact and will be forced to inhale polluted air. Respiratory diseases, loss of tranquility and stress thereof will be resultant effect. During observation and interaction with local villages it is clearly observed that animals like Deer, Wild boar, Hyena, Fox, Jackal etc are migrating out of the mining zone. Small animals like Mongoose, Lizards, Snakes, Rabbit, and Rodents are adjusting to the changing environmental factors and living in the remaining vegetated area. There is heavy migration of avifauna out of the immediate impact zone i.e. 1-2 km zone of mines.

b) Mitigation measures:

The remaining vegetation within the Mining area will be protected and it will act as a dust absorber, barrior against sound, sprinkling of waters on haul Road. Under long term measures Road transportation will be replaced with Conveyor Belt/Slurry pipe line transportation from Mining site to Nayagarh Railway siding/nearby pellet plants.

4.2 Adverse impact on Water body &Mitigation Measures:

a) Adverse Impact:

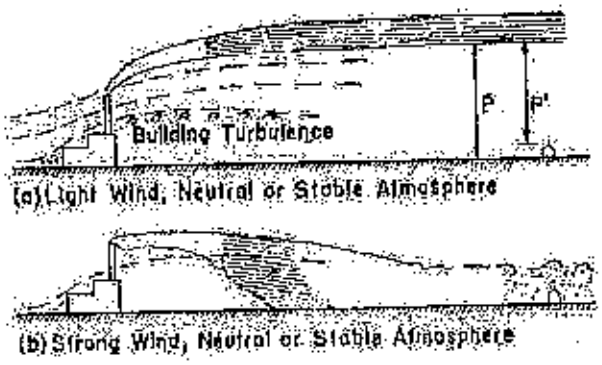
The tract drains to River Baitarani through various rivulets. The seasonal/perennial nala flowing in the region are recorded as below,

Sl. No.	Name of Nalla/river	Direction	Distance from the project in Km	Status / Remark
1	Gahiraja Nala	NW	5.50	Perennial
2	Kakarpari Nala	NW	7.50	seasonal
3	Teherie Nala	NW	8.50	seasonal
4	Archanda Nala	W	6.00	Perennial
5	Porbadihi Nala	W	7.00	Perennial
6	Suna Nala	W	6.50	Perennial
7	Kaijorha nala	S	4.50	Perennial
8	Khandadhar Nala	SW	6.50	Perennial
9	Baitarani Nadi	SE	3.00	Perennial
10	Malda Nadi	S	5.00	Perennial
11	Jagadhara nadi	S	8.50	seasonal
12	Balpada nala	E	5.50	Perennial
13	Kasi nala	E	7.00	Perennial
14	Daliki Nala	S	1.50	Perennial
15	Juruli Nala	W	7.50	Perennial
16	Bamni Nadi	S	8.50	seasonal

Table 41 Nallas/Rivers

Baitarani River is the main drainage of the area. It originates from Guptaganga in the district of Keonjhar and after flowing 360 km joins Brahmani River and combined stream known as River Dhamra which falls in to Bay of Bengal.

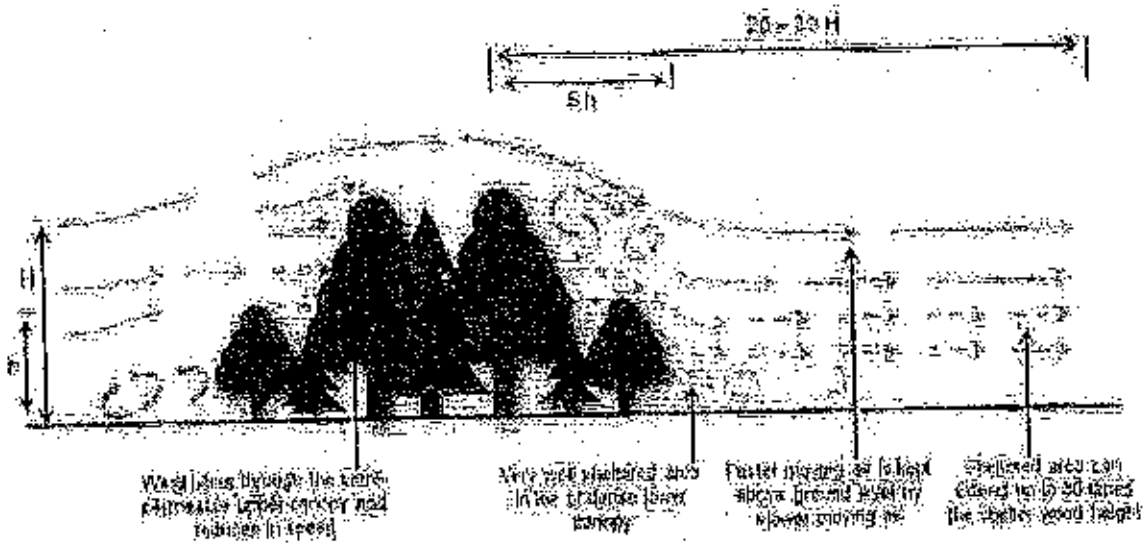
Due to mining operation, the runoff caries lot of silt / sediments and dissolved salts from excavated earth. Through rivulets it flows to Baitarani ultimately. Due the settlement of dusts at a reasonable distance the water gets infected with silt / heavy metals etc and as it is observed the water source remains turbid throughout the year.



b) Mitigation Measures:

To combat the situation it is proposed to provide adequate vegetative check dams and Masonry checkdams both within the ML area and in the Zone of Impact. It will arrest silts to a reasonable extent and reduce the carrying capacity of running streams / nallas.

Tall trees on the boundary of ML area (i.e. Safety Zone at a width of 7.5 m all along the lease boundary) are required to disperse the fugitive dust, noise and vehicle exhaust. At present natural vegetation are available on the safety zone. On vacant places / Gaps on Safety Zone for creating Green belt a planting design of Wind break pattern is suggested.





This intervention will be adopted by User agency while taking up plantation within Safety Zone and on non mineralized vacant places at Project Cost.

4.3 Adverse Impacts on Soil & Mitigation Measures:

a) Adverse Impact:

Due to excavation during mining soil surface / landscape will be changed. Due to mining pits there is possibility of animal fall to the pits (Though no animal fall has been reported so far). The Pit depth has been described under Chapter-III.

There are waste dumps and the volume of waste will increase in course of Mining. There is possibility of Dump failure, leaching of soluble materials, carrying of waste materials in the storm water runoff.

b) Mitigation measures:

For Protection of Dump the following measures are to be taken.

a) 2303mt Retaining wall around Waste dump,
b) 2330 m Garland drain,
c) Four Silting tank &
d) 17 numbers of Check dam (Size 22.2x2.23x3.63m)suggested

In addition to above, if required more retaining walls and garland drains shall be constructed on commencement of mining.

It will be implemented by the User Agency at the project Cost.

4.4 Adverse Impact on Flora &Suggestive Damage Control Measures:

a) Adverse Impact

During Mining Operation (Expanding Excavation Area) there is every possibility of removal of tree growth. During filing of forest diversion proposal, the tree enumeration has been carried out on sampling basis. The abstract of trees enumerated is furnished below.

Land	Sound	unsound	Total	Area involved in ha	No of trees / ha
Forest Virgin	157761	86571	244332	984.671	248
Forest Broken up	22481	20569	43050	258.599	166
Forest land	180242	107140	287382	1243.270	231

Table 42 Abstract of enumerated trees

During mining operation within this valid lease period about 30% of the enumerated / projected trees will be removed and it will have an adverse impact on flora via a vis Biological environment.

b) Mitigation measures:

While granting "In Principle approval" for diversion of forest area (1243.27 ha), the MoEF&CC, Govt. of India has stipulated a condition to ameliorate this impact of tree felling. This is reproduced below for better appreciation.

"Condition No A (10): The user agency does not propose to subject the whole lease area to mining/ancillary use in one go in the beginning of the proposed lease period. Some areas may be worked 10/20 years after the commencement of leases, and such areas could be productively used for growing short rotation forestry crops in such interim period. If so, the life cycle ecological cost of the mining project would reduce considerably, besides financial benefits to the lease holders. State Government shall, therefore, initiate a pilot study, at the cost of user agency, through an institute of national repute like ICFRE, IIFM, etc. which can explore a model of use of the degraded forests within the mining lease for more productive biological uses (e.g. raising short rotation forestry crops) for intermittent periods during the currency of mining lease period in a way that the ecological services continue to flow in an augmented manner and at the same time mining activities are not adversely affected. Such a model should enable user agency to raise additional revenue from the lease area. If successful, such models could be replicated elsewhere also for codevelopment of mining and ecology."

OMC has already commissioned ICFRE to explore a model of use of degraded forests. ICFRE has examined the site during their first visit and continuing the study, likely to be completed within a year time as reported.

The above mitigation measures will be implemented at the project cost by the user agency which will go a long way in reducing the adverse impact on flora.

4.5 Impact on Fauna &Impact Ameliorating Measures:

a) Adverse Impact:

Due to many mining projects all around the area, wild animals are avoidingthis tract. The habitat has been squished due to mining and allied activities. Other perceptible threats are

- Degradation of Quality habitat,
- Increase movement of HEMV and other vehicles have posed threat to animal.
- Mining Lighting, heavy interference with habitat, increase in population due to mining and related activities has reduced availability of food, water and shelter for animals.
- Human- Wildlife Conflict has been in a rising trend in the region.

b) Mitigation Measures:

The adverse impact on wild animals is of multi dimensional. The mitigation measures and wildlife management practices to be taken are suggested at Para 4.7 and 4.8

4.6 Impact on Habitation & Human- Wildlife Conflict Damage Caused:

The zone of impact is coming in Keonjhar Division, Champua Range and Bonai Division Koira range. There are residential elephants in Champua Range (Siddhamatha RF, Part of Baitarani RFand nearby forests throughout the year. There are Mango / Jack Fruit Groves under private ownership. These groves along with agricultural crop in the locality are the targeted and liked places of elephant. Elephants from Singbhum Elephant Reserve, Jharkhand migrate from Jharkhand to Odisha passing through Champua and Karo Karampada Elephant Corridor. They cause crop depredation / House damage. Due to crop & house damage there is hue & cry in the locality and pressure on forest administration to face the challenge.

4.6.1 Probable Mitigation Measures:

In order to ameliorate the Human- Animal – Conflict the following measures suggested

i) Deployment of Gaja Sathi,
ii) Construction of RCC Machan for watching & preventing crop damage by elephants,
iii) Providing anti depredation equipments like search light, Binoculars etc.
iv) Corpus fund with Divisional Forest Officer.
v) Increase fodder and water availability in Forest to check moving out from forest to agricultural field / habitation.
vi) Awareness for villagers / VSS Members.

vii) Installation of Early warning System

4.7 Identified Problems on Wildlife Management & Ameliorating Measures.

Considering all the aspects enumerated above the following activities are suggested.

4.7.1 Activities within Lease area:

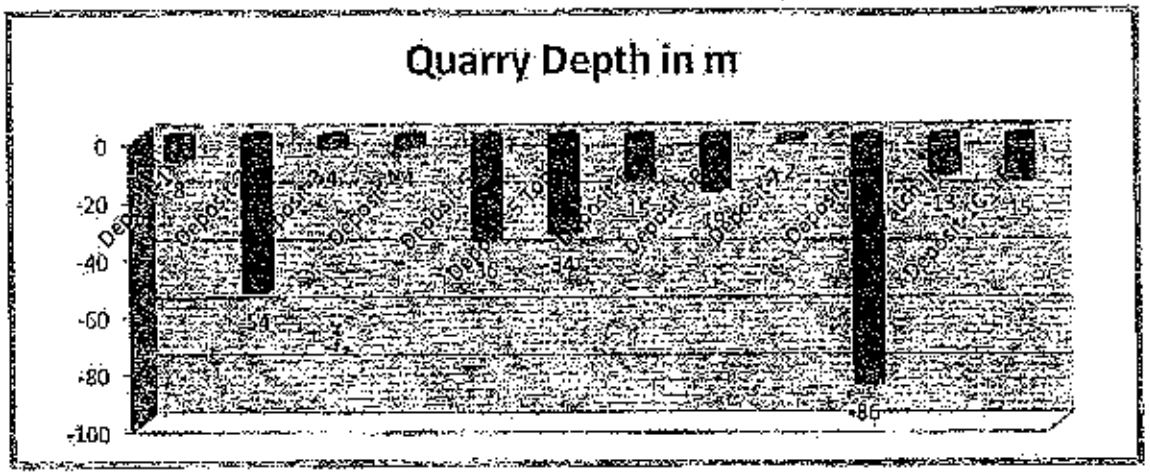
The project area is a vast stretch of forest coming within Pedipokhari RF and Naibuga RF. About 50% of Pedipokhari RF (725.158 ha out of 1487.2714 ha) and Naibuga RF (48.178 ha out of 309.8459 ha). The forest is dry deciduous forest and moist forests are also observed along the water course. The area is moderately habituated by fauna. In the Site Inspection Report of the DFO on fauna reads as follows.

"No rare or endangered species available in the applied diversion area, but movement of wild elephants is often witnessed in the applied forest land and adjoining forest. The applied site falls under Elephant habitat Zone-2 as mentioned by ORSAC, Bhubaneswar." The SIR is enclosed as Annexure-VI.

There are 12 quarry pits / deposits within ML area and mainly in forest land. The ground level / Bottom level of working is furnished below.

Sl No	Quarry	Existing Quarry Level (in m AMSL)		
		Adjoining GL	Bottom most bench	Difference in m
1	Deposit-1	688	680	-8
2	Deposit-2	663	609	-54
3	Deposit-3	652	648	-4
4	Deposit-4	612	608	-4
5	Deposit-5	642	606	-36
6	Deposit-5 Top	718	684	-34
7	Deposit-6	635	620	-15
8	Deposit-6B	745	726	-19
9	Deposit-7	561	559	-2
10	Deposit-8	681	595	-86
11	Patch-II	688	675	-13
12	Deposit-1C_1E	575	560	-15

Table 43 Pits/deposits within the ML area



Out of 12 quarries existing at present except Deposit no. 7 all the quarry depth is danger to animals and fear of animal fall could not be ruled out. This aspect is required to be considered.

There are habitations within ML area. These villagers are not going to be displaced during mining lease period.

4.7.2 Interventions implemented within Lease area.

The following interventions have been taken within ML area.

- Within the ML area road network has been developed for communication.
- Drinking water facilities developed,
- Community Solar lighting arrangements exists.
- There are agricultural fields (having paddy as main crop),
- Mango, Jack fruit groves are existing within ML area
- Loose Boulder Retention walls with wire mess constructed.
- Check dams on Nalla / Rivulets constructed.

4.7.3 Interventions approved in the last plan but not executed:

The interventions approved in the last plan but not executed are as follows.

1) Protection of virgin forest inside lease from fire, theft, poaching & creation of awareness among village.
2) Barbed wire fencing around faces of mining pit
3) Construction of 5nos of masonry check dams across Ghagra, Jalpa & Dalki nala,
4) Crated boulder masonry on both bank of Jalpa nala.
5) Dry stone retaining wall around OB dump,

6) Excavation of garland drain over OB dump, settling tank.
7) Block plantation at both side of village road.
8) Mixed plantation on old OB dumps,
9) R.D.F on both side of Jalpa nala up to 50 meter width.
10) 7.5 meter with A.N.R plantation along lease boundary,
11) Raising block plantation in vacant land
12) Provision for a hired vehicle & fuel with logistic support for Rapid Response Team,
13) Health camp for villagers & cattle immunization &
14) Awareness campaign

On examination of changed ground position, it is proposed to implement the following interventions at project cost:

Sl No	Description of Interventions	Quantum
1	Provide adequate protection to available vegetation which is not worked out within the present lease period i.e.27.12.2029	--
2	Solar fencing around the all Mining pits to prevent animal fall to quarry	--
3	Construction of Masonry / vegetative Check dams on Ghagra, Jalpa & Dalki nala in order to check silt in the runoff and allow clean water to outside the lease area. (In consultation with Forest / Soil Conservation Officials)	Masonry Structure-6 No, Vegetative Check dams- 30 No
4	Plantation of short rotation species on vacant / non mineralized areas – not likely to be broken up within the present lease period.	Area to be finalized.
5	Adequate Solar lighting arrangement around habitations to keep wild animals away for habitation within ML area	28 number (High mast)
6	Cattle immunization Program in all core villages	Every year
7	Awareness camps for children / villagers on various Road safety measures and about animal behaviors and how to respond in case of animal intrusion to the Habitation	2 camps per year

The above interventions are to be implemented within ML in addition to measures suggested in the approved Mining Plan.

4.8 Views of Elephant Division MoEF& CC&Suggestive Remedial Measures:

Comments of the project Elephant Division on the proposal for diversion of 1243.70ha of forest area involved in the mining lease proposal of Dubuna–Sarkadihi Iron and Manganese ore mines of M/s OMC Ltd. in Keonjhar District of Odisha.

"Forest Conservation Division by its letter No 8-26/2019 –FC dated 16th March, 2020 has requested to comments of PE Division on the proposed mining of Iron and Manganese ore Dubuna–Sakradihi Mines of OMC Ltd. in Keonjhar District, Odisha. In this regard the comments of Project Elephant are as follows:

1. The State Government of Odisha had submitted a proposal seeking prior approval of Government of India, under section 2 of Forest Conservation Act, 1980. The proposal was placed before FAC in its meeting held on 23.1.2020 and the FAC inter alia recommended seeking comments from the Project Elephant Division of this Ministry.
2. The elephant is a Schedule I species and also a National Heritage animal. Therefore, highest degree of protection has been accorded under the provisions of the Wildlife (Protection) Act, 1972.
3. The letter from FC Division states that movement of wild elephants is often witnessed in the proposed area. The forest area within the lease area falls under elephant habitat zone 2 as mentioned by ORSAC,Bhubaneswar. This itself prove that the proposed mining area is an important elephant habitat..
4. In this regard, a letter was sent to CWW, Odisha on 16th April 2020 for seeking comments on the status of elephant habitats and movements of elephants in the proposed lease area, Comments of the State Forest Department of Odisha was also received and the same is enclosed for information.
5. As per report received from the State of Odisha, elephant movements were noticed along with other wild animals in the proposed mining site.. Villages like Handibhanga, Jamupani, Dubuna, Purunadihi, Basantpur, Naibuga, Kaijhor, Patakudar, Nedigotha, Saradapank, Katupali etc. are situated inside and around the mining lease of Dubuna-Sakaradihi Iron and Manganese mines and compensation have been paid for crop and properties damage by wild elephants in these villages. These show the presence of elephants and intensity of Human Elephant conflicts in the proposed mining area.
6. The proposed lease area is adjacent to the Karo-Karmapada Elephants Corridor identified in the Elephant Task force, "Gajah" report of MoEF &CC and Mayurbhanj Elephant Reserve. Further, the elephants are reportedly moving through the proposed mining area.

Considering the fact that elephants are long ranging animals, the movements of elephants through the proposed mining areas should be viewed seriously. Therefore, the securing elephant corridor is important for mitigation of HEC in the high HEC prone area.

7. Ministry of Environment, Forests and climate change constituted high level Elephant Task Force in 2010 and have identified critical elephant corridors in the country. The Elephant Task force report suggested the following points for securing corridors.

a. Creation of community or Conservation Reserve,

b. Declaring the corridor as high priority ecologically sensitive, Area under Environment Protection Act 1986 with maximum regulation of ecologically destructive activity.

c. Declaring corridor land as Reserved forest or Protected Forest under Indian Forest Act,

d. Community Forests under the Forest Right Act,

e. Increase boundary of existing protected area and make corridor part of the existing PA.

The Ministry of Environment, Forest and Climate Change has already requested State Government to secure the priority elephant corridors as mentioned in the Gajah Report 2010.

8. The Task Force Report (2010) also states that mining, especially open cast mining has dealt a severe blow to elephant conservation in the country, especially in Central India where most of elephants areas in Singhbum, Keonjhar, Mayurbhanj , Dhenkanal, Angul and Phulbani have been severely fragmented leading to increased HEC and movement to adjoining states of Chhatisgarh and west Bengal.

9. The Task Force also recommended that the mining leases in Elephant Reserveshould be reviewed, in areas that are not Elephant Reserve but used by Elephants, lease should be viewed with caution.

10. The Hon'ble Supreme court of India, in its orders dated 9th August, 12th July and 24th October 2018 on the WP 487 of 1996 in the matter A. Rangarajan and Ors vs Union Of India directed Tamil Nadu Governemnt to stop all the activities in the Segur elephant Corridor area of Nilgiri for allowing free movement of elephants. This shows the importance given by the Hon'ble Supreme Court to the issue of securing corridor for movement of elephants in the country.

11. Hon'ble Supreme Green Tribunal vide its order dated 14thNoveмeber, 2018 in the writ petition no 246 of 2018 Pradip Kumar Bhuyan &.Ors Vs Union of India & Ors. Directed the Ministry of Environments, Forest and Climate Change to look into the issue by declaring all elephant corridors all over the country as Eco Sensitive zones by exercising its power under Environment Protection Act, 1986.

12. The Hon'ble Supreme court in writ petition (C) no 275 of 2015 titled Vidya Athreya and another vs Union of India & others by its order dated 19.01.2018 had directed the Standing Committee of NBWL to consider the suggestions made by the petitioners including the securing of elephant corridors to minimize human elephant conflict. The members of the committee were of the view that state governments should be requested to expedite their action on the Ministry's advisory. Members also advised that State Governments should explore the feasibility of declaring such corridors as Eco Sensitive Zones in case it is not possible to secure the corridors by acquisition of lands in these corridors. The final report has been submitted to the Hon'ble Supreme court of India.

13. As per the elephant population estimation (2017), the State of Odisha has the highest number with 1976 elephants (63%) in the East Central region. The state of Odisha has also very high Human Elephant conflicts with 778 human beings and 205 elephants getting killed due to human elephant conflicts in the State of Odisha in the last 10 years(2009 to 2019).

14. Considering the above facts and also the report of DFO, Keonjhar, the proposed mining activities may lead to escalation of the Human Elephant conflicts in the area (villagers in the mining areas already suffering due to HEC) and may also further endanger the lives of people and elephants in the area. Hence, FC Division may appraise the FAC, all these facts related to the proposed mining area, especially the elephants habitat, Human conflict status, reported elephant movements in the area and proximity of the site to an important elephant corridor(Karo-Karampada corridor) and possibility of further escalation of the the human elephant conflict in the area ; the decisions of Hon'ble Supreme court; National Green Tribunal etc related to securing elephant corridors, so that FAC may take a well considered decision on the proposal of the mining of Dubna-Sakradihi area in Keonjhar District of Odisha."

4.8.1 Summery of Project Elephant View:

S.No	Description in brief	Suggested Action in this Plan
1	FAC asked for views of Project Elephant Division	No comments
2	Due importance to Elephant to be provided in management practices i.e, "Center Stage to Elephant management"	The plan is prepared with Elephant at Centre stage"
3	The Proposed diversion comes within Important Elephant Zone described as Elephant habitat-Zone -2 by ORSAC	Agreed
4	Views from CWLW, Odisha was asked for vide letter dated 16.04.2020 and same has been received by PE Division.	No comments
5	Elephant movement in village Handibhanga, Jamupani, Dubuna, Purunadihi, Basantpur, Naibuga, Kaijhor, Patakudar, Nelligotha, Saradapank, Katupali etc, are situated inside and around the mining lease of Dubuna-Sakaradihi iron and Manganese mines are reported	It is a Fact.
6	The proposed lease area is adjacent to the Karo-Karmapada Elephants Corridor identified in the Elephant Task force,	Karo- Karampada Corridor is outside the Zone of Impact - about 19 km away

	"Gajah" report of MoEF &CC and Mayurbhanj Elephant Reserve. Securing elephant corridor is important for mitigation of HEC in the high HEC prone area	from the project Gajah Report enclosed annexure-VII.
7	Elephant Task force report suggested the following steps.	Policy decision of Govt.
a	Creation of community or Conservation Reserve,	
b	Declaring the corridor as high priority Ecologically sensitive, Area under Environment Protection Act 1986 with maximum regulation of ecologically destructive activity.	
c	Declaring corridor land as Reserved forest or Protected Forest under Indian Forest Act,	
d	Community Forests under the Forest Right Act.	
e	Increase boundary of existing protected area and make corridor part of the existing PA.	
8	Mining has dealt a severe blow to elephant conservation, especially in Central India where most of elephants areas in Singhbum, Keonjhar, Mayurbhanj, Dhenkanal, Angul and Phulbani have been severely fragmented leading to increased HEC.	Mining has affected elephant corridor in Keonjhar distinct / Division. Hence user agency has to meticulously implement Mining Plan, SSWLCP and to comply the stipulated conditions indicated in all Statutory and non statutory clearances. It will help in reduction of HEC & enrichment of habitat in Elephant movement area, Migratory routes and micro habitatas.
9	The mining leases in Elephant Reserve should be reviewed. In areas that are not Elephant Reserve but used by Elephants, lease should be viewed with caution.	The mining leases which are used by elephant but not in Elephant Reserve will be regularly reviewed by Forest department and all wildlife related compliances shall be ensured through user agency in the interest of elephant conservation.
10	Importance given by the Hon'ble Supreme Court to the issue of securing corridor for movement of elephants in the country.	Apart from the policy decision of the Government **"to declare Elephant corridors as per provisions of law"** - measures shall be taken to enrich the elephant movement area / habitat with plantation of fruit bearing species, Bamboo & sensitizing the public in and around for peaceful co habitation with elephants / animals amidst the development priorities.
11	Declaring all elephant corridors all over the country as Eco Sensitive zones by exercising its power under Environment Protection Act, 1986.	Policy decision of Govt.
12	Advised that State Governments should explore the feasibility of declaring such corridors as Eco Sensitive Zones in case it is not possible to secure the corridors by acquisition of lands in	Policy decision of Govt.

	these corridors.	
13	Elephant population estimation (2017), the State of Odisha has the highest number with 1976 elephants (63%) in the East Central region, very high Human Elephant conflicts with 778 human beings and 205 elephants getting killed due to human elephant conflicts in the State of Odisha in the last 10 years (2009 to 2019).	Adequate measures shall be taken to avoid un-natural elephant death with proper coordination with user agency, other stake holders, Railway authority, Electric department, NHAI, NH authority of State Govt. VSS and peoples representatives. Necessary interventions will be taken in elephant depredation areas to secured livelihood activities of local people through forest based and eco friendly measures.
14	The elephants habitat, Human conflict status, reported elephant movements in the area and proximity of the site to an important elephant corridor(Karo-Karampada corridor) and possibility of further escalation of the human elephant conflict in the area,; the decisions of Hon'ble Supreme court; National Green Tribunal etc related to securing elephant corridors.	Considering all facts EAC has given In Principle approval to the user agency. However mitigation of HEC and securing of elephant corridor is not a standalone activity. It is a continuous and evolving process as per the new realities.

Table 44 Summery of project Elephant View

4.8.2 Interventions approved in the current Plan (approved during 2016) – Not implemented:

Sl No	Description of Interventions	Amount in lakh Rs
1	Improvement of forest covers by regeneration cleaning & gap plantation with elephant fodder species over 50 ha. (2 patches) @ Rs. 26,098/- per ha. (Pedipokhari DLC land 25 ha. & Barhapasahi DLC land 25 ha.)	13.049
2	Soil and moisture conservation activities, Check-dams, gulley plugging etc.	13.055
3	Creation of Water Body 04 Nos.	74.18
4	Development of pastures over 10ha @ Rs. 35,000/- per ha	3.50
5	Grazing control – Sensitization of local communities	5.00
6	Fire line creation & annual maintenance over 77.5 KM.	128.26
7	Fire watchers & firefighting squad	75.00
8	Procurement of strategic fire fighting tools like water tanker, diesel pumps & pipes etc in addition to conventional fire fighting tools.	10.00
9	Training firefighting drills, fire mapping	2.00
10	Corpus Fund: Ex-gratia for elephant anti-depredation and compassionate grant.	20.00
11	Supply of Grain bins to the villagers for storage of food grains on lumpsum.	5.00
12	Deployment of one wildlife protection anti-depredation squad (10) persons with provision of hired vehicle, POL communication equipment, medical expenses etc. as per cost norm approved by PCCF (WL) & CWLW, Odisha @ 10,74,000 per annum. For 10 years x 10,74,000/- = 1,07,40,000/	107.40

Interventions to be implemented by Keonjhar Division

A) Habitat Improvement:

i) Planting of Fruit Bearing Species:

There are mango & jack fruit groves in private holdings in the Zone of Impact which attracts Elephants / Bears and other animals during fruiting time. Sometimes the animals say near to groves / orchards causing hard ship to villagers. It is proposed to plant mango, jack fruit in a perceptible scale which in a later stage can hold back animals within the Forest blocks. It is proposed to plant fruit bearing species mainly Mango, Jack Fruit and Jamu in 1 ha patch scattered in the forests with vegetative fencing as per approved cost norm, 10 ha @1600 plants per ha is to be planted. This plantation will be taken up in Pedipokhari RF, Naibuga Rf, Sidhamatha RF and Baitarani RF. The approved cost norm is Rs236305/- per ha (with 18 month seedling & 45 cm x45 cmx45cm pit size). Hence for 10 ha the proposed cost is Rs 23, 63,050/- or say **Rs 23,63Lakh.** (The cost norm is at **Annexure-VIII**)

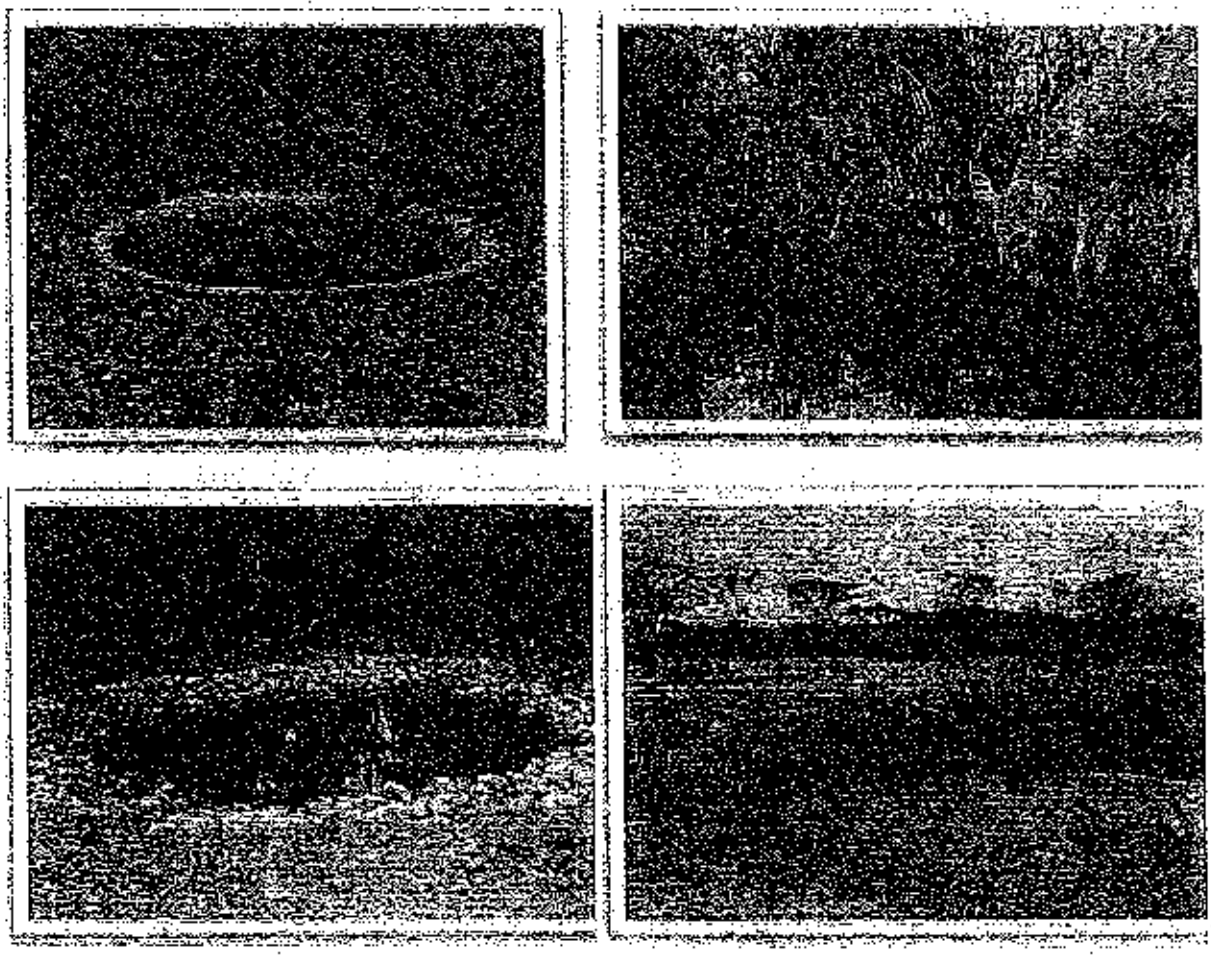
ii) Providing Clean Drinking water:

Flying dusts generated from movement of tippers / trucks and other vehicles usually settles in the vegetation. The water source is mostly contaminated by dusts which contain Iron and other heavy metals. To provide clean drinking water to animals it is proposed to impound nalla water by check dams. On the upper side of check dams there will be series of vegetative check dams to allow water to partly settle the sediments and partly filter down. During post monsoon, if required Lime may be added to impound water to coagulate the suspended particles in Water and have clean drinking water for animals. For one check dam, there will be 5 vegetative check dams at an interval of 30-40m to act as water filter. Hence for one check dam and 5 vegetative check dams a sum of Rs 10.50 lakh (10 lakh for Check dam (masonry) + 5@Rs 10000/-per vegetative check dams). Threesuch check dams proposed at a cost of **Rs 31.50 lakh**. These will be mostly inside forestsPedipokhari RF, Naibuga RF, Karo RF, Sidhamatha RF and Baitarani RF.

iii) Creation of Water holes / maintenance of old one.

Due to abstraction of water in all mines those are puncturing the Water table in course of mining activities has an adverse impact of surface water resource like ponds, dugwells etc. It is proposed to maintain / create water holes inside / outside the forest. Under this project as depicted below water holes will be developed with impervious base in scattered manner. It

is proposed to have 10 such water holes @ Rs 0.50 lakh per water hole. Hence a sum of Rs 5.00 lakh is provided in this Plan.



B) Protection &Surveillance:

iv) Deployment of "Gaja sathi" :

As the Zone of Impact is frequently affected due to elephant movement, it is proposed to deploy 5 numbers of "Gaja sathi" on daily wage basis and conversant with the elephant movement paths. A sum of Rs.12687/- per person per month is proposed in this Plan. Hence a sum of Rs 76.122 lakh is provided in this Plan (Rs12687*5*120).

v) Construction of watch Towers:

It is proposed to construct one watch Tower at / near Pedipokhari / Naibuda RF to have a constant watch over the movement of Elephant within the Zone of Impact. Threepeople from the Gaja Sathi deployed will watch and manage the Tower round the clock (24X7) hrs. A

sum of Rs20.00 lakh is proposed in this Plan for construction & logistic support like Solar light, Solar fencing around the tower. For 10 year contingency a sum of Rs2.00 lakh is also provided @Rs0.2 lakh per Annum. Hence a sum of Rs22.00 lakh is proposed in this Plan.

vi) Construction of a Staff barrack:

It is proposed to have a staff barrack at Pedipokhari to house the Staffs and Gaja sathi on duty. A sum of **Rs20.00 lakh** is provided in this plan.

vii) Integrated Fire management

a) Engagement of Fire watcher:

Fire is frequently encountered during dry months in this area. To fight with the forest fire it is proposed to provide five Fire watchers on daily wage basis over 5 months per year for ten years. Hence a sum of **Rs 23.625 lakh** (315/-*30*5P*50m) is proposed in this plan

b) Providing modern fire fighting equipments:

Petrol Run blowers are now effectively used to making fire line and blow away inflammable materials (Leaf & Twigs) in forest and help in combating forest fire.



It is proposed to provide 10 blowers @ Rs0.60 lakh per unit. Hence budgetary provisions for 6.00 lakh are made in this Plan.

C. Providing Logistic Support:

viii) Providing anti depredation Equipments:

It is proposed to provide anti depredation equipment like Search lights (@Rs.5000/- for 20 numbers), Binoculars @ Rs1.00 lakh 2 numbers, Mega Phone, Rescue equipments like ladder, cage, Tongs, Rope, Net) etc to Champua Range Range. The capital cost for equipments **Rs 5.00 lakh** and current/recurring expenses @ Rs1.50 lakh per year is provided. Hence a sum of **Rs 20.00 lakh** is provided for the plan period.

viii) Augmenting Flow of intelligence:

There is a tendency among people to spread live electric wire to hunt small animals like Wild boar, deer, barking Deer, Bear etc. It is not known whether any such animals are killed by this process. But it has come to notice that Mega animals are trapped in the live electric wire and killed. In order to have a check on such brutal practice, it is proposed to have an informant network in the Range / Zone. The informants will be rewarded. A sum of **Rs 5.00 lakh** is provided for such purpose i.e. rewarding the informants.

ix) Providing Trap Camera & Accessories:

The area is close to Karo Karampada Elephant corridor. It is about 19 km from the Mines Border. In order to watch the movement of elephants it is proposed to fix trap camera at various strategic locations / points. It will provide clue information on elephant movement / herd size etc. It is proposed to provide Infrared Trap camera 20 numbers @ Rs 25000/- per camera. Hence a provision of **Rs 5.00 lakh** is proposed in this plan.

D) Public Support:

x) Providing Machans:

Crop Depredation / House damage are frequently encountered by the local people. They are very much afraid to face such situation throughout the years. For protection of their crop they used to make temporary wooden machans on which they stay in the night and try to scar away the elephants by lights, making sound (Drum beating) and protect their crops. They not only protect their crop against Elephant but against other animals like Wild Boar. After discussion with the villagers to construct RCC machans of at least 4m height above the Ground size 12'x10' with floor at 4m and roof at 7m with ladder or stair case. It will be constructed in some affected villages as find places in the Project Elephant Division Report i.e. Handibhanga, Jamupani, Dubuna, Purunadihi , Basantpur, Naibuga, Kaijhor , Patakudar,

Nedigotha, Saradapank, Katupalior other places in the Division / range. A sum of **Rs12.00 lakh** is proposed @Rs6.00 lakh per machan with solar light etc.

xi) Providing Grain Bins (Metal)

It is observed that elephant raids houses those are of mud and thatch near to forests. The primary target of elephants is Rice, paddy, Grains, mahua flowers. Due to house raid, poor people suffer a lot and their earnings go vain. It is proposed to provide metal bins to store grains up to 100 kg / 50 kg depending upon family size. A sum of Rs5000/- per storage Bin of 100 kg and 3000/- per Bin of 50 kg Capacity is proposed. It is proposed to distribute 100 bin of 100 kg capacity and 75 number of bin of 50 kg capacity in affected villages and family having katcha house. A sum of **Rs 7.25** lakh is proposed in this plan.

xii) Corpus Fund:

It is proposed to have a corpus fund to be placed with DFO to meet eventuality arising from Man- Animal Conflict in the area. A sum of **Rs10.00 lakh** is proposed in this Plan.

E) Awareness Program:

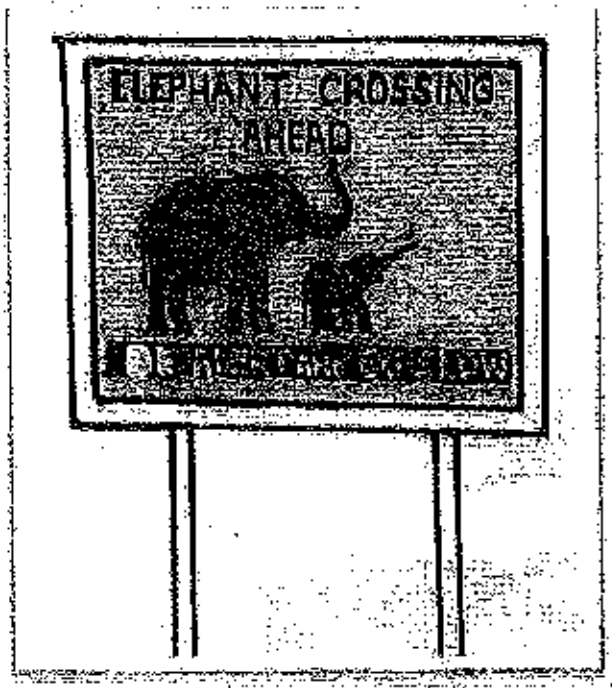
xiii) Awareness Camps:

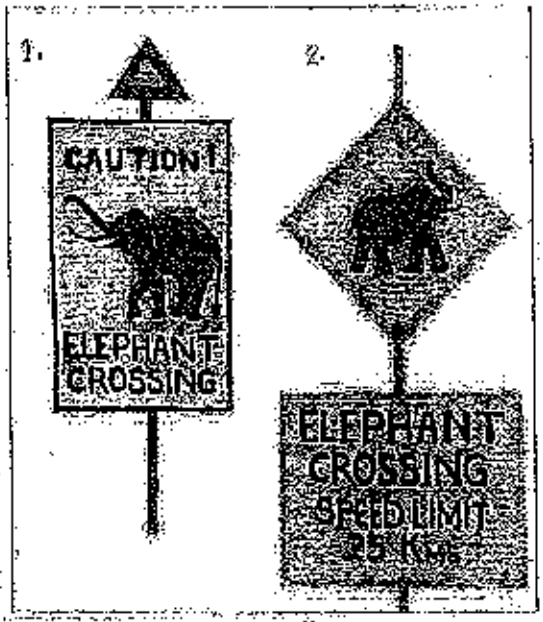
It is proposed to conduct awareness camp every year in schools / villages/ VSS/ and staffs involved in process of protection & surveillance. It is proposed to provide **Rs 6.00 lakh** @ Rs 60,000/- per camp.

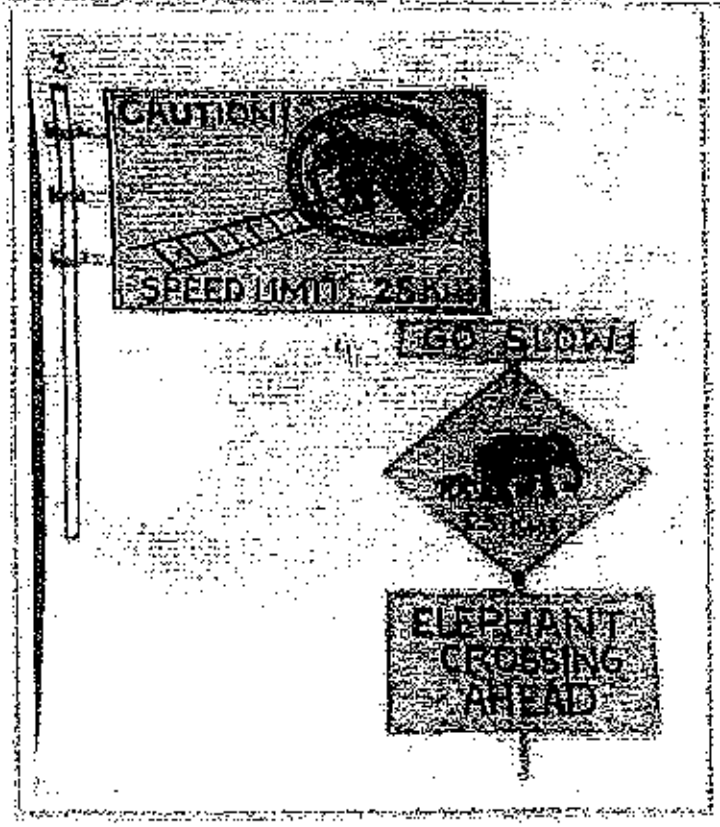
xiii) Fixing Signage related to Traffic

It is proposed to fix signage along the Transport Route from mines to Nayagarh Rail Station Siding with a clear message to Vehicle Drivers / Public about the Elephant probable passing path and control of Speed limit. A sum of **Rs10.00 lakh** is proposed in this Plan.

Some of model design is furnished below.


ELEPHANT CROSSING AHEAD


1.
2.
CAUTION!
ELEPHANT CROSSING
ELEPHANT CROSSING
SPEED LIMIT
25 KMS


CAUTION!
SPEED LIMIT 25 KMS
GO SLOW
ELEPHANT CROSSING AHEAD

xiv) **Providing Early Warning System:**

Early warning about presence of elephants / movement etc will help the farmers; Field Officials to control the situation ans could save life and properties. It is proposed to provide early warning by

a) Sending Bulk SMS to farmers, public through various cell phone servise providers & their network system.
b) Providing ANIDER System.
c) **"Hati Barta "** through All India Radia (AIR) on day to day basis like "Weather Forecast, Krushi Barta in Krushi Sansar, Palli Shree programs.

ANIDER System:

The **Animal Intrusion Detection and Repellent System** is also called **ANIDERS.** They are used to protect the crops from animal intrusion.

About ANIDERS

The ANIDERS use a combination of PIR and AIR sensors. PIR is Passive Infrared Sensors. AIR is Active Infrared Sensors. These sensors are used to detect the intrusion of the animals that are entering the farm or protected area. They then use an electric alarm to drive away the detected animal. The alarm uses a combination of sound and light. ANIDERS are solar powered. Therefore, it does not require batteries or power supply. It charges itself during the day. It is water resistant. Two AIR And PIR sensors put together cover a diameter of 30 metres.

Working of ANIDERS

As soon as the animal is detected, the ANIDER marks the location. It then turns ON the flash light and alarm in that particular region. Thus, it helps the farmers to pinpoint the exact location of the intruded animal. The device is efficient in driving away animals such as deer, wild boars, elephants, nilgai. They also drive away predators such as leopards and tiger.

How is ANIDER different from other systems?

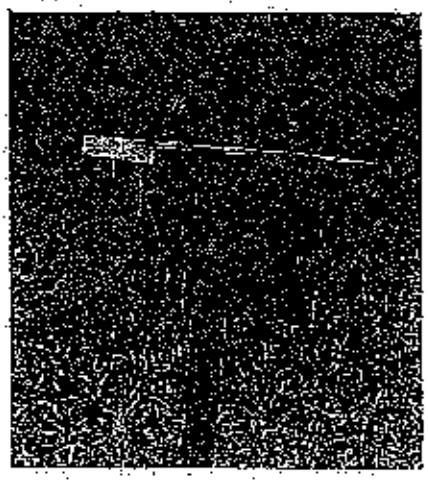
Usually, the animals get acquainted to the recurring lights and sounds in their region. And thus, the alarming systems work in the beginning. However, its effectiveness decreases in due course. In order to overcome this shortcoming, ANIDER uses permutations and combinations of sound and light patterns. The patterns change every time an intrusion is detected. This is why the success rate of ANIDERS is high as compared to the other systems.

ANIDERS in India

ANIDERS have been successfully installed in high conflict (Man-animal conflict) regions of India. They are installed in Kerala, Uttarakhand, Bihar, Uttar Pradesh and Tamil Nadu. According to the World-Wide Fund for Nature in India, the success rate of ANIDERS is 86%. Jharkhand began installing the machines in October 2021. Jharkhand installed the machine in the name of "Jumbo Hooters".

Its effectiveness is only 50m range. Hence a number of systems are to be fixed along the village boundary / periphery. Hence a sum of **Rs 20,00 lakh** is provided in this plan.





F. Monitoring & Evaluation:

Monitoring and evaluation of all activities / interventions implemented is required to be monitored periodically. There will be a monitoring committee headed by Regional Chief Conservator of Forests, Rourkela Circle. For Monitoring, Evaluation and revisiting of plan with modification if any may be taken up. A sum of **Rs 10,00 lakh** is proposed in this plan for Monitoring, Evaluation & Revisiting the Plan.

Interventions to be implemented by Bonai Division

A) Habitat Improvement:

i) Improvement of habitat by Bamboo Plantation:

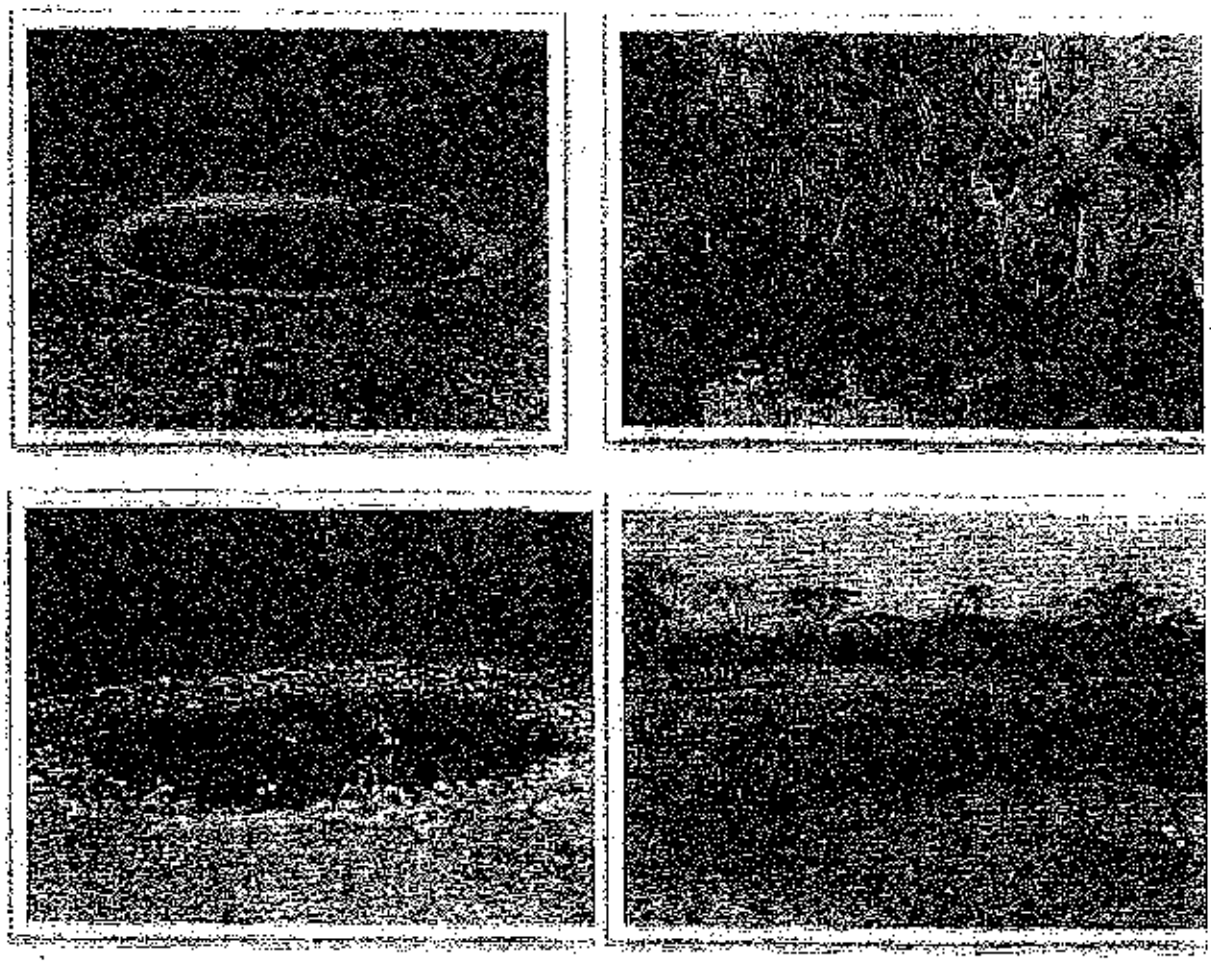
The Zone of Impact is a prominent tract of Elephant movement. Karo- Karanjpada Elephant corridor is very near. Eratic elephant movement is experienced. It is proposed to improve habitat by creating / augmenting Bamboo forests through Plantations. It is proposed to plant 10 ha with layering origin bamboo seedlings for better survival and early clump formation. A sum of **Rs 19, 69,753/- (say 19.698 lakh)** is required for 10 ha bamboo plantation with 400 plants per ha for 10 years maintenance. (Cost norm per ha is Rs1, 96,975.28 and at **Annexure-IX).**

ii) Providing Clean Drinking water:

Flying dusts generated from movement of tippers / trucks and other vehicles usually settles in the vegetation. The water source is mostly contaminated by dusts which contain iron and other heavy metals. To provide clean drinking water to animals it is proposed to impound nalla water by check dams/ WHS. On the upper side of check dams / WHS there will be series of vegetative check dams to allow water to partly settle the sediments and partly filter down. During post monsoon, if required Lime may be added to impound water to coagulate the suspended particles in Water and have clean drinking water for animals. For one check dam/ WHS , there will be 5 vegetative check dams at an interval of 30-40m to act as water filter. Hence for one check dam and 5 vegetative check dams a sum of Rs 10.50 lakh (10 lakh for Check dam (masonry) + 5@Rs 10000/-per vegetative check dams). Two such check dams proposed at a cost of **Rs 21.00 lakh**. The WHS will be in Toda RF and another in nearby Gramya Jungal of Jamudihi Section of Koira Range.

iii) Creation of Water holes / maintenance of old one.

Due to abstraction of water in all mines those are puncturing the Water table in course of mining activities has an adverse impact of surface water resource like ponds, dug wells etc. It is proposed to maintain / create water holes inside / outside the forest. Under this project as depicted below water holes will be developed with impervious base in scattered manner. It is proposed to have 5 such water holes @ Rs 0.50 lakh per water hole. Hence a sum of Rs **2.50 lakh** is provided in this Plan.



B) Protection &Surveillance;

iv) Deployment of "Gaja sathi" :

As the Zone of Impact is frequently affected due to elephant movement, it is proposed to deploy 4 numbers of "Gaja sathi" on daily wage basis and conversant with the elephant movement paths. A sum of Rs 12687/- per person per month is proposed in this Plan. Hence a sum of Rs 60.898 lakh is provided in this Plan (Rs12687*4*120).

V) Construction of a Staff barrack:

It is proposed to have a staff barrack at Koria Section Head quater to house the Staffs and Gaja sathi on duty. A sum of Rs20.00 lakh is provided in this plan.

VI) **Providing Bee Fencing cum Livelihood support:**

Elephant menace is very acute in some villages. On interaction with the villagers / Bee Keepers it is observed that elephant kept away from villages after massive bee unit installed in the village. This was very effective. Due to lack in maintenance and supervision, bee units gradually became defunct.

It is proposed to provide 200 units in two villages @100 box unit per village) mostly affected by elephant depredation –House damage. The units will be installed on the periphery of the village so as to be a deterrent to elephant.

A facilitator having good knowledge on bee keeping or a local youth after short training from "Krushi Vigyan Kendra (KVK)" will be engaged on part time basis for up keeping of bee units, extraction of honey till the villagers became accustomed with the process. This will be taken up on pilot project basis, On its success, bee fencing concept may be extended to other critically affected villages.In this process, villagers will earn additional income and improve their economic condition.The project cost is estimated for one village to be **Rs 7.00lakh** as detailed below.

Table 46 Components of Bee keeping & Cost projected

Components of Bee Keeping & Cost projected

Sl No	Description	Unit	Rate	Quantum	Amount in lakh Rs	Remark
1	Orientation meeting of villagers	No	15000/-	1	0.15	The KVK staffs / technicians will be consulted in implementing the project.
2	Honey Bee Boxes with Colonies (Apis Indica Cerena)	No	4500/-	100	4.50	
3	Honey Extractor Stainless Steel	No	5000/-	2	0.10	
4	Bee Veil, Smokers, Queen Excluder Sheets, Drone Traps, Swarm Nets and other accessories	LS		As required	0.50	
5	Providing management tips to beneficiary	No	15000/-	2	0.30	
6	Engaging Bee keeping Technician (Part time basis)	Month	2500/-	36	0.90	
7	Unforeseen				0.55	
	Total				7.00	

For two villages a sum of **Rs 14.00** lakh is proposed in this plan.

C. Providing Logistic Support:

Vii) Providing anti depredation Equipments:

It is proposed to provide anti depredation equipment like Search lights (@Rs 5000/- for 20 numbers), Binoculars @ Rs1.00 lakh 2 numbers, Mega Phone, Rescue equipments like ladder, cage, Tongs, Rope, Net.) etc to Kolda Range Range. The capital cost for equipments Rs 5.00 lakh and current / recurring expenses @ Rs1.00 lakh per year is provided. Hence a sum of **Rs 15.00 lakh** is provided for the plan period.

viii) Augmenting Flow of Intelligence:

There is a tendency among people to spread live electric wire to hunt small animals like Wild boar, deer, barking Deer, Bear etc. It is not known whether any such animals are killed by this process. But it has come to notice that Mega animals are trapped in the live electric wire and killed. In order to have a check on such brutal practice, it is proposed to have an informant network in the Range / Zone. The informants will be rewarded. A sum of **Rs 5.00 lakh** is provided for such purpose i.e. rewarding the informants.

ix) Providing Trap Camera & Accessories:

The area is close to Karo-Karampada Elephant corridor. It is about 19 km from the project measured from Mines boundary. In order to watch the movement of elephants it is proposed to fix trap camera at various strategic locations/points. It will provide clue information on elephant movement / herd size etc. It is proposed to provide Infrared Trap camera 10 numbers @ Rs 25000/- per camera. Hence a provision of **Rs 2.50 lakh** is proposed in this plan.

D) Public Support:

x) Providing Machans:

Crop Depredation / House damage are frequently encountered by the local people. They are very much afraid to face such situation throughout the years. For protection of their crop they used to make temporary wooden machans on which they stay in the night and try to scar away the elephants by lights, making sound (Drum beating) and protect their crops. They not only protect their crop against Elephant but against other animals like Wild Boar. After discussion with the villagers to construct RCC machans of at least 4m height above the Ground size 12'x10' with floor at 4m and roof at 7m with ladder or stair case. It will be constructed in two villages mostly affected places in the Division / Range. A sum of **Rs12.00 lakh** is proposed @Rs6.00 lakh per machan with solar light etc.

xi) Providing Grain Bins (Metal)

It is observed that elephant raids houses those are of mud and thatch near to forests. The primary target of elephants is Rice, paddy, Grains, mahua flowers. Due to house raid, poor people suffer a lot and their earnings go vain. It is proposed to provide metal bins to store grains up to 100 kg / 50 kg depending upon family size. A sum of Rs5000/- per storage Bin of 50 kg and 3000/- per Bin of 50 kg Capacity is proposed. It is proposed to distribute 50 bin of 100 kg capacity and 50 number of bin of 50 kg capacity in affected villages and family having katcha house. A sum of **Rs 4.00 lakh** is proposed in this plan.

xii) Corpus Fund:

It is proposed to have a corpus fund to be placed with DFO to meet eventuality arising from Man- Animal Conflict in the area, A sum of **Rs5.00 lakh** is proposed in this Plan.

xiii) Awareness Program:

It is proposed to conduct awareness camp every year in schools / villages/ VSS/ and staffs involved in process of protection & surveillance. It is proposed to provide **Rs 6.00 lakh** @ Rs 60, 000/- per camp.

CHAPTER-V

FINANCIAL IMPLICATIONS & MONITORING



CHAPTER-V

Financial Implications & Monitoring

5.0 Summary of MitigationMeasures:

Considering the impact of the project and overall management problem faced by staffs relating to wildlife management, the interventions suggested are

- Habitat improvement by planting Fruit bearing species and Bamboo
- Construction of Check dams both vegetative and masonary to arrest silt and save waterbody from pollution.
- Improve Protection of natural vegetation & fauna by involving people and provide adequate surveillance.
- Facilitate / augment crop protection by providing Infrastructure facilities to villages.
- Save HWC affected persons by providing immediate relief and Grain Storage been for safe grain storage against elephant raid to houses.
- To provide accommodation to frontline staffs at the grass root level of wildlife management.
- Adopting Inovatice measures to protect villages from elephant intrution – Bee fencing.
- Early warning System through mass communication likes "All India Radio, Bulk SMS through Cellular Service provider. Fixing of ANIDER system on probable sites".
- Fire Protection measures & public awareness.
- Fixing of signage along the transport Route from Mine to Nayagarh Railway Station / Siding.

5.1 Abstract of Financial Implications (Keonjhar Division):

Abstract of Interventions& Financial Implication (Keonjhar Division):						
Sl No	Interventions	Unit	Rate	Quantum	Amount In lakh Rs	Remark
Habitat Improvement:						
1	Planting of Fruit Bearing Species	ha	236305/-	10	23.63	
2	Providing Clean Drinking water	No	10.50L	3	31.50	Pedipokhari RF., Naibiga RF, Sidhamatha RF / Baitarani RF.
3	Creation of Water holes / maintenance of old one.	No	0.50L	10	5.00	Pedipokhari RF, Naibuga RF, Sidhamatha RF Baitarani RF.
Protection & Surveillance:						
4	Deployment of "Gaja sathi"	No	12687/- PM	5 P for 120 month	76.122	Local Persons only
5 a	Construction of watch Towers (Construction)	No	20.0L	1	20.00	Pedipokhari RF
b	Recurring expenditure	Annual	0.20L	10	2.00	Maintenance of solar light and other supporting equipments.
6	Construction of a Staff barrack:	No	20.00L	1	20.00	Pedipokhari
7	Integrated Fire management					
a	Fire Watchers	Person	315/- PD	5*5*315 *30*10	23.625	5 person for 5 months for 10 years
b	Providing modern fire fighting equipments:	No	0.60L	10	6.00	
8a	Providing anti depredation Equipments:	LS			5.00	Search lights , Binoculars, Mega Phone, Rescue equipments like ladder, cage, Tongs, Rope, Net
b	Recurring Expenses	Annum	1.50 L	10	15.00	
9	Augmenting flow of intelligence:	LS			5.00	
10	Providing Trap Camera & Accessories:	No	0.25 L	20	5.00	
Public Support:						
11	Providing machans:	No	6.00	2	12.00	In villages as noted in the text

12	Providing Grain Bins (Metal)					Living in katchha House and Forest fringe
a	100 kg Capacity	No	0.05 L	100	5.00	
b	50kg Capacity	No	0.03 L	75	2.25	
13	Corpus Fund:	LS			10.00	
14	Awareness Program:					
a.	Conducting Awareness Camp	No	0.6L	10	6.00	
b.	Fixing of signage	LS			10.00	All along the transport Route from Mine to Nayagarh Station siding and at other vulnerable sites of animal crossing.
c.	ANIDER , All India Radio Hati Sathi Advertisement & Bulk SMS System System	LS			20.00	Bulk SMS to farmers / public, Providing ANIDER System & "Hati Barta " through All India Radia (AIR)
15	Monitoring & Evaluation	LS			10.00	
	Sub- Total				313.127	
	Add 20% for cost escalation				62.625	
	Total (Keonjhar Division)				375.752	

Table 47 Abstract of Intervention (Keonjhar Division)

(Rupees Three Crores Seventy Five Lakh Seventy Five Thousand & Two Hundred Only)

Divisional Forest Officer
Keonjhar Division

Suman Krishna Sit
General Manager(Geo)
Power of Attorney Holder
Odisha Mining Corporation Ltd.
Bhubaneswar

5.2 Physical & Financial Flow Chart:

5.2.1 Physical Flow Chart:

Physical Flow Chart(Keonjhar Division)											
Sl No	Intervention	Target	Year								
			1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1	Planting of Fruit Bearing Species	10ha	10	maint	maint	maint	maint	maint	maint	maint	maint	maint
2	Providing Clean Drinking water	3no	3									
3	Creation of Water holes /maintenance of old one.	10no	5	5								
4	Deployment of "Gaja sathi"	5p for 120month	60	60	60	60	60	60	60	60	60	60
5 a	Construction of watch Towers (Construction)	1no	1									
b	Recurring expenditure	10yr	1	1	1	1	1	1	1	1	1	1
6	Construction of a Staff barrack:	1no	1									
7	Integrated Fire management											
a	Fire Watchers	5*5*30*10	5*5*30	5*5*30	5*5*30	5*5*30	5*5*30	5*5*30	5*5*30	5*5*30	5*5*30	5*5*30
b	Providing modern fire fighting equipments:	10no	5	5								
8a	Providing anti depredation Equipments:	LS	LS									
b	Recurring Expenses.	10yr	1	1	1	1	1	1	1	1	1	1
9	Augmenting Flow of intelligence:	LS	LS									
10	Providing Trap Camera & Accessories:	20no	10	10								
11	Providing machans:	2no	2									
12	Providing Grain Bins (Metal)											
A	100 kg Capacity	100no	50	50								
b	50kg Capacity	75no	50	25								
13	Corpus Fund:	LS	LS									
14	Awareness Program:											
a	Awareness camp.	10Camp	1	1	1	1	1	1	1	1	1	1
b	Fixing of signage	10.00 L	10.00									
c	ANIDER, All India Radio Hati Sathi Advertisement & Bulk SMS System System.	20.00 L	20.00									
15	Monitoring & Evaluation	LS	10.00									

Table 48 Physical flow chart

5.2.2 Financial Flow Chart:

Financial Flow Chart(Keonjhar Division)											
Sl No	Intervention	Target	Year								
			1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1	Planting of Fruit Bearing Species	23.630	14.35	2.96	2.00	0.59	0.59	0.59	0.59	0.59	0.59	0.59
2	Providing Clean Drinking water	31.50	31.50									
3	Creation of Water holes /maintenance of old one.	5.00	2.50	2.50								
4	Deployment of "Gaja sathi"	76.122	7.6122	7.6122	7.6122	7.6122	7.6122	7.6122	7.6122	7.6122	7.6122	7.6122
5 a	Construction of watch Towers (Construction)	20.00	20.00									
b	Recurring expenditure	2.00	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
6	Construction of a Staff barrack:	20.00	20.00									
7	Integrated Fire management											
a	Fire Watchers	23.625	2.3625	2.3625	2.3625	2.3625	2.3625	2.3625	2.3625	2.3625	2.3625	2.3625
b	Providing modern fire fighting equipments:	6.00	3.00	3.00								
8a	Providing anti depredation Equipments:	5.00	5.00									
b	Recurring Expenses	15.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
9	Augmenting Flow of Intelligence:	5.00	5.00									
10	Providing Trap Camera & Accessories:	5.00	2.50	2.50								
11	Providing Machans:	12.00	12.00									
12	Providing Grain Bins (Metal)											
A	100 kg Capacity	5.00	2.50	2.50								
b	50kg Capacity	2.25	1.50	0.75								
13	Corpus Fund:	10.00	10.00									
14	Awareness Program:											
a	Awareness camp	6.00	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
b	Fixing of signage	10.0	10.0									
c	ANIDER , All India Radio Hati Sathi Advertisement & Bulk SMS System System	20.0	20.0									
15	Monitoring & Evaluation	10.00	10.00									
	Sub-total	313.127	182.125	26.485	14.275	12.865	12.865	12.865	12.865	12.865	12.865	12.865
	Add 20% Esc	62.625	36.425	5.297	2.855	2.573	2.573	2.573	2.573	2.573	2.573	2.573
	G.total	375.752	218.550	31.782	17.130	15.438	15.438	15.438	15.438	15.438	15.438	15.438

Table 49 Financial flow chart

5.3 Abstract of Interventions: (Bonai Division)

Abstract of Interventions (Bonai Division)						
Sl No	Interventions	Unit	Rate	Quantum	Amount in lakh Rs.	Remark
Habitat Improvement:						
1	Planting of Bamboo	Ha	190975/-	10	19.098	
2	Providing Clean Drinking water	No	10.50L	2	21.00	Joda RF and Gramya Jungal for Jamudihi section
3	Creation of Water holes / maintenance of old holes	No	0.50L	5	2.50	Joda RF
Protection & Surveillance:						
4	Deployment Of 'Gaja sathi'	No	12687/-PM	4 P for 120 month	60.898	Local Persons only
5	Construction of a Staff barrack	No	20.00L	1	20.00	Koira Section
6	Providing Bee Fencing cum Livelihood support	Unit	7.00	2	14.00	Units 100 Box per village for 2 village
7a	Providing anti depredation Equipments	LS			5.00	Search lights, Binoculars, Mega Phone, Rescue equipments like ladder, cage, Tongs, Rope, Net
b	Recurring Expenses	Annum	1.00 L	10	10.00	
8	Augmenting Flow of Intelligence	LS			5.00	
9	Providing Trap Camera & Accessories	No	0.25 L	10.0	2.50	
Public Support:						
10	Providing madhans	No	6.00	2	12.00	In villages as noted in the text
11	Providing Grain Bins (Metal)					Living in katchha House and Forest fringe
a	100 kg Capacity	No	0.05 L	50	2.50	
b	50kg Capacity	No	0.03 L	50	1.50	
12	Corpus Fund	LS			5.00	
13	Awareness Program	No	0.60	10	6.00	
	S-Total				187.596	
	Add 20% for cost escalation				37.519	
	Total				225.115	

Table 50 Abstract of Intervention (Bonai Division)

(Rupees Two Crores Twnety Five Lakh Eleven Thousand And Five Hundred Only)

Sunil Kumar Krishna
General Manager(Geo)
Power of Attorney Holder
Odisha Mining Corporation Ltd.
Bhubaneswar

Divisional Forest Officer
Bonai Division

5.4 Physical & Financial Flow Chart:

5.4.1 Physical Flow Chart:

Physical Flow Chart(Bonai Division)												
Sl No	Intervention	Target	Year									
			1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1	Planting of Bamboo	10ha	10	maint.	maint	maint	maint	maint	maint	maint	maint	maint
2	Providing Clean Drinking water	2no	2									
3	Creation of Water holes /maintenance of old one.	5no	5									
4	Deployment of "Gaja sathi"	4p for 120month	48	48	48	48	48	48	48	48	48	48
5	Construction of a Staff barrack:	1no	1									
6	Providing Bee Fencing cum livelihood support	2unit	2									
7a	Providing anti depredation Equipments:	LS	1									
8	Recurring Expenses	10yr	1	1	1	1	1	1	1	1	1	1
8	Augmenting Flow of intelligence:	LS										
9	Providing Trap Camera & Accessories:	10no	5	5								
10	Providing machans:	2no	2									
11	Providing Grain Bins (Metal)											
A	100 kg Capacity	50no	25	25								
B	50kg Capacity	50no	25	25								
12	Corpus Fund:	LS	LS									
13	Awareness Program:	10No	1	1	1	1	1	1	1	1	1	1

Table 51 Physical flow chart (Bonai Division):

5.4.2 Financial Flow Chart

Financial Flow Chart(Bonai Division)											
Sl No	Intervention	Target	Year									
			1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
1	Planting of Bamboo	19.698	5.097	2.106	1.562	1.562	1.562	1.562	1.562	1.562	1.562	1.562
2	Providing Clean Drinking water	21.00	21.00									
3	Creation of Water holes /maintenance of old one.	2.50	2.50									
4	Deployment of "Gaja sathi"	60.898	6.0898	6.0898	6.0898	6.0898	6.0898	6.0898	6.0898	6.0898	6.0898	6.0898
5	Construction of a Staff barrack:	20.00	20.00									
6	Providing Bee Fencing cum Livelihood support	14.00	14.00									
7a	Providing anti depredation Equipments:	5.00	5.00									
8	Recurring Expenses	10.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
8	Augmenting Flow of intelligence:	5.00	5.00									
9	Providing Trap Camera & Accessories:	2.50	1.25	1.25								
10	Providing machans:	12.00	12.00									
11	Providing Grain Bins (Metal)											
A	100 kg Capacity	2.50	1.25	1.25								
B	50kg Capacity	1.50	0.75	0.75								
12	Corpus Fund:	5.00	5.00									
13	Awareness Program:	6.00	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
	S.total	187.596	100.537	13.046	9.252	9.252	9.252	9.252	9.252	9.252	9.252	9.252
	Add 20% Esc.	37.519	20.107	2.608	1.850	1.850	1.850	1.850	1.850	1.850	1.850	1.850
	G.total	225.115	120.644	15.654	11.102	11.102	11.102	11.102	11.102	11.102	11.102	11.102

Table:52 Financial flow chart (Bonai Division)

5.5 Plan Period:

This plan is valid for 10 years i.e. from 2021-22 to 2030-31. Another plan will be prepared one year prior to expiry of this plan, if such necessity is felt by the Chief Wildlife Warden.

5.6 Monitoring & Evaluation:

The project implementation will be monitored by a committee headed by Regional Chief Conservator of Forests, Rourkela Circle. The members of the Committee are the DFO, Keonjhar/ Bonai, the Asst. Conservator of Forests;Keonjhar Division will act as member convenor.

5.7 Interim Review & Revision of the Plan:

The Plan may be reviewed periodically and effectiveness of plan prescription may be evaluated, if required it may be modified after 5 year of implementation.

5.8 Projected Plan Cost:

The cumulative Plan Cost is projected at Rs600.867 lakh as detailed below.

Sl No	Executive Agency	Amount in lakh Rs	
1	Forest Department		
a	Keonjhar Division	375.752	600.867
b	Bonai Division	225.115	

(Rupees Six Crore Eighty Six Thousand Seven Hundred Only)

5.9 Executing Agency:

Above interventions described will be implemented by Forest Division (Keonjhar & Bonai Division)

5.10 Conclusion:

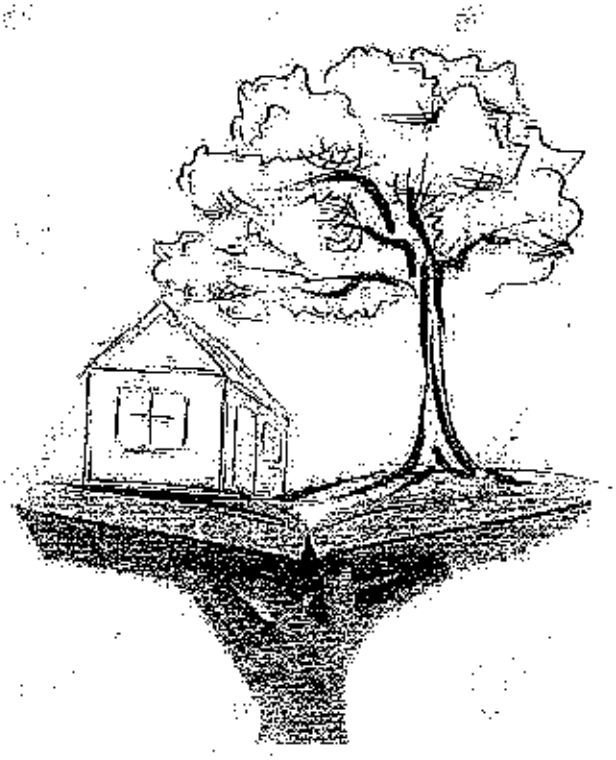
This Wildlife Conservation plan has been prepared in compliance to conditions Stipulated in the Stage-I order for Diversion of 1243.27ha, TOR granted for Environment clearance. The OMC has prepared a SSWLCP in response of Environmental clearance directives by the EAC in their 14th meeting held on 25.04.2011 , Govt of India, New Delhi (Copy enclosed as Annexure- XI series). The plan though approved in 2016 no work has been implemented by U/A. No work has also been executed by Forest Department as the User Agency has not deposited the demanded amount. On event of its approval it will supersede the previous approved plan.

Approved

The Principal C.C.F (Wildlife) &
CWLW, Odisha, Bhubaneswar

CHAPTER-VI

ANNEXURE



CHAPTER-VI

Annexure

-In the text many documents has been referred to substantiate the data & figures. These are appended here for reference.

To pin point the location maps / plates have been prepared and given as plates. The lists of such plates are given here for reference.

A. Documents

Sl No	Details of annexure	Annexure No	No of Pages
1	Letter no 10F (Cons) 77/19-17138/ F&E Dated 06.09.2019	I	10
2	In Principle Approval Oder" vide File. No 8-26/2019 FC dated 6th May, 2021	II	5
3	The comment of the Project Elephant Division of the MoEF& CC	III	5
4	TOR (Terms of Reference) vide F. No 23-241/2018-IA-III (V) dated 27th May, 2019	IV	30
5	Demographic profile	V	2
6	SIR report	VI	3
7	Gajah Report – 2011 as published by MoEF&CC, New Delhi	VII	8
8	Flora, Fauna of Core & Buffer Zone as authenticated by DFO, Keonjhar	VIII	13
8	Approved cost norm of Block Plantation	IX	4
9	Approved cost norm of Bamboo plantation	X	7
10	EAC Proceeding dated 25.04.2011	XI	2

B. Maps / Plates.

Sl. No.	Maps	Plate no.
1	Location Map, Zone of Impact, Additional Zone of Impact and wildlife movement path (1:50000 Scale)	Plate-I
2	Location of Other Mines around the project	Plate-II
3	Map showing the distance of NP/ WLS/ PA from the Project	Plate-III

Annexure-I

GOVERNMENT OF ODISHA
FOREST & ENVIRONMENT DEPARTMENT
*****

No.10F (Cons) 77/19-17138 /F&E, Bhubaneswar, dated 06-09-19

From

Sri Debidutta Biswal, IFS,
Special Secretary to Government

GOVT OF INDIA
MoEF & CC, Eastern Reg
Bhubaneswar-751023
11 SEP 2019
RECEIVED

To

The Assistant Inspector General of Forests,
Govt. of India, Ministry of Environment & Forest and Climate Change
(F.C. Division), Indira Paryavaran Bhawan,
Jor Bagh, Aliganj Road, New Delhi -110003

Sub: Proposal for diversion of 1243.27 ha of forest land involved in the mining lease area over 1322.019 ha of Dubna-Sakradihi Iron and Manganese Mines of M/s OMC Ltd. in Keonjhar District, Odisha. **(Proposal No. FP/OR/MIN/30349/2017)**

Sir,

I am directed to forward herewith a proposal for diversion of 1243.27 ha of forest land involved in the mining lease area over 1322.019 ha of Dubna-Sakradihi Iron and Manganese Mines of M/s OMC Ltd. in Keonjhar District, Odisha as received from the Principal Chief Conservator of Forests, Odisha for consideration of Government of India, MoEF&CC under Section 2 of Forest Conservation Act, 1980.

1. <u>Brief description</u>

Odisha Mining Corporation Ltd, registered under Company Act, 1956, a Public Sector undertaking of Government of Odisha, which is engaged in the field of mining to supply exploited minerals like Iron and Manganese to the mineral based industries of the state. Among several mining lease, the OMC Ltd. have the Dubna-Sakradihi Iron and Manganese Mines in Keonjhar District.

Dubna manganese mining lease was executed on 08.09.1971 for a period of 20 years over 1135.419 ha and Sakradihi iron ore mining lease executed on 28.12.1959 for a period of 30 years over 564.55 ha in favour of M/s OMC Ltd, are overlapping each other. The State Government of Odisha, Steel & Mines Department has amalgamated the two mining leases into one compact block over 1332.019 ha (Dubna ML for manganese ore over an area of 1135.419 ha in village Dubna, Naibuga, Pedi Pokhari etc and Sakradih ML for iron ore over reduced area over 196.60ha in village Naibuga, Pedipokhari etc) vide Steel & Mines Deptt. Letter No.3607/SM dated 18.02.2006 (Page No.224-225/DP Vol.I) and the period of renewal of both the mining lease will be counted w.e.f. from 28.12.1989. The amalgamated ML area over 1332.019 ha comprises 773.336 ha of Reserved Forest (Pedi Pokhari RF=725.158 ha + Naibuga RF=48.178 ha), 402.743 ha of DLC forest, 28.992 ha of Revenue forest, 38.199 ha of Sabik forest, 30.161 ha of Non-forest Government land and 58.588 ha of tenanted land as certified by the Tahasildar, Barbil vide letter No.5121 dated 26.11.2016 (Page No.233/DP, Vol.I) and Tahasildar, Jhumpura vide letter No.2451 dated 05.11.2016 (Page No.248/DP Vol.I). The Director of Mines-cum-Special Secretary to Government, Steel & Mines Department intimated vide letter No.6563/DM dated 19.09.2018 (Page No.232A/DP Vol.I) that the

extension validity of the mining lease upto 26.12.2029 pertaining to Duban-Sakradihi mining lease over 1332.019 ha is under active consideration of the State Government under the provision of Section-8A (8) of MMDR Act, 1957 and Rule-3 of Mineral (Mining by Government Company) Rules, 2015).

The present mining lease area is located within the latitudes N 21° 51' 52.019" to N 21° 48' 37.356" and longitudes E 85° 22' 17.839" to E 85° 24' 26.478" in Survey of India toposheet No.F45N5 (Plate-I). The instant proposal has been submitted by the OMC Ltd. over 1243.27 ha (773.336 ha of RF, 28.992 ha of Revenue forest, 402.743 ha of DLC forest and 38.199 ha of Non-forest land recorded as forest as on 25.10.1980) of forest land including safety zone area over 21.3207 ha of forest land. It contains an estimated reserve of 20.022 million ton of Iron Ore and 0.837 million ton of manganese ore as per approved mining plan by IBM vide letter No.MPM/FM/18-ORI/BHU/2017-18 dated 15.11.2017. The project will generate direct employment for 200 persons and indirect employment for 1000 persons.

The DFO, Keonjhar Forest Division has reported in Part-II (Page No.16/DP Vol.I) that the proposed project area does not form part of any National Park, Wildlife Sanctuary, Biosphere Reserve and Tiger Reserve etc. No archaeological monuments/ heritage site/ defence establishment or any other important monument is located in the area.

2. Justification for locating in forest area:

The mining of a particular ore deposit is always site specific irrespective of the land classification. This site falls under the physiographic Joda-Barbil Plateau extending from Chamakpur to the state boundary of Singhbhum of Jharkhand in north and Bonai in the West. This region is characterised by massive deposit of iron and manganese ore. Dubna-Sakradihi amalgamated mining lease of OMC Ltd covers an area of 1332.019 ha, out of which 1243.27 ha is in forest area. The iron and manganese ore is exposed and confined to forest areas. The requirement of forest land as highlighted in the proposal is thus justified without which an economically, scientific and judicious mining cannot be adopted. The continuation and expansion of the mining operations as proposed is going to enhance the revenue earnings, both for the State and the Central Government. This project will also be a major source of earnings for the local people.

3. Map:

The User Agency has furnished the following maps alongwith the diversion proposal for reference:-

Sl. No	Particulars	Scale	Plate No.
01	Location plan in Sol Toposheet No.F45N5 showing the ML boundary area and boundary of the adjoining lease	1:5000	Plate No- I
02	Dubna lease map (1135.419 ha) showing the details of the ML Boundary	1:3,960	Plate No – II A
03	Sakradihi lease map (564.55 ha) showing the details of ML Boundary	1:3,960	Plate No- II B
04	Amalgamated lease map of Duban-Sakradihi over an area of 1332.019 ha showing the details of forest & non-forest plots as per the Hal Settlement RoR	1:4000	Plate No- III
05	Existing land use plan over 1332.019 ha	1:4000	Plate No-IV
06	Proposed Land use plan over 1332.019 ha	1:4000	Plate No-V
07	Geological map of the ML area	1:5000	Plate No-VI

08	Safety Zone Plan	1:4000	Plate No-VII
09	Plan showing calendar of mining with Phased Reclamation & Afforestation	1:4000	Plate No-VIII
10	Copy of DGPS map of Dubna-Sakradihi ML area	-	Plate No-IX
11	Copy of DGPS map of the forest area pertaining to Dubna-Sakradihi ML area	-	Plate No-X
12	Copy of the Cadastral maps of village Pokhariguda, Uparjhari, Kumjore and Silet non-forest Government land for CA	-	Plante No-XI

4. **Forest Land:**

The forest land involved in the project is 1243.27 ha in Barbil and Jhumpura Tahasil of Keonjhar District. The details are given below.

1. Reserved Forests - 773.336 ha
2. Revenue Forests - 28.992 ha
3. DLC Forests - 402.743 ha
4. Non-forest land recorded as Forest as on 25.10.1980 - 38.199 ha

Total- 1243.27 ha

Purpose wise breakup of the 1243.27ha of Forest Land.

Table-1

Proposed Land use of 1243.27 ha forest land along with Non-forest land involved in the project.

Sl No.	Pattern of utilization	Forest Area (ha)					Non-forest area		Total	G.Total
		RF	Revenue Forest	DLC Forest	Non-forest area recorded as forest as on 25.10.1980.	Total	Govt.	Pvt.		
1.	Mining	718.1819	21.1457	272.9921	12.8616	1025.1813	19.2689	1.0078	20.2767	1045.458
2.	Overburden dump	25.9233	0.7065	46.5932	5.2735	78.4965	0	0.0998	0.0998	78.5963
3.	Mineral Processing	-	-	5	-	5	-	-	-	5
4.	Mineral Storage	19.4473	3.5135	71.3127	13.0181	107.2916	0.7358	0	0.7358	108.0274
5.	Infrastructure	-	0.0961	2.3144	0.7087	3.1192	-	0.2113	0.2113	3.3305
6.	Green Belt		0.6976	0	0.6502	1.3478	-	-	-	1.3478
7.	Road	0.4783	0	0.0594	0.9752	1.5129	1.0784	1.0137	2.0921	3.605
8.	Safety zone	9.3052	2.8326	4.4712	4.7117	21.3207	3.4993	8.9027	12.402	33.7227
9.	Land used for Public purpose	-	-	-	-	-	5.5786	47.3527	52.9313	52.9313
	Total	773.336	28.992	402.743	38.199	1243.27	30.161	58.588	88.749	1332.019

Table-2

Existing land use in respect of 258.599 ha of Pre-1980 broken up forest land along with non-forest land involved in the project.

Sl No.	Pattern of utilization	RF	Revenue Forest	Sabik Kisam forest	DLC forest	Total	Non-forest area	Total area in ha
1.	Mining	147.842	-	2.570	43.430	193.842	3.130	196.972
2.	One taking of dressing	9.255	-	-	1.190	10.445	-	10.445
3.	Dump	35.034	0.046	1.420	2.960	39.460	-	39.460

4.	Mines road	8.756	0.850	1.00	2.980	13.586	0.090	13.676
5.	Magazine	0.101	-	-	-	0.101	-	0.101
6.	Work shop	-	0.445	0.380	0.34	1.165	0.10	1.265
	Total	200.988	1.341	5.37	50.9	258.599	3.32	261.819

5. **Flora & Fauna:**

The DFO, Keonjhar Forest Division has reported in Part-II that, the canopy density of the forest growth in the applied forest area varies from 0.3 to 0.7 and the average canopy density is taken as 0.5. The Eco-Value Class of the applied forest has been taken as Class III.

The DFO Keonjhar Forest Division in his site inspection report has reported that, tree species present in the area are Sal (*Shorea robusta*), Piasal (*Pterocarpus marsupium*), Asana (*Terminalia alta*), Kusum (*Schleichera oleosa*), Dhaura (*Anogeisus latifolia*), Kurum (*Adina cordifolia*), Bahada (*Terminalia belerica*), Jamnu (*Syzygium cumini*), Semul (*Bombax ceiba*), Anla (*Emblica officinalis*), Sunari (*Cassia fistula*) etc.

The DFO, Keonjhar Forest Division has reported that, movement of wild elephant is often witnessed in the applied area and adjoining forest. The applied site falls under elephant habitat zone-2 as mentioned by ORSAC, Bhubaneswar. No rare or endangered species are available in the applied area for diversion. As per Site Inspection Report of RCCF, Rourkela Circle (at Page 26/DP Vol.I) wild animals like Barking deer, Wild pig, sloth Bear, Indian Hare and peacock etc. in addition to the migratory elephants are seen in the area.

6. **Tree Enumeration:**

The tree enumeration in forest land has been made on 99 no. of sample plots in virgin forest and 75 nos. of sample plots in broken up area consisting of 2 ha area of each plot. As per sample enumeration and extrapolation, there are 157761 no. of sound trees, 86571 no. of unsound trees in the virgin forest land over 984.671 ha and 22481 no. sound trees, 20569 no. of unsound trees in the broken-up forest land over 258.599 ha available on the proposed land. The abstract of tree enumeration list enclosed at (Page No.877 A to 886/DP Vol.I).

7. **Compensatory Afforestation:**

The DFO Keonjhar Forest Division has reported that, the requirement of non-forest CA land for this particular project is as follows:

i. Total mining lease area 1332.019 ha

ii. Total forest land involved in the project 1243.270 ha

iii. Forest land covered under safety zone (7.5 mtr along the boundary of ML area=10.6854 ha.)

iv. Broken-up forest land involved in the mining lease area 258.599 ha

Balance land required for CA (ii – iii - iv)= 973.9856 ha

As per Para 2.4 (iv) of the Hand book of Guidelines and clarifications of Forest (Conservation) Act, 1980 and FC Rules- 2003 issued by MoEF & CC dated 28.03.2019, "*Provisions of Compensatory Afforestation applicable for renewal of a mining lease, including the area broken up prior to 25.10.1980, if the same was not applied earlier*". For the time being in order to save delay in processing of forest diversion proposal the user agency has submitted an undertaking to provide the CA land against Pre-1980 broken up

forest land if decided by FAC during consideration of the proposal for grant of Stage-I forest clearance. Government of Odisha in F&E Department have clarified the matter and directed to process the diversion proposal vide letter No.12780/F&E dated 06.07.2019. Undertaking submitted by the user agency is enclosed at Page No-780A/DP, Vol-I.

To meet the above requirement of land for Compensatory Afforestation, Government Non-forest land over an area of 979.3786 ha has been identified by the UA and allotted by the Collector Kalahandi, vide order No.341 dated 04.04.2014 and 486 dated 06.04.2017, in Village Uparjhabi 360.050 ha, Pokhariguda 305.160 ha, Kumjore 224.850 ha and Silet 89.316 ha under Thuamul-Rampur Tahasil of Kalahandi District (Page No.792 to 804/DP, Vol.I). As reported by the DFO, Kalahandi (S) Division and Tahasildar Thuamul-Rampur Tahasil, the land is suitable for Compensatory Afforestation and free from any encroachment and encumbrance (Annexure-B Page No.795-805/DP, Vol-I). The area comes in Survey of India Toposheet No.E44F2, E44F3, E44E14, E44E15 (Scale 1:50,000, (Annexure-C, Page No.805A/DP, Vol-I). The Site Specific Compensatory Afforestation scheme has been prepared by the DFO, Kalahandi (S) Division for Compensatory Afforestation purpose in Bald Hill mode 958.443 ha and ANR mode over 20.933 ha with cost for 10 years maintenance. The Scheme has been designed to plant tree species like Neem (Azadirachta indica), Karanja (Pongamia pinnata), Amla (Emblica officinalis), Harida (Terminalia chebula), Bahada (Terminalia belerica), Sissoo (Dalbergia sissoo), Gambhari (Gmelina arborea) etc. Further it has been proposed to take up barbed wire fencing over 67.462 RKM with maintenance cost of 3 years. Scheme has been technically approved by the APCCF (FD & NO, FC Act) with a financial outlay of Rs.46,71,44,700/- (Rupees Forty six crore seventy one lakhs forty four thousand seven hundred) only (Page No.845A/DP, Vol-I). The Compensatory Afforestation scheme is enclosed in a separate volume. The CA map has been duly authenticated by the DFO Kalahandi (S) Division and Tahasildar Thuamul-Rampur Tahasil. The UA has furnished necessary undertakings to bear the cost of Compensatory Afforestation at Page No.780/DP, Vol-I.

8. <u>Safety Zone:</u>

The total forest land including non-forest land recorded as forest as on 25.10.1980 earmarked for safety zone for the mining lease in 21.3207 ha. The details are furnished below:

Sl No.	Particulars	Forest Area (ha)					Non-Forest land (ha)	Grand Total
		RF	Rev. Forest	Non-Forest land recorded as forest as on or after 25.10.1980	DLC Forest land	Total Forest land		
1.	7.5 m strip all along the inner side of the ML boundary line	6.2913	0.7519	1.3475	2.2947	10.6854	3.3092	13.9946
2.	10 m width on either side of the village road	0	0.5955	1.3331	0.6021	2.5307	2.7408	5.2715
3.	50 m width on either side of the perennial nala	0.3584	1.4852	2.0311	1.5744	5.4491	6.3520	11.8011
4	45m strip on either side of the Express Highway	2.6555	0	0	0	2.6555	0	2.6555
	Total	9.3052	2.8326	4.7117	4.4712	21.3207	12.402	33.7227

The Safety Zone area has been depicted in Plate No.VII enclosed with diversion proposal. The User Agency has furnished necessary undertakings to deposit funds for fencing, protection, plantation and regeneration of safety zone area including cost of afforestation over one and half times of safety zone area in degraded forest. (Page No.780/DP, Vol-I).

9. Cost Benefit Analysis:

The cost Benefit Analysis has been estimated as stipulated vide MoEF & CC guidelines No.7-69/2011-FC (pt) dt.01.08.2017 and calculated to be 1:17 which is enclosed at Page No.415, 415 A, 415 B/DP, Vol-II.

10. Resettlement and Rehabilitation:

The DFO, Keonjhar Forest Division has reported that, the project does not involve displacement of any human habitation. Hence Rehabilitation and Resettlement Plan is not required for the proposed project.

11. Net Present Value:

The DFO, Keonjhar Forest Division has reported that, the amalgamated mining lease granted over 1332.019 ha involves 1243.27 ha of forest land and 88.749 ha of non-forest land. NPV has been deposited over 1155.836 ha of forest land in respect of aforesaid mining lease as depicted hereunder:-

Sl No.	Forest Area in ha	Eco-Value Class	Canopy density	The applicable rate in Rs.	NPV deposited in Rs.
1.	Broken up forest land in the mining lease over 253.229 ha	I	0.1	5,80,000/-	146872820.00
2.	Virgin forest land in the Mining lease over 902.607 ha	I	0.3	7,30000/-	658903110.00
	Total	1155.836ha			805775930.00
3.	Interest 9% in belated payment of NPV for 6 days			9%	974816.00
	Gross Total				806750746.00

The User Agency has submitted an undertaking to pay the NPV which is enclosed at Page No.780/DP, Vol-I.

12. Certificate under FRA, 2006:

Certificate regarding settlement of Rights under FRA, 2006 in the prescribed form No.II has been issued by the Collector, Keonjhar District vide No.267 dated 22.02.2017 over 1243.664 ha. Copy of the FRA certificate, SDLC resolution, DLC resolution, Gram Sabha resolution of village Dubuna, Handibhanga, Jampani, Purunadihi, Naibuga and Basantapur village both in Odia and English version has been enclosed at Page No.416 to 767/DP, Vol-II.

The DFO, Keonjhar Forest Division has reported that, the Tahasildar, Barbil and Jhumpura have been intimated vide their letter No.3755 dated 16.08.2018 and No.1973 dated 28.07.2018 respectively that 49 person have encroached in forest land in village Handibhanga, Jampani, Dubuna and Naibuga within the mining lease area of Dubuna Sankradihi Iron & Manganese Mines. The report of the Tahasildars has been enclosed in the DP at page No.767A to 767F/DP, Vol-II.

13. Mining Plan and Mining Scheme:

The Mining scheme along with progressive mine closure plan has been approved by IBM vide No.MPM/FM/18-ORI/BHU/2017-18 dated 15.11.2017 with validity up to 31.03.2020.The copy of the approved mining scheme is enclosed at **Page No.265 to 414 in Vol-II/DP.**

14. Environmental Clearance:

Environmental Clearance has not been obtained by the User Agency for this proposal.

15. Consent to Establish for SPCB, Odisha:

The State Pollution Control Board had accorded its consent to establish vide letter No.25191 dated 19.11.2008 which is enclosed at **Annexure-XV (Page No.869 to 875/DP, Vol-I).** This consent to establish is valid for the product, quantity manufacturing process and raw materials for a period of 5 years from the date of issue of the letter, provided commencement of production of the proposed project has not taken place in the meantime.

16. Wildlife:

The DFO, Keonjhar Forest Division has reported that, the Site Specific Wildlife Conservation Plan has been approved by the PCCF (WL) & CWLW, Odisha vide Memo No.9432/1WL-SSP-62/2016 dated 30.11.2016 with a financial outlay of Rs.1218.423 lakh **(Page No. 921 to 922/DP, Vol-I).** The User Agency has submitted an undertaking to deposit the cost of Site Specific Wildlife Conservation Plan and Regional Wildlife Management Plan which is enclosed as **Annexure-IX (Page No.780/DP).**

17. DGPS Map:

The DGPS map signed by the officials of Revenue, validated by ORSAC and duly countersigned by the DFO, Keonjhar Forest Division is enclosed as Plate-X. As per the report of the DFO, Keonjhar Forest Division the area as per land schedule and that of DGPS map involved in the submitted diversion proposal is produced below:

Sl No.	Category of forest land	Area applied for in ha	Area as per DGPS Map (in ha)
1.	Reserve Forest	773.336 ha	773.328 ha
2.	Revenue Forest	28.992 ha	28.990 ha
3.	DLC Forest	402.743 ha	402.752 ha
4.	Non-forest land recorded as forest as on 25.10.1980	38.199 ha	38.164 ha
	Total	1243.27 ha	1243.324

18. Violation:

The DFO, Keonjhar Forest Division has reported in Sl No.18 of the Site Inspection report, production of iron ore from 1994-95 to 2006-07 without approval under FC Act, 1980 as mentioned in the Sl .No.12 of Annexure-IV A of the 1st report submitted by Hon'ble Saha Commission of enquiry on illegal mining in the state of Odisha and the copy of the Annexure-IVA is enclosed as **Annexure-XXII (Page No.901-903/DP, Vol-I).** As per direction of CEC the User Agency has deposited an amount of **Rs.57,56,62,542.00** towards Compensation against the above unlawful excess production without EC. The

details of demand raised by DDM Joda Circle and deposit particulars submitted by the User Agency is enclosed at Page No.906-920/DP, Vol-I.

The DFO, Keonjhar has taken action for the illegal production of minerals and case has been booked vide OR No.161CH of 2014-15. Now the case is subjudice.

19. Others:

Part-II, Site Inspection Report of the DFO, Keonjhar Division, Part-III and Site Inspection Report of the RCCF, Rourkela Circle and Part-IV has been enclosed in the DP at Page No.16-19, 20-22, 23, 24-27 and 28/DP, Vol-I. The Division Profile, District Profile and State Profile have been furnished at Page No.923/DP, Page No.924/DP and Page No.925/DP, Vol-I respectively.

The PCCF, Odisha has recommended the proposal.

In view of the above, the GoI, MoEF&CC may be requested for according permission for diversion of 1243.27 ha of forest land involved in the mining lease area over 1322.019 ha of Dubna-Sakradihi Iron and Manganese Mines of M/s OMC Ltd. in Keonjhar District, Odisha under Section 2 of Forest (Conservation) Act, 1980 subject to the following conditions:

(a) The User Agency shall pay towards cost of removal of trees enumerated before commencement of work and tree felling should be taken up in phased manner strictly as per requirement under the supervision of the DFO, Keonjhar Forest Division.

(b) Evaluated royalty of trees enumerated and required to be felled for the project, shall be deposited by the User Agency.

(c) The User Agency shall pay the cost for implementation of Regional Wildlife Management Plan as per revised cost norm.

(d) An area of 21.3207 ha of forest land is to be maintained as safety zone and in no circumstances, it shall be used for mining and other allied activities.

(e) The User Agency shall pay towards cost of site specific conservation plan approved by the CWLW, Odisha for its implementation in lease hold as well as surrounding area.

(f) The User Agency shall undertake demarcation of the lease area on the ground posting four feet high cement concrete pillars embedded two feet inside the soil with serial number forward and backward bearings and distance from Pillar to Pillar.

(g) The PCA and other penal measures, as would be imposed by Govt. of India, MoEF&CC shall be complied with by the User Agency.

(h) The User Agency is required to submit the phased reclamation plan along with authenticated map thereof and an undertaking to execute to this plan.

(i) The User Agency shall furnish valid consent to establish / consent to operate and Environmental clearance.

Yours faithfully,

Encl: 1 set of Forest Diversion Proposal

Special Secretary to Government

Memo No. 17139 /F&E, date. 06-09-19

Copy along with one set of diversion proposal forwarded to the Additional Director General of Forests, Govt. of India, MoEF&CC, ERO, A/3, Chandrasekharpur, Bhubaneswar for information and necessary action.

Special Secretary to Government

Memo No. 17140 /F&E, date. 06-09-19

Copy forwarded to the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for information and necessary action with reference to his letter 14564 dt.19.08.2019.

Special Secretary to Government

Memo No. 17141 /F&E, date. 06-09-19

Copy forwarded to the Principal Chief Conservator of Forests (WL) and CWLW, Odisha, Bhubaneswar for information and necessary action.

Special Secretary to Government

Memo No. 17142 /F&E, date. 06-09-19

Copy forwarded to the Regional Chief Conservator of Forests, Angul Circle / Regional Chief Conservator of Forests, Bhawanipatna Circle/ Divisional Forest Officer, Keonjhar Forest Division/ Divisional Forest Officer, Kalahandi (S) Division for information and necessary action.

Special Secretary to Government

Memo No. 17143 /F&E, date. 06-09-19

Copy forwarded to Steel and Mines Department/ Collector, Keonjhar/ Collector, Kalahandi for information and necessary action.

Special Secretary to Government

Memo No. 17144 /F&E, date. 06-09-19

Copy forwarded to the Managing Director, OMC Ltd, OMC House, Bhubaneswar for information and necessary action.

Special Secretary to Government

File No.8-26/2019FC

Annexure-II

Government of India
Ministry of Environment, Forests and Climate Change
Forest Conservation Division

Indira Paryavaran Bhawan,
Aliganj, Jor Bag Road,
New Delhi - 110003.
Dated: 6th May, 2021

To,

The Addl. Secretary (Forests),
Government of Odisha,
Bhubaneswar.

Sub: Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in favour of M/s Odisha Mining Corporation Ltd in District Keonjhar (Odisha) - reg.

Sir,

I am directed to refer to the Government of Odisha's letter No. 10F (Cons) 77/19-17138/F&E dated 06.09.2019 on the above subject seeking prior approval of the Central Government under Section 2 of the Forest (Conservation) Act, 1980 and letter no. FE-DIV-FLD-0031-2021-3659/F&E dated 19.02.2021 forwarding additional information as sought by the Ministry vide its letter of even number dated 16.03.2020 and to say that the proposal has been examined by the Forest Advisory Committee constituted by the Central Government under Section - 3 of the aforesaid Act.

After careful examination of the proposal of the State Government and on the basis of the recommendations of the Forest Advisory Committee, and approval of the same by the competent authority of the MoEF&CC, New Delhi, the Central Government hereby accords 'in-principle' approval under Section - 2 of the Forest (Conservation) Act, 1980 for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in favour of M/s Odisha Mining Corporation Ltd in District Keonjhar (Odisha) subject to fulfilment of the following conditions:

A. **Conditions which need to be complied prior to handing over of forest land by the State Forest Department and compliance is to be submitted prior to Stage-II approval**

1. **Compensatory Afforestation:**

i. *The cost of compensatory afforestation at the prevailing wage rates as per compensatory afforestation scheme and the cost of survey, demarcation and erection of permanent pillars, if required on the CA land, shall be deposited in advance with the Forest Department by the user agency. The CA will be maintained for 10 years. The scheme may include afforestation of indigenous species with appropriate provision for anticipated cost increase for works scheduled for subsequent years;*

ii. *The KML files of diverted area, the CA areas, the proposed SMC treatment area and the WLMP area shall be uploaded on the e-Green watch portal with all requisite details prior to Stage II approval;*

2. The User Agency shall transfer the funds towards the cost of Net Present Value (NPV) of the forest land being diverted under this proposal from the

User Agency as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No. 202/1995 and the guidelines issued by this Ministry vide its letter No. 5-3/2007-FC dated 05.02.2009 through online portal of CAMPA account of the State Concerned;

3. Compensatory levies to be realized from the User Agency under the project shall be transferred/ deposited, through e-challan, in to the account of CAMPA pertaining to the State concerned through **e-portal** (https://parivesh.nic.in/);
4. *Encroachment over forest land in the proposed area shall be removed by the State Government prior to Stage II approval. It shall be ensured that rehabilitation of evicted persons do not encroach upon the forest land.*
5. Following activities, as per approved plan / schemes, shall be undertaken in the lease area by the User Agency under the supervision of the State Forest Department. Approved scheme/plan shall be submitted to the Ministry along with compliance of Stage-I approval:

i. Mitigative measures to minimize soil erosion and choking of stream shall be implemented within a period of three year with effect from the issue of Stage-II clearance in accordance with the approved Plan in consultation with the State Forest Department.
ii. Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme;
iii. Construction of check dams, retention /toe walls to arrest sliding down of the excavated material along the contour in accordance with the approved scheme;
iv. Stabilize the overburden dumps by appropriate grading/benching, in accordance with the approved scheme, so as to ensure that angles of repose at any given place is less than 28o; and
v. No damage shall be caused to the top-soil and the user agency will follow the top soil management plan.

6. User agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.40), if any, located in the area within 100 meter from outer perimeter of the mining lease. The plan for plantation and SMC activities will be prepared and submitted to MoEF &CC before Stage-II Clearance;
7. The User Agency shall prepare a list of existing village tanks and other water bodies with GPS co-ordinates located within five km from the mine lease boundary. This list is to be duly verified by the concerned Divisional Forest Officer. The User Agency shall regularly undertake desilting of these village tanks and other water bodies so as to mitigate the impact of siltation of such tanks/water bodies. A detailed approved plan for desilting of identified ponds and water bodies to be prepared in consultation with forest department and shall be submitted to MoEF & CC before Stage-II approval;
8. **Safety Zone Management:** Following activities, at project cost, shall be undertaken by the user agency for the management of safety zone as per relevant guidelines issued by the Ministry's guidelines:

i. User agency shall ensure demarcation of safety zone (7.5 meter strip all along the inner boundary of the mining lease area), and its fencing, protection and regeneration by erecting adequate number of 6 feet high RCC boundary pillars inscribed with DGPS coordinates with barbed wire fencing and deploying

adequate number of watchers under the supervision of the. State Forest Department;

ii. Boundary of the safety zone of the mining lease, adjacent to habitation/roads, should be properly fenced by the user agency;

iii. Safety zone shall be maintained as green belt around mining lease and to ensure dense canopy in the area, regeneration shall be taken up in this area by the user agency at project cost under the supervision of the State Forest Department;

iv. Afforestation on degraded forest land to be selected elsewhere, measuring one and a half times the area under safety zone, shall also be done at the project cost under the supervisions of the State Forest Department. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape files before Stage-II approval and afforestation will be done within three years from the date of Stage-II clearance and maintained thereafter in accordance with the approved Plan in consultation with the State Forest Department; and

v. The State Government and the user agency shall ensure that safety zone is maintained as per the prescribed norms;

9. The cost of felling of trees shall be deposited by the User Agency with the State Forest Department;

10. *The user agency does not propose to subject the whole lease area to mining/ ancillary use in one go in the beginning of the proposed lease period. Some areas may be worked 10/20 years after the commencement of leases, and such areas could be productively used for growing short rotation forestry crops in such interim period. If so, the life cycle ecological cost of the mining project would reduce considerably, besides financial benefits to the lease holders. State Government shall, therefore, initiate a pilot study, at the cost of user agency, through an institute of national repute like ICFRE, IIFM, etc. which can explore a model of use of the degraded forests within the mining lease for more productive biological uses (e.g. raising short rotation forestry crops) for intermittent periods during the currency of mining lease period in a way that the ecological services continue to flow in an augmented manner and at the same time mining activities are not adversely affected. Such a model should enable user agency to raise additional revenue from the lease area. If successful, such models could be replicated elsewhere also for co-development of mining and ecology.*

11. A site-specific Wildlife Management Plan shall be prepared by the State Government in consultation with the PCCF (Wildlife) for the protection and conservation of wildlife of the area. Comments of the Project Elephant Division of the MoEF&CC (copy enclosed) shall be addressed in the said Plan and a copy of approved Plan shall be submitted to the Ministry along with the compliance of Stage-I approval. Entire cost of implementation of the provisions of the Wildlife Management Plan shall be deposited into the account of CAMPA of the State;

12. State Government shall complete settlement of rights, in term of the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the documentary evidence, along with compliance of Stage-I approval, as prescribed by this Ministry's letter No. 11-9/1998-FC (Pt.) dated 03.08.2009 read with 05.07.2013, in support thereof; and

13. The compliance report shall be uploaded on **e-portal** (https://parivesh.nic.in/).

B. **Conditions which need to be complied on field after handing over of forest land to the user agency by the State Forest Department but the compliance in form of undertaking shall be submitted prior to Stage-II approval**

1. Legal status of the diverted forest land shall remain unchanged;
2. The compensatory afforestation over non-forest land, equal in extent to the forest land being diverted i.e. 1243.27 ha, shall be raised by the State Forest Department at the project cost within three years from the date of grant of Stage - II approval;
3. At the time of payment of the Net Present Value (NPV) at the present rate, the user agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India;
4. Trees should be felled in phased manner as per the requirement in the approved Mining Plan with prior permission of concerned DFO;
5. The user agency shall explore the possibility of translocation of maximum number of trees identified to be felled and shall ensure that any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department.
6. The User Agency shall undertake mining in a phased manner after taking due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or the concern Addl. Principle Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities area satisfactorily executed.
7. The User Agency shall comply with the Hon'ble Supreme Court order on re-grassing, and re-grass the mining area and any other areas which may have been disturbed due to mining to restore them to a condition which is fit for growth of fodder, flora, fauna, etc. in a timely manner;
8. Period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development and Regulation) Act, 1957, as amended and the Rules framed there-under;
9. The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;
10. No labour camp shall be established on the forest land and the User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas;
11. The boundary of the diverted forest land, mining lease and safety zone, as applicable, shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and GPS coordinates;
12. The layout plan of the mining plan/ proposal shall not be changed without the

prior approval of the Central Government and the forest land shall not be used for any purpose other than that specified in the proposal;

13. The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government;
14. No damage to the flora and fauna of the adjoining area shall be caused;
15. The User Agency shall submit the annual self -compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and to this Ministry by the end of March every year regularly;
16. Any other condition that the concerned Regional Office of this Ministry may stipulate with the approval of competent authority in the interest of conservation, protection and development of forests & wildlife; and
17. The user agency shall comply all the provisions of the all Acts, Rules, Regulations, Guidelines, Hon'ble Court Order (s) and NGT Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project.
18. Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as prescribed in para 1.21 of Chapter 1 of the Handbook of comprehensive guidelines of Forest (Conservation) Act, 1980 as issued by this Ministry's letter No. 5-2/2017-FC dated 28.03.2019.

After receipt of compliance report on fulfilment of the conditions mentioned above, the proposal shall be considered for final approval under Section-2 of the Forest (Conservation) Act, 1980. Transfer of forest land shall not be affected till final approval is granted by the Central Government in this regard.

Yours faithfully,

sd/-
(Sandeep Sharma)
Assistant Inspector General of Forests

Copy to:

1. The PCCF (HoFF), State Forest Department, Government of Odisha, Bhubaneswar
2. The PCCF & Nodal Officer (FCA), O/o PCCF, State Forest Department, Government of Odisha, Bhubaneswar
3. The Regional Officer (Central), Integrated Regional Office of MoEF&CC at Bhubaneswar
4. User Agency
5. Monitoring Cell, FC Division, MoEF&CC, New Delhi
6. Guard File

/68884/2020/FC

Annexure-III

F.No. 2-22/2017-PE
Government of India
Ministry of Environment, Forests & Climate Change
Project Elephant Division

Indira Paryavaran Bhavan,
Aliganj, Jor Bagh Road,
New Delhi-110003

Dated 12th May, 2020

OFFICE MEMORANDUM

Sub: Proposal for diversion of 1243.270 ha. of forest land involve in the mining lease area over 1322.019 ha of Dubna-Saleradihi Iron and Manganese Ore Mines of M/s OMC Ltd in Keonjhar District, Odisha- reg.

Sir,

With reference to your letter dated 16th March, 2020 regarding the subject cited above the comments in respect of Project Elephant are enclosed for your needful action.

Encls: As above.

(Dr. K. Muthamizh Selvan)
Scientist 'D' (Project Elephant)
Email Id: km.selvan@gov.in
Telephone No. 011-24695067

To,
Shri Sandeep Sharma,
Assistant Inspector General of Forests,
FC Division,
MoEF&CC.

Comments of the Project Elephant Division on the proposal for diversion of 1243.270 ha of Forest area involved in the mining lease proposal of Dubna-Sakradihi Iron and Manganese Ore Mines of M/s OMC Ltd in Keonjhar District of Odisha.

Forest Conservation Division by its letter No. 8-26/2019-FC dated 16th March, 2020 has requested to comments of PE Division on the proposed mining of Iron and Manganese Ore Dubna-Sakradihi Mines of M/S OMC Ltd. In Keonjhar District, Odisha. In this regard, the comments of Project Elephant are as follows:

1. The State Government of Odisha had submitted a proposal seeking prior approval of Government of India, Under section 2 of Forest Conservation Act, 1980. The Proposal was placed before FAC in its meeting held on 23.01.2020 and the FAC inter alia recommended seeking comments from the Project Elephant Division of this Ministry.
2. The elephant is a Schedule I species and also a National Heritage Animal. Therefore, highest degree of protection has been accorded under the provisions of the Wildlife (Protection) Act, 1972.
3. The letter from FC Division states that movement of wild elephants is often witnessed in the proposed area. The Forest area within the lease area falls under elephant habitat zone 2 as mentioned by ORSAC, Bhubaneshwar. This itself prove that the proposed mining area is an important elephant habitat.
4. In this regard, a letter was sent to CWW, Odisha on 16th April 2020, for seeking comments on the status of elephant habitats and movement of elephants in the proposed lease area. Comments of the State Forest Department of Odisha was also received and the same is enclosed for information.
5. As per the report received from the State of Odisha, elephant movements were noticed alonwith other wild animal in the proposed mining site. Villages like Handibhanga, Jamupani, Dubuna, Purunadihi, Basantpur, Naibuga, Kaijoda, Patakudar, Nedigotha, Saradapank, Katupali etc. are situated inside and around the mining lease of Dubna-Sakradihi Iron and Manganese mines and

Keonjhar

compensation has been paid for crop and properties damage by wild elephants in these villages. These show the presence of elephants and intensity of Human Elephant conflicts in the proposed mining area.

6. The proposed lease area is adjacent to the Karo- Karmapada Elephant Corridor identified in the Elephant Task Force, "Gajah" report of MOEF & CC and Mayurbhanj Elephant Reserve. Further, the elephants are reportedly moving through the proposed mining area. Considering the fact that elephants are long ranging animals, the movement of elephants through the proposed mining areas should be viewed seriously. Therefore, the securing elephant corridor is important for mitigation of HEC in this high HEC prone area.

7. Ministry of Environment, Forests and Climate Change constituted high level Elephant Task Force in 2010 and have identified critical elephant corridors in the country. The Elephant Task Force report suggested the following points for securing corridors.

   a) Creation of Community or Conservation Reserve,
   b) Declaring the corridor as high priority Ecologically Sensitive, Area under Environment Protection Act 1986 with maximum regulation of ecologically destructive activity,
   c) Declaring corridor land as Reserved Forest or Protected Forest under Indian Forest Act,
   d) Community forests under the Forest Rights Act,
   e) Increase boundary of existing Protected Area and make corridor part of the existing PA.

   The Ministry of Environment, Forest & Climate Change has already requested State Governments to secure the prority elephant corridors as mentioned in the Gajah Report 2010.

8. The Task Force Report (2010) also states that mining, especially open cast mining has dealt a severe blow to elephant conservation in the country, especially in Central India where most of elephant areas in Singhbhum, Keonjhar, Mayurbhanj, Dhenkanal, Angul and Phulbani have been severely fragmented leading to increased HEC and movement to adjoining states of Chhattisgarh and west Bengal.

9. The Task Force also recommended that the mining leases in Elephant Reserve should be reviewed. In areas that are not Elephant Reserve but used by Elephants, leases should be viewed with caution.

10. The Hon'ble Supreme Court of India, in its orders dated 9th August, 12th July and 24th October 2018 on the WP 487 of 1996 in the matter A. Rangarajan & Ors Vs Union of India directed Tamil Nadu Government to stop all the activities in the Segur elephant corridor area of Nilgiris for allowing free movement of elephants. This shows the importance given by the Hon'ble Supreme court to the issue of securing corridors for movement of elephants in the country.

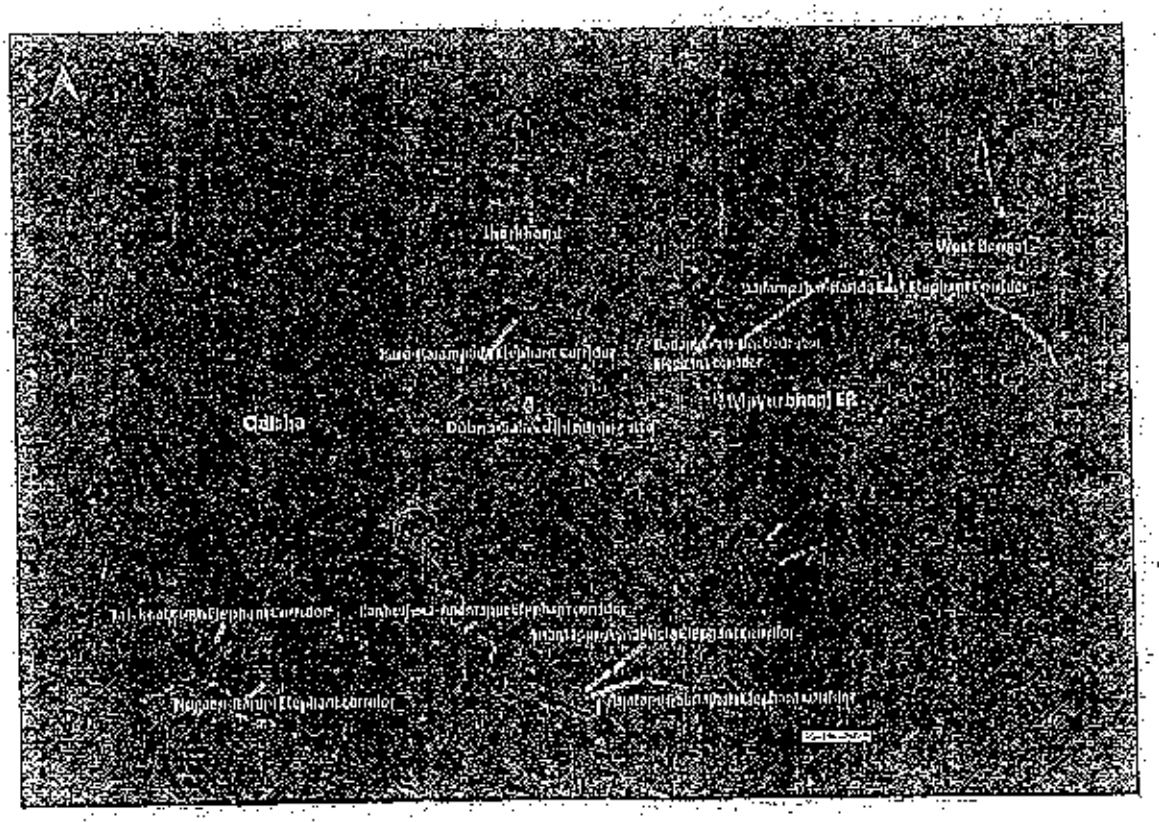
11. Hon'ble National Green Tribunal vide its order dated 14th November, 2018 in the Writ Petition No. 246 of 2018 Pradip Kumar Bhuyan & Ors. Vs. Union of India & Ors. directed the Ministry of Environment, Forest & Climate Change, to look in to the issue by declaring all elephant corridors all over the country as Eco Sensitive Zones by exercising its power under Environment Protection Act, 1986.

12. The Hon'ble Supreme court in Writ Petition (C) No. 275 of 2015 titled Vidya Athreya & another Vs. Union of India & Others by its order dated 19.01.2018 had directed the Standing Committee of NBWL to consider the suggestions made by the petitioners including the Securing of elephant corridors to minimise human elephant conflict. The members of the committee were of the view that state governments should be requested to expedite their action on the Ministry's advisory. Members also advised that State Governments should explore the feasibility of declaring such corridors as Eco sensitive zones in case it is not possible to secure the corridors by acquisition of lands in these corridors. The final report has been submitted to the Hon'ble Supreme Court of India.

13. As per the elephant population estimation (2017), the State of Odisha has the highest number with 1976 elephants (63%) in the East Central region. The State of Odisha has also very high Human Elephant Conflicts with 778 human beings and 205 elephants getting killed due to human-elephant conflicts in the State of Odisha in the last 10 years (2009 to 2019).

14. Considering the above facts & also the report of DFO Keonjhar, (Copy enclosed), the proposed mining activities may lead to escalation of the Human Elephant Conflicts in the area (villagers in the mining areas already suffering due to HEC) and may also further endanger the lives of people and elephants in the area. Hence

FC Division may appraise the FAC, all these facts related to the proposed mining area, especially the elephant habitat, Human Elephant conflict Status; reported elephant movements in the area & proximity of the site to an important elephant corridor (Karo-Karampada Corridor) & possibility of further escalation of the human elephant conflict in the area; the decisions of Hon'ble Supreme court; National Green Tribunal etc. related to securing elephant corridors, so that FAC may take a well-considered decision on the proposal of the mining of Dubna-Sakradihi area in Keonjhar district of Odisha.



Map of the Proposed mining area with details of corridors, Elephant Reserve area etc.

Annexure-IV

F.No.23-241/2018-IA-III (V)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division
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Indira Paryavaran Bhavan
Vayu Wing, 3rd Floor, Aliganj,
JorBagh Road, New Delhi-110 003

Date: 27 May 2019

To,

M/s The Odisha Mining Corporation Ltd
(A Gold Category State PSU)
OMC House, Bhubaneswar-751001
Odisha

Subject: Dubna-Sakradihi Iron & Manganese Mine by M/s The Odisha Mining Corporation Ltd with production of 3.00 MTPA Iron ore and 0.05 MTPA Manganese ore and installation of crushing (100 TPH-1 No.) and screening unit (300 TPH-2 No. and 100 TPH-1 nos.) for processing iron ore in the mine lease area of 1332.019 ha at Villages Dubna, Jampani, Purunadihi, Handibhanga, Naibaga, Basantapur, Pedipokhari R.F. & Naibaga R.F., Tehsil-Barbil and Jhumpura, District Keonjhar, Odisha - Consideration of Terms of Reference.

Ref.: Proposal No. IA/OR/MIN/74300/2018

Sir,

The proposal of M/s The Odisha Mining Corporation Ltd is for Dubna and Sakradihi Iron & Manganese Ore Mines for total excavation of 7.0 Million Tonne per annum (MTPA) [i.e. 3.00 MTPA Iron ore, 0.05 MTPA Manganese ore, Waste (2.2 MT-Iron ore); (1.1 MT-Mn ore) O.B, Inter Burden (Sub grade- 0.25 MT-Iron ore; 0.02 MT - Mn ore), Top Soil (0.1638 Mm^3) till conceptual stage] and installation of crushing (100 TPH-1 No.) and screening unit (300 TPH-2 No. and 100 TPH-1 nos.) for processing iron ore in the mine lease area of 1332.019 ha. The mine is located at Villages Dubna, Jampani, Purunadihi, Handibhanga, Naibaga, Basantapur, Pedipokhari R.F. & Naibaga R.F., Tehsil-Barbil and Jhumpura, District Keonjhar, Odisha. The mine lease area lies between the latitudes 21°48'37.35634" to 21°51'52.01868" N and longitudes 85°22'17.8389" to 85°24'26.47792" E and falls in the Survey of India Toposheet No: 73 G/5.

2. The project proponent (PP) mentioned that the mine was operated by violating the Environment (Protection) Act, 1986 as OMC started the work on site without prior EC under the EIA Notification, 2006. To deal with the violation category proposals, the Ministry has issued the Notification S.O. 804 (E) dated 14th March 2017. The PP submitted the project proposal vide proposal no: IA/OR/MIN/74300/2018 dated 12.04.2018 under violation category along with

Form-I and PFR. The project is covered under Category 'A' of the item 1(a) Mining of Mineral and 2(b) Mineral Beneficiation of the Schedule of the EIA Notification, 2006.

3. The PP submitted that the total mine lease area is 1332.019 ha, out of which, 1243.270 ha forest land and 88.279 ha Non-forest land. PP mentioned that the application for forest clearance for the area of 1243.27 ha has been submitted vide proposal no: FP/OR/MIN/30349/2017 dated 01.12.2017. PP further submitted that the Dubuna manganese mining lease executed on 08.09.1971 for a period of 20 years over 1135.419 ha which was valid till 07.09.1991 and Sakradihi iron ore mining lease executed on 28.12.1959 for a period of 30 years over 564.55 ha and valid till 27.12.1989. PP further submitted that they requested State Government, Orissa for amalgamation of these two mining lease over a reduced area of 196.60 ha in respect of Sakradihi iron ore and 1135.419 ha of Dubuna manganese mining lease. Department of Steel and Mines, Government of Odisha has amalgamated the lease vide letter no. IV(A) S-62/05-3607 dated 18.02.2006 over the area of 1332.019 ha (196.60 ha- Sakradihi iron ore and 1135.419 ha-Dubuna manganese mining lease). PP further submitted that the Steel & Mines Department, Government of Odisha has extended the validity period of mining lease for iron and manganese ore over an area of 1332.019 ha vide letter No. III(A)SM-15/2013/9411/SM, Bhubaneswar dated 05.12.2018. The order states that *"in terms of Rule 3(1) of the Mineral (Mining by Government Company) Rules, 2015, the period of amalgamated mining lease over 1332.019 ha is deemed to be granted for 50 years i.e. from 28.12.1959 to 27.12.2009 and in terms of Rule 3(2) the period of the amalgamated mining lease is further extended from 28.12.2009 to 27.12.2029 for the reason that OMC requires operation of its mines for supply of ore to the user agencies subject to lessee executing the supplementary lease deed for such lease extension period."*

4. The PP submitted that the mining will be carried out by open cast mining method by conventional shovel dumper combination. Deep hole drilling and blasting will be used to break ore and waste. PP further submitted that the crushing unit (1 nos.) of 100 TPH & screening Unit (2+1 nos.) of 300 & 100 TPH respectively (10% of ROM) will be installed for processing the Fe ore. Manual sizing and shorting will be applied for processing Mn ore. PP submitted that the 90% ROM (iron ore) produced from the quarry will be transported by 35 T dumpers. Mn ore from stackyard will be transported outbound from the ML by long term buyers. The average water requirement at Dubna Sakradihi Fe & Mn lease for domestic and industrial use is to the tune of 148 m^3/day and 69 m^3/day respectively. Furthermore, the peak water requirement at Dubna Sakradihi Fe & Mn lease for domestic and industrial use is to the tune of 159 m^3/day and 148 m^3/day, respectively. PP submitted that potable water requirement will be obtained through bore well and industrial water requirement will be obtained from Jalpa Nala.

5. The PP submitted that mine was operated by violating the Environment (Protection) Act, 1986 as OMC started the work on site without prior EC under EIA Notification, 2006. Further, PP submitted that following demand notice was raised by State Government and the corresponding payment made against the demand notice.

(i). Deputy Director of Mines (DDM), Joda vide letter no. 4082/Mines dated 02.09.2017 had raised a demand of Rs. 54,17,77,254/- for production of Iron ore during 2000-01 to 2010-11 without EC pertaining to Sakradih Iron Ore Mines. Followed by, DDM revised the compensation to Rs. 26, 43, 93,571/- vide Demand Letter No. 6096/Mines dated 13.12.2017.

- Payment of compensation of Rs. 26, 43, 93,571/- was made vide bank transaction ID:CKE5244105 dated 27.12.2017.
- However, the DDM has communicated to PP vide letter No.1327/Mines dated 03.03.2018 and mentioned that "Though you have deposited the compensation amount as per the revised demand notice within 31/12/2017, you have failed to hand over the undisposed stock of minerals within the stipulated time i.e. 28/2/2018. Therefore, you will not be eligible for the reduction of compensation amount and liable to pay the compensation amount in full along with interest@14% from 31.12.2017.
- Therefore, the payment of remaining compensation along with interest was made (Rs. 277,383,683/- + Rs.7,234,774/- = Total: 28,46,18,457/-) vide transaction ID:CKF2244345 dated 09.03.2018.

(ii). DDM, Joda had also raised a demand of Rs. 2,66,50,514/- vide letter no. 4076/Mines dated 02.09.2017 for production of manganese ore during 2000-01 to 2010-11 without EC pertaining to Dubna Manganese mines.

- Payment of compensation of Rs. 2,66,50,514/- for Dubna mines was made vide bank transaction ID: CKE5245829 dated 27.12.2017.

(iii). DDM, Joda had also raised a demand of Rs. 124346720/- vide letter No. 5208/Mines dt. 23.10.2017 against the Ores/Minerals raised without/in excess of Mining Plan and CTO.

- Payment of compensation was made along with interest due to belated payment (Total: Rs. 14,32,74,676/-) vide bank transaction ID:CKH1402300 (Rs. 124346720/-) and ID:CKH1403269 (Rs.18927956/-) on 19.09.2018.

6. PP submitted that court case is pending against the project proposal i.e. the credible action initiated as cognizance of offence under Section 15 of the E(P)Act, 1986 against OMC on 23.04.2014 by S.D.M, Champua in the court of the JMFC, Barbil, Keonjhar, vide No. 2(C) C.C. no. 14/2014 for violating the E(P)Act, 1986. PP further submitted that the court case is under sub-judice.

7. PP submitted that the estimated project cost is Rs.91452 lakhs. Life of the mine under the present proposal is 5 years (Iron ore) and 14 years (Manganese ore) approximately.

8. The proposal was considered by the EAC (violation sector) in its 13th meeting held during 18-20 September, 2018, wherein EAC deferred the proposal and requested certain requisite information. The PP submitted requisite information vide letter no. 18381 OMC/F&E/2018 dated 15.12.2018. The project proposal was reconsidered in the 17th EAC meeting (violation sector) held during 29-31 January 2019 wherein the Committee after detailed deliberations on the proposal in terms of the provisions of the MoEF&CC Notification dated 14th March, 2017, confirmed the case to be of violation of the EIA Notification, 2006 and **recommended for issuing Standard Term of Reference along with the following specific Term of Reference and additional specific conditions as recommended by CSIR-NEERI on carrying capacity study as per Annexure I** for undertaking EIA and preparation of Environmental Management Plan (EMP)

9. The matter was examined in the Ministry and the undersigned is directed to say that the Ministry of Environment, Forest and Climate Change after accepting the recommendations of the EAC, hereby decided to accord the Terms of Reference for the above mentioned project. Accordingly, the Project Proponent is requested to prepare and submit the EIA/EMP report based on the TOR prescribed which are under:

A. SPECIFIC TOR

1) The State Government/SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.
2) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.
3) Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
4) Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

5) The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.
6) The PP is required to conduct public hearing as per EIA notification, 2006.
7) One season fresh base line data to be generated for EIA/EMP preparation.
8) To submit the lease sketch approved by DMG, at the time of presentation before EAC.
9) Fund allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 1st May, 2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.
10) DGMS permission for blasting at project site.
11) Detailed hydrological study to be carried out in core and buffer zone of the project as per the recent GEC guidelines 2015.
12) Forest Clearance is to be obtained.
13) Wildlife conservation plan is to be prepared in consultation with Chief Wild life Warden and submit.
14) PP has to address all the issues raised by the surrounding villagers (Jamupani village, Handibhanga and Dubuna village) regarding damage of their agriculture fields.
15) Compliance of earlier CTO issued by the state PCB.

B. STANDARD TOR FOR MINING PROJECT

1) The TOR will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors..
2) Department of Mining & Geology, State Government shall ensure that mining operation shall not commence till the entire compensation levied, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
3) Year-wise production details since 1993-94 should be given, clearly stating the highest production achieved in any one year prior to 1993-94. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to1994. The production details need to submit since inception of mine duly authenticated by Department of Mines & Geology, State Government.
4) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
5) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels,

waste generation and its management, mining technology etc. and should be in the name of the lessee.

6) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

7) Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.

8) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

9) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

10) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

11) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

12) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

13) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

14) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the

project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

15) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

16) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

17) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

18) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

19) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

20) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

21) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

22) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the

authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

23) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

24) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season); December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

25) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

26) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

27) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

28) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

29) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

30) Based on actual monitored data, it may clearly be shown whether working will

intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

31) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.

32) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

33) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

34) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

35) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

36) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

37) Occupational Health Impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

38) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

39) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

40) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

41) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

42) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

43) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

44) A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.

45) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

46) The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.

47) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25.10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.

48) Compliance of the Ministry's Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgment of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.

C. STANDARD TOR FOR BENEFICIATION PROJECTS

1) The alternate sites considered, the relative merits and demerits and the reasons for selecting the proposed site for the Beneficiation Plant should be indicated.
2) Details of the technology and process involved for beneficiation should be given.
3) Location of the proposed Plant w.r.t. the source of raw material and mode of transportations of the ore from mines to the beneficiation plant should be justified.

4) Treatment of run of mine (ROM) and or of the fines/waste dump should be spelt out.
5) Estimation of the fines going into the washings should be made and its management described.
6) Details of the equipment, settling pond etc. should be furnished.
7) Detailed material balance should be provided.
8) Sources of raw material and its transportation should be indicated. Steps proposed to be taken to protect the ore from getting air borne should be brought out.
9) Management and disposal of tailings and closure plan of the tailing pond, if any after the project is over, should be detailed in a quantified manner.
10) The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should also be indicated.
11) A copy of the document in support of the fact that the Proponent is the rightful lessee of the unit should be given.
12) All documents including EIA and public hearing should be compatible with one another in terms of the production levels, waste generation and its management and technology and should be in the name of the lessee.
13) All corner coordinates of the Unit, superimposed on a High Resolution Imagery/Toposheet should be provided. Such an Imagery of the proposed Unit should clearly show the land use and other ecological features of the study area (core and buffer zone).
14) It should be clearly indicated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
15) Issues relating to Safety should be detailed. The proposed safeguard measures in each case should also be provided. Disaster management plan shall be prepared and included in the EIA/EMP Report.
16) The study area will comprise of 10 km zone around the Plant.
17) Cumulative Impact study of both Beneficiation Plant with suggested mitigation measures as per the study should be described.
18) Location of Railway siding with its handling capacity and safety measures should be indicated.
19) Option to provide only silo for storage of minerals instead of open stacking to avoid fugitive dust should be explored and arrangements finalized justified.

20) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
21) Details of the land for any Over Burden Dumps outside the lease, such as extent of land area, distance from lease, its land use, R&R issues, if any, should be given.
22) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the Project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
23) Status of forestry clearance for the broken up area and virgin forestland involved inthe Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
24) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
25) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
26) A study shall be got done to ascertain the impact of the Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed mitigative measures required, should be worked out with cost implications and submitted.
27) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
28) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State

Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

29) Proximity to Areas declared as 'Critically Polluted' shall also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB/CPCB shall be secured and furnished to the effect that the proposed activities could be considered.

30) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the unit w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

31) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation& Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects, should be discussed in the report.

32) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the unit in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

33) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

34) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

35) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be secured and copy furnished.

36) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
37) Impact of the project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.
38) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
39) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the project. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to the pollution.
40) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered.
41) Details of the onsite shelter and facilities to be provided to the workers should be included in the EIA report.
42) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area should be detailed.
43) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
44) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
45) Public hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
46) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.
47) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

48) A brief background of the Project, its financial position, Group Companies and legal issues etc should be provided with past and current important litigations if any.

49) Benefits of the Project, if the project is implemented should be outlined. The benefits of the projects shall clearly indicate environmental, social, economic, employment potential, etc.

D: Recommendation of CSIR-NEERI Report on "Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State"

1) Department of Steel & Mines, Govt. of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Kojra,) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.

2) The expansion or opening of new manganese ore mines may be considered only when the actual production of about 80% is achieved. Further, the mines that have not produced Mn ore for last two years and have no commitment in the current year as well; EC capacity in such cases may be reviewed. The Department of Steel & Mines, Govt. of Odisha shall submit the Annual Report on this issue to the MoEF&CC for further necessary action.

3) Analysis of baseline environmental quality data for the year 2014 and 2016 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable acts.

4) Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Kolra sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM, pollution free road transport, enhancement of rail network etc.) in the respective regions.

5) Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface & ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt.

of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.

6) Construction of cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested above.

7) In view of high dust pollution and noise generation due to road transport, it is proposed to regulate/guide the movement of iron and manganese ore material based on the EC capacity of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

Table : EC Capacity based Suggested Ore Transport Mode (SOTM)

Code	EC	Suggested Ore Transport Mode
SOTM 1	≥ 5 MTPA	100% by private railway siding or conveyor belt up to public railway siding or pipeline for captive mines and 70% for non-captive mines
SOTM 2	Between 3 and <5 MTPA	Minimum 70% by public railway siding, through conveyor belt and maximum 30% by road - direct to destination or other public railway siding or above option
SOTM 3	Between 1 and < 3 MTPA	Minimum 70% by public railway siding and maximum 30% by road - direct to destination or by other public railway siding or above options
SOTM 4	<1 MTPA	100 % by 10/17 Ton Trucks or above options

It is mentioned by State Govt. of Odisha that currently about 45% of the iron ore is despatched using rail network and progressively it will be increased to about 60% by rail/slurry over a period of 5 years, taking into account time required to set up more railway sidings.

In view of present ore transport practices and practical limitations, all the existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years.

However, the State Govt. of Odisha shall ensure dust free roads in mining areas

wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha.

Transportation of iron & manganese ore through river (jetty) to nearest Sea port (Sea cargo option) may be explored or connecting Sea ports with Railway network from the mines to be improved further so that burden on existing road and rail network and also pollution thereof can be minimized.

Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to MoEF&CC.

Responsibility: Department of Steel & Mines, Govt. of Odisha; Time Period: 5 Years for developing railway/ conveyor belt facilities

8) Development of parking plazas for trucks with proper basic amenities/ facilities should be done inside mine. This should be done within one year for existing mines and new mines should have since beginning. Small capacity mines (in terms of lease area or production) not having enough space within the mine lease areas should develop parking plaza at a common place within the region with requisite facilities. Responsibility: Individual Mine Lease Holders; Time Period: 1 Year

9) Construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. Responsibility: Department of Steel & Mines with PWD / NHAI Time Period: 2 Years.

10) Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Re-suspension" may be considered. Responsibility: PWD / NHAI/ Mine Lease Holders; Time Period: 3 months for existing roads.

11) Expansion of existing mines and new mines should be considered after conducting recent EIA Study (as per the provisions of EIA Notification 2006, as amended time to time) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.

12) **Mine-wise Allocation of Annual Production:** In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

Table: Allocation of Production to Different Mines for 5 Years (as per approved Mining Plan)

Roxy railway sidings in Koira region. Responsibility: Dept. of Steel & Mines, Govt. of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines, Govt. of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.

19) State Govt. of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.

20) Large and medium mine leases contribute to better implementation of reclamation and rehabilitation plans to sustain the ecology for scientific and sustainable mining. The small leases do not possess scientific capability of environmentally sustainable mining. Therefore, new mine leases having more than 50 ha area should be encouraged, as far as possible. This will ensure inter-generational resource availability to some extent. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.

21) **Mining Operations/Process Related:** (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste. e.g. drills should either be operated with dust extractors or equipped with water injection system. (ii) After commencement of mining operation, a study should be conducted to assess and quantify emission load generation (in terms of air pollution, noise, waste water and solid waste) from each of the mining activity (including trahsportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders. (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders. (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

22) **Air Environment Related:** (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in

this regard. (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10, PM2.5, SO2, NOx and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity. (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PM10, PM2.5, SO2, NOx and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. Further, 11 continuous air quality monitoring systems may be installed in Joida and Koira regions and one in Baripada/ Rairangpur region. (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral. (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of 3using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate).Responsibility: Individual Mine Lease Holders and SPCB.

23) **Noise and Vibration Related:** (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. (ii) Appropriate measures (detailed in Section 5.4) should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs. (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.

24) Water/Wastewater Related : (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro- geological studies by CGWB or NIH or Institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately. (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and

perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis. (ii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis. (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region. (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis. The study can be conducted through NABL/ NABET approved water testing laboratory. However, the report should be vetted by SPCB. (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated in ETP so as to conform to the discharge standards applicable. (viii) Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony, wherever applicable. (ix) Mine lease holder should ensure that no silt originating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization. (x) Erosion from dumps site should be protected by providing geo-textile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls.(xi) Trenches / garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis. (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years. Responsibility: Individual Mine Lease Holders, SPCB and CGWB.

25) **Land/ Soil/ Overburden Related** (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately. (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be

stacked at earmarked dump site(s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc. (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil. OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data.Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals. (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating. (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.

26) **<u>Ecology/Biodiversity (Flora-Fauna) Related</u>:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any. (ii) The mines falling within 5-10 km of the Karo-Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man-Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Kolra is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities. (iii) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department. (iv) Afforestation is to be done by

using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner. (v) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded. (vi) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation. (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (viii) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details. (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level. (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

27) **Socio-Economic Related:** (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog / Hon'ble Prime Minister's Vision centring around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for *"Samagra Vikas"* of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna

(PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.

28) **Road Transport Related:** (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine, as suggested in Chapter 10. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM10 should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel & Mines

29) **Occupational Health Related:** (i) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects periodically. (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed. (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer)

30) **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-à-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. "Star Rating Format" formulated by the Ministry of Mines along with environmental sustainability report may be used.

31) **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

Table: Suggested Environmental Monitoring Requirements and Action Plans at

Regional Level

Sr. No.	Study Component/ Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
1.	Environmental Quality Monitoring with respect to Air, Water, Noise and Soil Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC. All the water bodies (rivers, nallas, ponds etc.) shall be monitored. National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-RO.	SPCB	Continuous Annually
	Installation of online ambient air quality monitor for PM10, PM2.5, SOx and NOx within the mine having more than 3 MTPA EC Capacity	Respective Mine Lease Holders	Continuous Annually
	Installation of online ambient air quality monitor for PM10, PM2.5, SOx and NOx in the Joda and Koira Region (total 11 locations.	SPCB	Continuous Annually
2.	Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department.	State Forest & Wildlife Dept.	Annually in mining zone and once in 3 years in the region
3.	Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration.	Respective District Administratio n	Annually
4.	A detailed hydro-geological study in each of the regions shall be conducted in an integrated manner in consultation with Regional Director, Central Ground Water Board. Accordingly, all project proponents	SPCB	Once in 2 years

	shall implement suitable conservation measures to augment ground water resources in the area.		
5.	The State Govt. shall ensure construction and maintenance of dust free common roads/ appropriate rail network for transport of ore from mines to the consumer end.	Dept. of Steel & Mines	12 months for road network and 5-7 years for rail network
6.	Construction and maintenance of dust free roads from respective mine to the main road	Respective Mine Lease Holders	Continuous 6 months
7.	Traffic/road inspection study addressing the condition of traffic/roads leading to different mines and connecting to different railway sidings shall be undertaken on annual basis. Further, detailed traffic study shall be undertaken on every 5 yearly basis to ensure adequacy of road/rail infrastructure in each of the regions. The study can be undertaken through national/ state level research/ academic institute (such as CSIR-CRRI, New Delhi).	Dept. of Steel & Mines	Continuous 6 months
8.	Assessment of land use/ land cover changes in each of the regions, with particular focus on mining areas, afforestation activities, variation in flow path of various water bodies etc. using remote sensing data	ORSAC	Annually
9.	R&D Studies for utilization of low-grade iron ore	Dept. of Steel & Mines through R&D / Academic Institutes	Upto 45% by 2020 and upto 40% by 2025

The data so generated for the region should be made available on the website of Department of Steel & Mines and also at MoEF&CC website, so that it can be effectively utilized by Individual Mine Lease Holders for preparing FIA/ EMP reports. This will meet the requirement for separate one season baseline environmental quality data collection by the individual proponents, if the mine proposed is in the same study region. Further, MoEF&CC (through EAC) can also utilize the data base available in evaluating the proposals for expansion of existing mines or new mines while granting ToR or EC to the mine, taking an holistic view of the region. State Govt. of Odisha should bring out an integrated environmental sustainability report for each of the regions (mainly for Joda and Kolo region) incorporating ESR of individual mines and data collected in the region through various agencies, once in 5 years, to plan level of scientific and sustainable mining for the next 5 years.

32) Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to

ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-à-vis environmentally sustainable mining and upliftment of people of the region, there is a need to create an agency, who will integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt. of Odisha or a cell within the overall control and supervision of Dept. of Steel & Mines, with members from IBM, GSI, OSPCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized appropriately for various developmental activities/needs of the region. Further, an environmental sustainability report incorporating environmental status of region coupled with social upliftment may be brought out by SPCB or any other authorized agency on annual basis. This report can be used for supporting the regional EIA study, and also need for environmental quality monitoring by individual mine seeking environmental clearance for new mine/ expansion of mine, including public hearing. Since, outcome of the above study reports shall be in the overall interest of all the stakeholders (including local population) of the region, further planning for the region shall warrant cooperation and assistance of all the stakeholders (mine operators, industries, transporters, State & Central Government Offices, MoEF&CC, CPCB, SPCB, Dept. of Steel & Mines, IBM, IMD, NGOs and local people) in sharing the relevant data/information/ reports/documents etc. to continuously improve upon the environmentally sustainable development plan for economic growth in mining sector as well as for improvement in quality of life of the people of the region.

10. Besides the above, the below mentioned general points are also to be followed: -

a) All documents to be properly referenced with index and continuous page numbering.
b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
d) Where the documents provided are in a language other than English, an English translation should be provided.
e) The Questionnaire for environmental appraisal of mining projects as

devised earlier by the Ministry shall also be filled and submitted.

f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA. II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

11. The prescribed TOR would be valid for a period three years for submission of the EIA/EMP report, as per the O.M. No. J-11013/41/2006-IA-II (I) (Part) dated 29.08.2017. **The instant TOR is valid up to 26.05.2022.**

12. After preparing the draft EIA (as per the generic structure prescribed in Appendix III of the EIA Notification, 2006) covering the above mentioned issues, the proponent will get the public hearing conducted and take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

13. This issues with the approval of Competent Authority.

Yours faithfully,

(Dr. R. B. Lal)
Additional Director

Copy to:

1. **The Secretary**, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. **The Secretary,** Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.
3. **The Secretary,** Department of Mines and Geology, Government of Odisha, Secretariat, Bhubaneswar.
4. **The Secretary,** Department of Forests, Government of Odisha, Secretariat, Bhubaneswar.

5. **The Chairman**, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
6. **The Additional Principal Chief Conservator of Forests (C),** Ministry of Environment, Forest and Climate Change, Regional Office (EZ), A/3, Chandersekharpur, Bhubaneswar – 751023.
7. **The Chief Wildlife Warden**, Prakruti Bhawan, 5th floor, BDA Apartment Nilakanthanagar, Nayapalli, Bhubaneswar-751012, Odisha
8. **The Member Secretary,** Odisha State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
9. **The Controller General,** Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
10. **The Member Secretary,** Central Ground Water Board Ministry of Agriculture and Irrigation, 12/1 Jam Nagar House, Shahjahan Road, New Delhi 110011.
11. **The District Collector,** District- **Keonjhar,** State of Odisha.
12. **Guard File.**
13. **Parivesh Website.**

(Dr. R. B. Lal)
Additional Director

Annexure-V

Demographic profile in the ZOI								
Sl no	Name	No_HH	TOT_P	TOT_M	TOT_F	P_SC	P_ST	P_LIT
Keonjhar District								
1	Andharikhaman	136	587	295	292	13	140	337
2	Balabhadrapur	75	352	167	185	0	165	227
3	Balada	286	1312	628	684	46	1096	469
4	Bandhuabeda	108	573	289	284	7	524	266
5	Barbaposi	137	594	299	295	10	31	335
6	Basantapur	44	193	99	94	85	66	154
7	Bhaliadihi	115	493	245	248	0	486	189
8	Bramhanjhari	150	658	337	321	342	316	133
9	Champadihi	27	124	64	60	36	32	52
10	Chipinda	111	487	246	241	66	167	301
11	Daduan	357	1718	851	867	131	877	701
12	Dhaladihi	179	722	353	369	10	518	105
13	Dhanurjaypur	91	343	176	167	3	96	260
14	Dhatika	73	413	195	218	0	402	192
15	Dobuna	293	1396	703	693	383	496	793
16	Gayalmunda	48	216	104	112	0	216	50
17	Guruda	496	2051	1063	988	221	1033	1115
18	HandiBhanga	87	408	210	198	0	365	152
19	Hatidari	98	458	241	217	0	452	99
20	Jagannathpur	106	455	232	223	153	6	389
21	Jajanga (CT)	1820	7482	3978	3504	977	4081	3633
22	Jalapaposi	76	324	166	158	0	97	170
23	Jamirita	78	389	206	183	14	375	100
24	Jamunapasi	341	1386	682	704	153	816	887
25	Kadakala	63	314	158	156	0	308	92
26	Kadambadihi	55	222	112	110	0	0	198
27	Kaijoda	72	365	171	194	0	365	126
28	Kaliapal	71	356	183	173	8	347	88
29	Kalimati	138	632	292	340	0	630	456
30	Kamalpur	206	926	474	452	60	451	354
31	Katupali	116	575	294	281	0	160	328
32	Kendughati	175	739	365	374	29	686	335
33	Khajuridihi	49	188	88	100	0	73	89
34	Langalakanti	138	585	277	308	0	410	300
35	Luhakala	194	1133	569	564	7	1030	224
36	Malada	194	925	464	461	0	366	429
37	Namira	132	654	335	319	24	281	247

16.	Non-forest land selected for Compensatory afforestation has been included in the D.L.C. report or not.	As per the certificate furnished in the map by DFO, Kalahandi (S) Division, non-forest land selected for CA has not been included in the D.L.C. report.
17.	Suitability of the identified non-forest land/ degraded Forestland for Compensatory afforestation.	The Non-Forest Govt. land identified in villages Uperjhabi, Pokhariguda, Kumjore and Silet under Thuamul Rampur Tahasil of Kalahandi (S) Division in Kalahandi District is suitable for Compensatory afforestation, as certified by DFO, Kalahandi (S) Division, under AR model-958.443@1600 plants/ha and ANR model-20.933 ha @600 plants/ha.
18.	Violation of Forest (Conservation) Act, 1980 if any and action taken thereon.	**Violation** Production of Iron ore from 1994-95 to 2006-07 without approval under FC Act, 1980 as mentioned in the Sl No. 12 of Annexure-IVA of the 1st report submitted by Hon'ble Shah Commission of enquiry on illegal mining in the State of Odisha. Copy of the Annexure-IVA is enclosed as **Annexure-XXIII.** **Action taken** For the illegal production of mineral, OR case No. 161CH of 2014-15 has been booked. The production of Ore during the period as mentioned in the report of Hon'ble Shah Commission and submitted in the Court of JMFC, Barbil vide PR No. 28 of 2014-15 dated. 12.02.2015. The case is under subjudice.

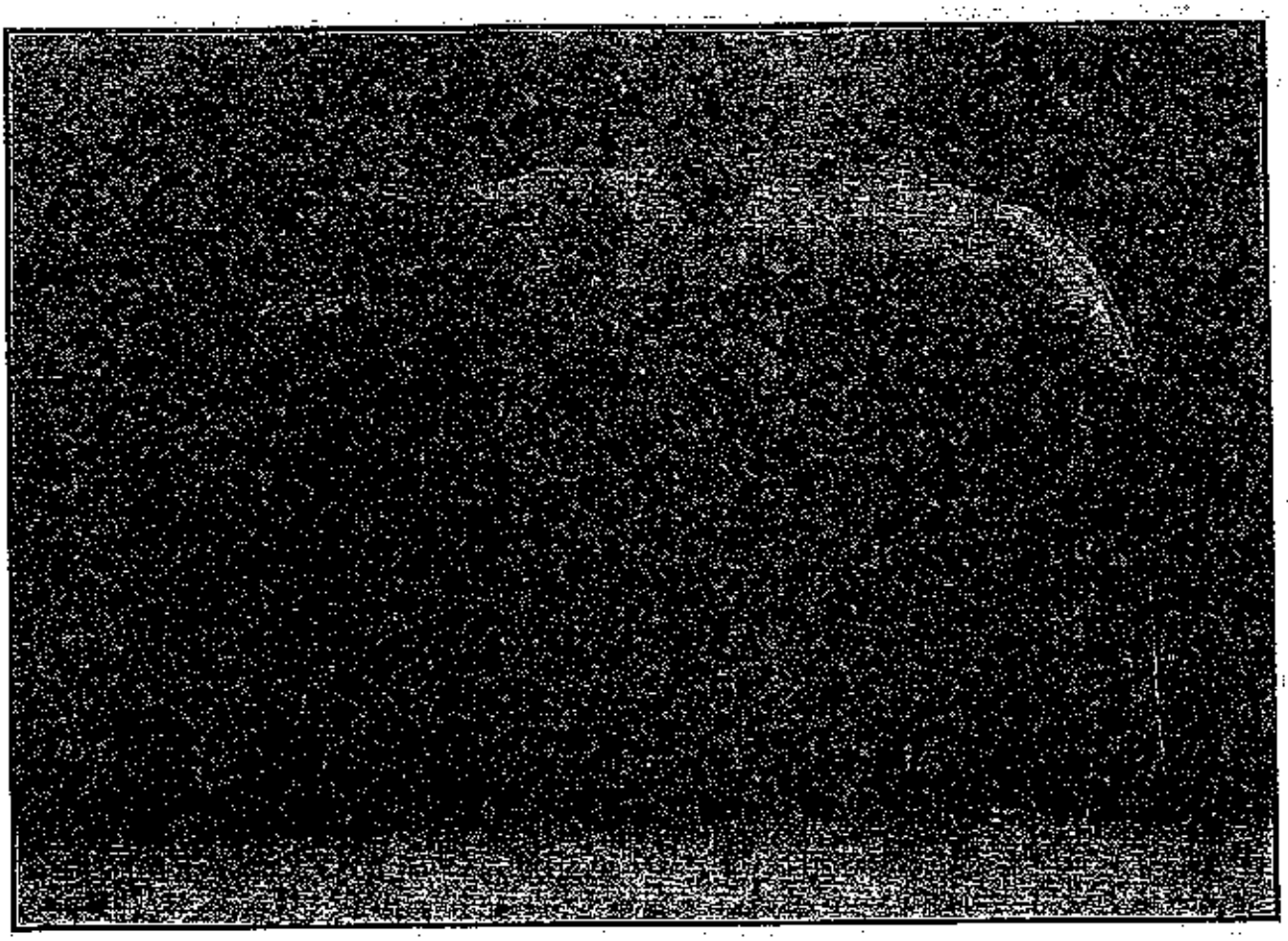
6/11/18

Divisional Forest Officer,
Keonjhar Division

Annexure-VII

GAJAH

SECURING THE FUTURE FOR THE ELEPHANT IN INDIA



FEBRUARY 2011

Ministry of Environment and Forests
GOVERNMENT OF INDIA



The Asian elephant (*Elephas maximus*) is a powerful cultural symbol in many Asian countries, revered as Ganapati or Vinayaka, the Lord who blesses new beginnings.

The origin of *gajah* comes from Sanskrit and means elephant. It personifies wisdom, abundance, richness, fertility, boldness and strength.

The Asian elephant task force report is a culmination of the knowledge of experts to secure the future for *gajah* in India. Very importantly, it recognizes that the cause of *gajah* should be taken to the *praja*, the common people.

Gajah is the elephant task force report on how to secure the future for elephants in India.



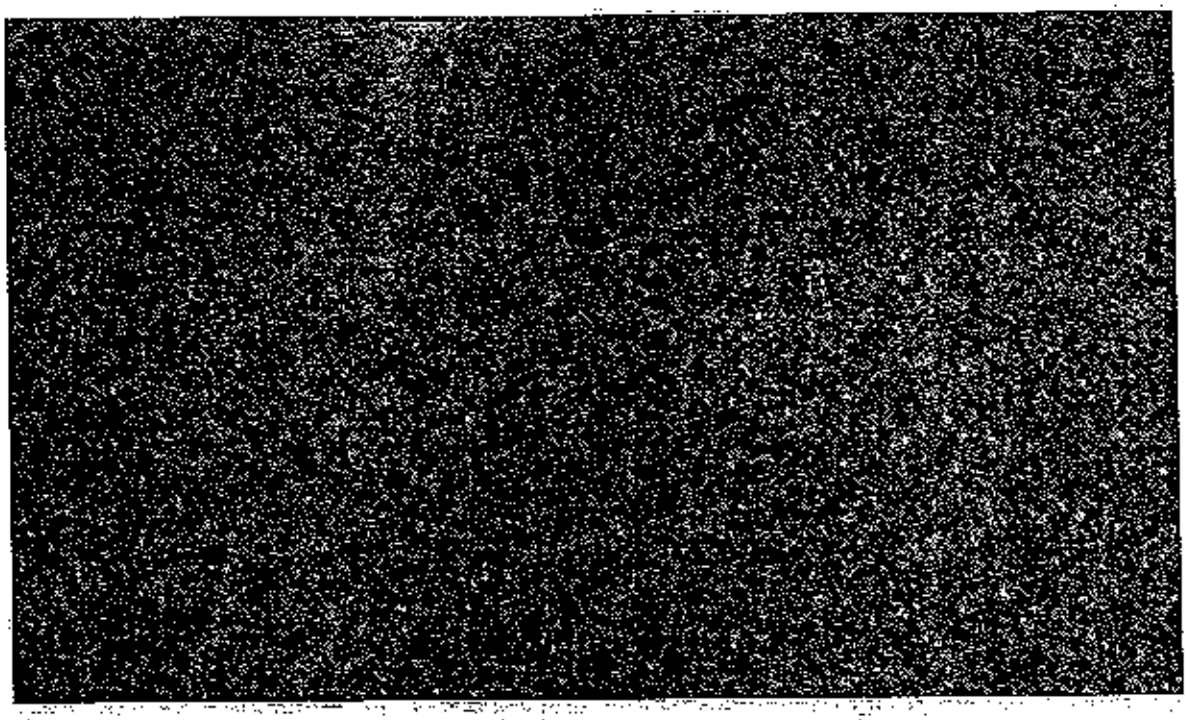
The Lives of Elephants...

Elephants are social beings living in a matriarchal society with the oldest female leading the herd and assuming the responsibility of decision making. Males which they are 10 to 15 years old, move away from the herd. Adult males lead solitary lives, joining herds occasionally to court females. Elephants care for their young ones in the same way as we humans do. They guard against potential threats aggressively. Elephants have a long life span living to the grand old age of 70 years. They also have a remarkable memory.

Elephants as Part of Our National Heritage...

The Indian sub-continent is considered to be the last remaining stronghold of the Asian elephants. With more than 26,000 elephants, it is home to more than half the global Asian elephant population in the wild. The country also has nearly 3,500 elephants in captivity. Around 4,000 years ago, an extraordinary relationship was forged between elephants and humans in India. Ever since, elephants have been prized for their ivory or 'white gold', for their utility in animal-powered transport, and most importantly for their magnificent and auspicious presence in festivities and ceremonies. This long-enduring charismatic relationship between elephants and humans is etched in the minds and hearts of millions of people, making the graceful and magnanimous animal an inseparable part of our national and cultural heritage.

Valuing the important niche that elephant has come to occupy in the socio-cultural milieu of the Indian society, the government has accorded it the status of the National Heritage



Protection and Conservation of Elephants is a Challenging Task...

Despite best efforts of the government, the society and the people at large, elephant conservation still remains an uphill task. A coordinated and concerted effort is needed to effectively address the following challenges:

- Habitat loss, and fragmentation and degradation of elephant habitat are considered to be the primary cause for the decline in elephant numbers. It is estimated that their geographic range has shrunk by 70% since 1960s.
- Threat to life of elephants still looms large. Almost 3 out of 10 elephant deaths are attributed to illegal killing, train accidents, and electrocution etc.



- Human-elephant conflict is another major threat to the Asian elephant. Nearly 400 people and 100 elephants lose their lives due to this conflict every year.
- Only 1/4th area of all elephant reserves enjoys the status of the protected area. There is a strong need to guarantee protection to elephants by involving the local communities.
- Legal and illegal capturing of elephants in the past has resulted in disappearance of the animal in many pockets. It has been estimated that 2-4 million elephants were captured from the wild during the history of elephant domestication, with 1,00,000 alone captured in the 19th century.



The Elephant Task Force Report: The Way Forward...

This report makes a number of useful recommendations for institutionalizing protection and conservation of elephants. Important recommendations are:

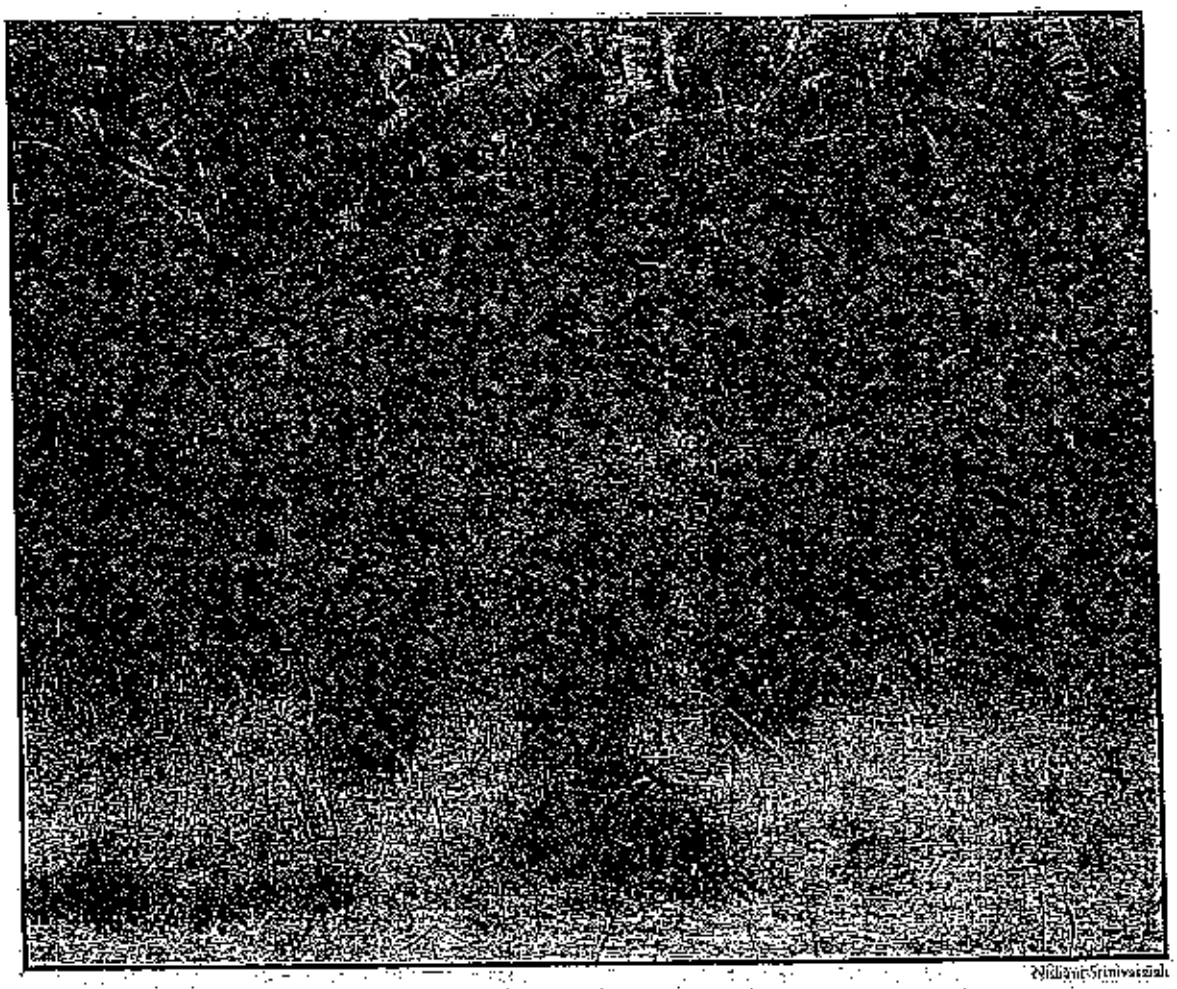
1. Governance and Law

Existing 32 elephant reserves span 10 landscapes. Five of these landscapes have been identified on a priority basis for immediate action relating to overall improvement in their management status including conflict resolution. Ideally, elephant reserve should comprise a network of both protected areas and other lands identified on the basis of actual movement, presence and requirement of humans and elephants.

- Constitute local management committees for each reserve with representatives of Zila Parishad, Panchayat and Gram Sabha, and scientists and veterinarians as members.
- Ensure minimum, and preferably no modification of corridors which elephants use.
- Consider on priority the modifications in the Wild Life (Protection) Act, 1972, explicitly suggested in the elephant task force report.

2. Census and Studies

- Identify new scientifically sound methods and ways to carry out regular census and monitoring of the animal across the country.
- Establish elephant research stations, and open air forest laboratories. Also, institute elephant fellowships and scholar exchange programmes.



Ministry of Environment and Forests
GOVERNMENT OF INDIA

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Cover photograph : Mother with calf at Bandipur Tiger Reserve, Karnataka

List of Flora and Fauna in 10 km radius of the OMC's Dubna-Sakradih ML

Background

Dubna-Sakradihi Iron & Manganese mine of M/s Odisha Mining Corporation Limited (OMC) is bounded between latitude 21°48'37.35634"N to 21°51'49.70793"N & longitude 85°22'17.83890"E to 85°24'26.47792"E and is covered by Survey of India toposheet no. 73 G/5 (OSM No.-F45N5). The ML is spread over villages Handibhanga, Jampani, Badakalimati, Dubna, Purunadihi, Naibaga, Basantapur, Pedipokhari & Naibaga R.F. in Barbil and Jhumpura Tehsils of Keonjhar, Odisha.

The proposal envisages re-opening of Dubna-Sakradihi Iron and Manganese mine with iron ore production of 3 MTPA & Manganese ore production of 0.05 MTPA alongwith installation of crushing facility (100 TPH-1 No.) and screening unit (300 TPH-2 No. and 100 TPH-1 No.) for processing of iron ore in the mine lease area of 1332.019 ha.

OMC has appointed MECON LTD. (A Govt. of India Enterprise), a QCI-NABET approved consultant organization for carrying out Environmental Impact Assessment and Environmental Management Plan (EIA/EMP) studies w.r.t Dubna-Sakradihi Iron and Manganese mine. MECON has collected data / information regarding flora and fauna found in the proposed project area (Core Zone) and 10 km radius area around the project area (Buffer Zone) during March-April-May 2019. As per the ToR point no. (xx) of the approved ToR issued by MoEF&CC, New Delhi, the list of flora & fauna has been prepared and appended herewith for authentication.

Core Zone Flora

The list of plants growing naturally in the core zone viz. trees, under-trees and shrubs, climbers, herbs and grasses are listed in Table 1.

Table 1: List of Plants Found in Core Zone

Sl. No.	Common Name	Scientific Name	Habitat	Family
1.	Bela	*Aegle marmelos*	Tree	Rutaceae
2.	Mahaneem	*Allanthus excelsa*	Tree	Simaroubaceae
3.	Ankala	*Alangium salvifolium*	Tree	Cornaceae
4.	Chhatian	*Alstonia scholaris*	Tree	Apocynaceae
5.	Ata	*Annona squamosa*	Shrub	Annonaceae
6.	Dhaura	*Anogeissus latifolia*	Tree	Combretaceae
7.	Shialikanta	*Argemone mexicana*	Herb	Papaveraceae
8.	Neem	*Azadirachta indica*	Tree	Meliaceae
9.	Bans	*Bambusa bambos*	W. Grass	Graminae
10.	Simili	*Bombax ceiba*	Tree	Malvaceae
11.	Kasi	*Bridelia retusa*	Tree	Euphorbiaceae
12.	Char	*Buchanania lanzan*	Tree	Anacardiaceae
13.	Arakha	*Calotropis gigantea*	Shrub	Asclepiadaceae
14.	Kumbhi	*Careya arborea*	Tree	Lecythidaceae

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Sl. No.	Common Name	Scientific Name	Habitats	Family
15.	Koli	*Cadssa carandas*	Shrub	Apocynaceae
16.	Khakada	*Cascaria ellitica*	Tree	Salicaceae
17.	Sunari	*Cassia fistula*	Tree	Caesalpiniaceae
18.	Chauli	*Celastrus glauca*	Tree	Celastraceae
19.	Atunji	*Combretum decandrum*	W.Climber	Combretaceae
20.	-	*Crotal spp.*	Shrub	Euphorbiaceae
21.	Sissoo	*Dalbergia sisoo*	Tree	Fabaceae
22.	Mankada-kendu	*Diospyros embryopteris*	Tree	Ebenaceae
23.	Kendu	*Diospyros melanoxylon*	Tree	Ebenaceae
24.	-	*Eupatorium adelphum*	Herbal	Asteraceae
25.	Bara	*Ficus bengalensis*	Tree	Moraceae
26.	Dimri	*Ficus racemosa*	Tree	Moraceae
27.	Jolli / Pil	*Ficus religiosa*	Tree	Moraceae
28.	Gambhari	*Gmelina arborea*	Tree	Verbenaceae
29.	Kural / Kurtal	*Holarrhena antidysenterica*	Tree	Apocynaceae
30.	Sidha	*Lagerstroemia parviflora*	Tree	Lythraceae
31.	Pidgil	*Lagerstroemia speciosa*	Tree	Lythraceae
32.	Jila	*Lannea coromandelica*	Tree	Anacardiaceae
33.	Putus	*Lantana camara*	Shrub	Verbenaceae
34.	Putus	*Lantana indica*	Shrub	Verbenaceae
35.	Bacha	*Leucas cephalotes*	Herb	Lamiaceae
36.	Mahula	*Madhuca latifolia*	Tree	Sapotaceae
37.	Kamala	*Mallotus philippensis*	Tree	Euphorbiaceae
38.	Aam	*Mangifera indica*	Tree	Anacardiaceae
39.	Lajwanti	*Mimosa pudica*	Herb	Mimosaceae
40.	Achhu	*Morinda tinctoria*	Tree	Rubiaceae
41.	Ganglauli	*Nyctanthes arbortristis*	Tree	Oleaceae
42.	Bandhan	*Quisqualis indica*	Tree	Combretaceae
43.	Aonla / Amlola	*Phyllanthus emblica*	Tree	Euphorbiaceae
44.	Karanja	*Pongamia pinnata*	Tree	Papilionaceae
45.	Piasal	*Pterocarpus marsupium*	Tree	Fabaceae
46.	Kusum	*Schleichera oleosa*	Tree	Sapindaceae
47.	Bhallia	*Semecarpus anacardium*	Tree	Anacardiaceae
48.	Sal	*Shorea robusta*	Tree	Dipterocarpaceae
49.	Jamun	*Syzygium cumini*	Tree	Myrtaceae
50.	Tentul	*Tamarindus indica*	Tree	Caesalpiniaceae
51.	Bahada	*Terminalia bellirica*	Tree	Combretaceae
52.	Harida	*Terminalia chebula*	Tree	Combretaceae
53.	Asun	*Terminalia tomentosa*	Tree	Combretaceae
54.	Pani-Gambhari	*Tricalysia niamiana*	Tree	Euphorbiaceae
55.	Dasaiyakarani	*Tridax procumbens*	Herb	Asteraceae
56.	-	*Xanthium strumarium*	Herb	Asteraceae
57.	Borkoli	*Ziziphus jujuba*	Tree	Rhamnaceae

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Sl. No.	Common Name	Scientific Name	Habitat	Family
58.	Acasia	*Acacia Pennineivis*	Tree	Fabaceae
59.	Ambada	*Spondias pinnata*	Tree	Anacardiacean
60.	Ashok	*Saraca asoca*	Tree	Fabaceae
61.	Aswastha	*Ficus religiosa*	Tree	Moraceae
62.	Bheru	*Chloroxylon swietenia*	Tree	Rutaceae
63.	Chakunda	*Samanea saman*	Tree	Fabaceae
64.	Champa	*Mangolia champaca*	Tree	Mangoliaceae
65.	Debadaru	*Polyalthia longifolia*	Tree	Annonaceae
66.	Dhatiki	*Ziziphus mauritiana*	Tree	Rhamnaceae
67.	Eucaliptus	*Eucalyptus globules*	Tree	Myrtaceae
68.	Gauva	*Psidium guajava*	Tree	Myrtaceae
69.	Kadamba	*Neolamarckia cadamba*	Tree	Rubiaceae
70.	Kaju	*Anacardiaceae*	Tree	Cashew
71.	Kanchan	*Bauhinia Variegeta*	Tree	Fabaceae
72.	Kandar	*Cascabela thievetia*	Tree	Apocynoideae
73.	Khaira	*Senegalia catechu*	Tree	Fabaceae
74.	Kulita	*Diaspyros sylvatia*	Tree	Febenaceae
75.	Kurein	*Holarrhena floribunda*	Tree	Apocynoideae
76.	Kuruma	*Adina cordifolia*	Tree	Rubiaceae
77.	Palasa	*Butea monasperma*	Tree	Fabaceae
78.	Panasa	*Artocarpus heterophyllus*	Tree	Moraceae
79.	Pudhul	*Schleichera*	Tree	Sapindaceae
80.	Radhachuda	*Peltophorum pterocarpum*	Tree	Fabaceae
81.	Sindura	*Dika brallana*	Tree	Alxaceae
82.	Teak	*Burmese teak*	Tree	Lamiaceae
83.	Tentla	*Cassia fistula*	Tree	Fabaceae

Table 2: List of Faunal species and their Conservation Status in the Core Zone

Sl. No.	Common Name / Local Name	Scientific Name	Schedule of Wild Life Protection Act in Which Listed
Mammals			
1.	Common house Rat / Musa	*Rattus rattus*	V
2	Common Langur / Hanuman	*Semnopithecus entellus*	II
3	Common Mongoose / Hatia Neula	*Herpestes edwardsi*	II
4	House Rat / Mus	*Rattus rattus*	V
5	Indian Field Mouse	*Mus booduga*	V
6	Indian hare / Thekua	*Lepus nigricollis ruficaudatus*	IV
7	Indian Mole Rat / Gatua musa	*Bandicota bengalensis*	IV
8	Jungle Cat / Bana Biradi	*Felis chaus*	II
9	Rhesus Macaque / Pati	*Macaca mulatta*	II
10	Squirrel / Gurdichimusa	*Funambulus*	IV

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Sl. No.	Common Name / Local Name	Scientific Name	Schedule of Wild Life Protection Act in Which Listed
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Reptiles			
1	Banded Krait / Rana	*Bungarus fasciatus*	IV
2	Cobra / Gokhra	*Naja naja*	II
3	Common Krait / Kaudia chiti	*Bungarus caeruleus*	IV
4	Common Skink	*Eutropis carinata* Syn. *Mabuya carinata*	-
5	Garden Lizard	*Calotes versicolor*	-
6	Russel's Earth Boa / Domuhdii	*Indotyphlops braminus*	IV
7	Russel's Viper / Chandraboda	*Daboia russelii*	II
8	Saw Scaled Viper / Chiti	*Echis carinatus*	IV
9	Yellow Rat Snake / Dhamena	*Ptyas mucosa*	II
Avi-fauna			
1	Jungle Bush Quail	*Perdicula asiatica*	IV
2	Shikra / Baja-pakhi	*Accipiter badius*	IV
3	Bank Myna / Ghukalika	*Acridotheres ginginianus*	IV
4	Common Mynah / Bani	*Acridotheres tristis*	IV
5	Common Iora	*Aegithina tiphia*	-
6	Quaker Babbler	*Alcippe poioicephala*	-
7	White Breasted Water Hen / Dahuka	*Amaurornis phoenicurus*	IV
8	Pond Heron	*Ardeola grayii*	IV
9	Jungle Babbler / Kundachadei	*Argya striata* Syn. *Turdoides striatus*	IV
10	Spotted Owlet / Pecha	*Athene brama*	IV
11	Cattle Egret / Baga	*Bubulcus ibis*	IV
12	Crow Pheasant / Kumbhatua	*Centropus sinensis*	IV
13	White-necked Stork	*Ciconia episcopus*	IV
14	Purple Sunbird	*Cinnyris asiaticus*	IV
15	Pied Crested Cuckoo	*Clamator jacobinus*	IV
16	Blue Rock Pegion / Deullapara	*Columba livia*	-
17	House Swift / Chatak	*Copsychus saularis*	IV
18	Magpie Robin	*Copsychus saularis*	IV
19	Indian Roller	*Coracias benghalensis*	IV
20	Indian roller	*Coracias benghalensis*	-
21	Jungle Crow / Damarakau	*Corvus macrorhynchos*	IV
22	Common Crow / Patikau	*Corvus splendens*	V
23	Cuckoo	*Cuculus spp.*	-
24	Tree Pie / Jays	*Dendrocitta*	IV

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Sl. No.	Common Name / Local Name	Scientific Name	Schedule of Wild Life Protection Act in Which Listed
		vagabunda	
25	Drongo / Kajalapati	*Dicrurus adsimilis*	IV
26	Lesser golden-backed woodpecker	*Dinopium benghalense*	IV
27	Little Egret / Baga	*Egretta garzetta*	IV
28	Koel / Koili	*Eudynamys scolopaceus*	IV
29	Partridge / Teetri	*Francolinus spp.*	IV
30	Painted spur-fowl	*Galloperdix lunulata*	IV
31	Red Jungle Fowl / Banakukuda	*Gallus gallus*	IV
32	Grey Jungle Fowl	*Gallus sonneratii*	IV
33	Pied Mynah	*Sturnus contra*	IV
34	White Breasted Kingfisher	*Halcyon smyrnensis*	-
35	Shrikes	*Lanius spp.*	IV
36	Yellow Cheeked Tit	*Machlolophus xanthogenys*	IV
37	Chestnut Headed Bee-eater	*Merops leschenaulti*	-
38	Small Green Bee-eater	*Merops orientalis*	IV
39	Small Indian Cormorant	*Phalacrocorax niger*	IV
40	Pariah Kite / Chilla	*Milvus migrans*	IV
41	Wagtail	*Motacilla spp.*	IV
42	Black Headed Oriole / Haldibasanta	*Oriolus xanthornus*	IV
43	Tailor Bird	*Orthotomus sutorius*	-
44	House Sparrow / Gharchatia	*Passer domesticus*	-
46	Spotted Babbler	*Pellorneum ruficeps*	IV
47	Weaver Bird / Bayachadhei	*Ploceus spp.*	IV
48	Black Ibis	*Pseudibis papillosa*	-
49	Parrot	*Psittacula eupatria*	-
50	Rose Ringed Parakeet	*Psittacula krameri*	IV
51	Red Vent Bulbul	*Pycnonotus cafer*	IV
52	White Cheeked Bulbul	*Pycnonotus leucogenys*	IV
53	Spotted Dove	*Spilopelia chinensis*	IV
54	Doves	*Streptopelia spp.*	IV
55	Yellow-legged green pigeon	*Treron phoenicoptera*	IV
56	Common bustard-quail	*Turnix suscitator*	IV

Buffer Zone/Study area

Table 3: List of Plants found in Study Area

Sl. No.	Common Name	Botanical Name	Family
Trees			

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Sl. No.	Common Name	Botanical Name	Family
1	Amba	*Mangifera indica*	Anacardiaceae
2	Ambada	*Spondias pinnata*	Anacardiaceae
3	Amla / Aonla	*Embelica officinalis*	Phyllanthaceae
4	Anchhu	*Morinda tinctoria*	Rubiaceae
5	Ankula	*Alangium salvifolium*	Cornaceae
6	Arjun	*Terminalia arjuna*	Combretaceae
7	Asan	*Terminalia tomentosa*	Combretaceae
8	Aswatha	*Ficus religiosa*	Moraceae
9	Babul / Bamburu	*Acacia nilotica*	Mimosaceae
10	Bahada	*Terminalia bellirica*	Combretaceae
11	Bandhan	*Dugeinia oojeinensis*	Fabaceae
12	Bankhajuri	*Phoenix sylvestris*	Arecaceae
13	Bata	*Ficus bengalensis*	Moraceae
14	Barkoli	*Ziziphus mauritiana*	Rhamnaceae
15	Baruna	*Crateva religiosa*	Capparaceae
16	Baula	*Mimusops elengi*	Sapotaceae
17	Bel	*Aegle marmelos*	Rutaceae
18	Bhalia	*Semecarpus anacardium*	Anacardiaceae
19	Champa	*Michelia champaca*	Magnoliaceae
20	Char	*Buchanania lanzan*	Anacardiaceae
21	Chauli	*Cassine glauca*	Celastraceae
22	Chhatian	*Alstonia scholaris*	Apocynaceae
23	Chhotarai	*Dillenia aurea*	Dilleniaceae
24	Chhuinpatuli	*Stereospermum angustifolium*	Bignoniaceae
25	Dhalasiris, Tentra	*Albizia procera*	Mimosaceae
26	Dhaman	*Grewia tiliifolia*	Tiliaceae
27	Dhaura	*Anogeissus latifolia*	Combretaceae
28	Dimri	*Ficus racemosa*	Moraceae
29	Gambhari	*Gmelina arborea*	Verbenaceae
30	Gandhapalas	*Millusa velutina*	Annonaceae
31	Gangaskuli	*Nyctanthes arbortristis*	Oleaceae
32	Goljira	*Acacia leucophloea*	Mimosaceae
33	Harida	*Terminalia chebula*	Combretaceae
34	Indrajal, Kurei	*Holarrhena antidysseritrica*	Apocynaceae
35	Jamu	*Syzygium cumini*	Myrtaceae
36	Jari	*Ficus virens*	Moraceae
37	Jeuth	*Artocarpus lakoocha*	Moraceae
38	Kadam	*Anthocephalus cadamba*	Rubiaceae
39	Kaliachua	*Diospyros sylvatica*	Ebenaceae
40	Kamalagundi	*Mallotus philippensis*	Euphorbiaceae
41	Kanchan	*Bauhinia racemosa*	Caesalpiniaceae
42	Kandha	*Citrus aurantium*	Rutaceae
43	Karada	*Cleistanthus collinus*	Euphorbiaceae
44	Karanja	*Pongamia pinnata*	Fabaceae
45	Kasi	*Bridelia retusa*	Euphorbiaceae
46	Kendu	*Diospyros melanoxylon*	Ebenaceae
47	Khair	*Acacia catechu*	Mimosaceae
48	Khakda	*Casearia elliptica*	Salicaceae
49	Kharal	*Gardenia turgida*	Rubiaceae

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Sl. No.	Common Name	Botanical Name	Family
50	Kumbhi	*Careya arborea*	Lecythidaceae
51	Kurum, Haldu	*Adina cordifolia*	Rubiaceae
52	Kusum	*Schleichera oleosa*	Sapindaceae
53	Mahul	*Madhuca latifolia*	Sapotaceae
54	Mahanimba	*Ailanthus excelsa*	Simaroubaceae
55	Mai / Raj Mol / Jia	*Lannea coromandelica*	Anacardiaceae
56	Mankada-kendu	*Diospyros embryopteris*	Ebenaceae
57	Neem	*Azadirachta indica*	Meliaceae
58	Nimburomoi	*Bursera serrata*	Burseraceae
59	Oau	*Dillenia indica*	Dilleniaceae
60	Palash	*Butea monosperma*	Fabaceae
61	Paldhua	*Erythrina indica*	Fabaceae
62	Panas	*Artocarpus heterophyllus*	Moraceae
63	Panigambhari	*Trewia nudiflora (Mallotus nudiflorus)*	Euphorbiaceae
64	Panipatuli, Patoli	*Lagerstroemia speciosa*	Lythraceae
65	Piasal	*Pterocarpus marsupium*	Fabaceae
66	Pitamui	*Garuga pinnata*	Burseraceae
67	Rai	*Dillenia pentagyna*	Dilleniaceae
68	Rith	*Sapindus emarginatus*	Sapindaceae
69	Rohini	*Soymida febrifuga*	Meliaceae
70	Sagwan	*Tectona grandis*	Verbenaceae
71	Sajana	*Moringa oleifera*	Moringaceae
72	Sal	*Shorea robusta*	Dipterocarpaceae
73	Salai	*Boswellia serrata*	Burseraceae
74	Sidha	*Lagerstroemia parviflora*	Lythraceae
75	Simli	*Bombax ceiba*	Bombacaceae
76	Sissoo	*Dalbergia sissoo*	Fabaceae
77	Siris	*Albizia lebbeck*	Mimosaceae
78	Sunari	*Cassia fistula*	Caesalpiniaceae
79	Tala	*Borassus flabellifer*	Arecaceae
80	Tambat	*Ficus hispida*	Moraceae
81	Tentuli	*Tamarindus indica*	Caesalpiniaceae
82	Acasia	*Acacia Penninervis*	Fabaceae
83	Ashok	*Saraca asoca*	Fabaceae
84	Bheru	*Chloroxylon swietenia*	Rutaceae
85	Chakunda	*Samanea saman*	Fabaceae
86	Debadaru	*Polyalthia longifolia*	Annonaceae
87	Dhatiki	*Ziziphus mauritiana*	Rhamnaceae
88	Eucalipatus	*Eucalyptus globules*	Myrtaceae
89	Gauva	*Psidium guajava*	Myrtaceae
90	Kaju	*Anacardiaceae*	Cashew
91	Kaniar	*Cascabela thevetia*	Apocynoideae
92	Kulita	*Diospyros sylvatia*	Febenaceae
93	Kurein	*Holarrhena floribunda*	Apocynoideae
94	Pudhei	*Schleichera*	Sapindaceae
95	Radhachuda	*Peltophorum pterocarpum*	Fabaceae
96	Sindura	*Bixa orellana*	Bixaceae
97	Teak	*Burmese teak*	Lamiaceae

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Sl. No.	Common Name	Botanical Name	Family
98	Tentla	*Cassia fistula*	Fabaceae
Bamboos			
1	Daba-bans, Kanta-bans	*Bambusa arundinacea*	Poaceae
2	Dungi-bans	*Cephalostachyum pergracile*	Poaceae
3	Salia-bans	*Dendrocalamus strictus*	Poaceae
Shrubs			
1	Ata	*Annona squamosa*	Annonaceae
2	Agabadhu	*Premna obtusifolia*	Lamiaceae
3	Aghijhal	*Clausena excavata*	Rutaceae
4	Ankhukoli	*Carissa opaca*	Apocynaceae
5	Ankula	*Alangium salvifolium*	Alangiaceae
6	Arakha	*Calotropis gigantea*	Asclepiadaceae
7	Asadhua	*Capparis zeylanica*	Capparaceae
8	Ata	*Annona squamosa*	Annonaceae
9	Balgaba	*Jatropha gossypiifolia*	Euphorbiaceae
10	Bantala	*Ardisia solanacea*	Myrsinaceae
11	Banachiretta	*Leea asiatica*	Vitaceae
12	Banbiri	*Vigna radiata*	Fabaceae
13	Banchakunda	*Cassia tora*	Caesalpiniaceae
15	Banmalli	*Jasminum arborescens*	Oleaceae
16	Begunia	*Vitex negundo*	Verbenaceae
17	Bhabhadalia	*Olax scandens*	Olacaceae
19	Bhersunga	*Murraya koenigii*	Rutaceae
20	Bhokupadi, Lantana	*Lantana camara*	Verbenaceae
21	Chiani	*Clerodendrum inerme*	Verbenaceae
22	Dhatiki	*Woodfordia fruticosa*	Lythraceae
23	Dhatura	*Datura spp.*	Solanaceae
24	Gangol	*Melastoma malabathricum*	Melastomataceae
25	Kamini	*Murraya exotica*	Rutaceae
26	Kanteikoli	*Zizyphus oenoplia*	Rhamnaceae
27	Kaskastjhari	*Ficus parasitica*	Moraceae
28	Kathamanjuati	*Lawsonia inermis*	Lythraceae
29	Kharkhari	*Clerodendrum viscosum*	Verbenaceae
30	Koli	*Carissa carandas*	Apocynaceae
31	Kuruda	*Gardenia gummifera*	Rubiaceae
32	Lal-bherenda	*Jatropha gossypifolia*	Euphorbiaceae
33	Lankajada	*Ricinus communis*	Euphorbiaceae
34	Mirgichra, Barenga	*Grewia elastica*	Tiliaceae
35	Mossu	*Aporosa dioica*	Phyllanthaceae
36	Muraiphal	*Helicteres isora*	Sterculiaceae
37	Nahalbeli	*Cipadessa baccifera*	Meliaceae
38	Sablia	*Actinodaphne angustifolia*	Lauraceae
39	Salra	*Catunaregam nutans (Gardenia nutans)*	Rubiaceae
40	Sunaragada	*Grewia helicterifolia (G. lanceolata)*	Tiliaceae
41		*Parthenium hysterophorus*	Asteraceae
Climbers & Lianas			

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Sl. No.	Common Name	Botanical Name	Family
1	Akanbhindi	*Cissampelos pareira*	Menispermaceae
2	Anantamula	*Hemidesmus indicus*	Asclepiadaceae
3	Anantamula	*Tylophora indica*	Asclepiadaceae
4	Atundi	*Combretum decandrum*	Combretaceae
5	Badichand	*Symphorema polyandrum*	Verbenaceae
6	Bahumruga	*Flagellaria indica*	Flagellariaceae
7	Baidlank	*Mucuna pruriens*	Fabaceae
8	Bana-alu	*Dioscorea hispida*	Dioscoreaceae
9	Ban-oiua	*Amorphophallus bulbifer*	Araceae
10	Banbiri	*Vigna radiata*	Fabaceae
11	Bankolthi	*Atylosia scarabaeoides*	Fabaceae
12	Bankunduru	*Trichosanthes cucumerina*	Cucurbitaceae
13	Banmug	*Phaseolus sublobatus*	Fabaceae
14	Bansimba	*Lablab purpureus*	Fabaceae
15	Babralata	*Salacia prinoides*	Celastraceae
16	Bichauti	*Tragia involucrata*	Euphorbiaceae
17	Dantari	*Acacia pennata*	Mimosaceae
18	Dhalakatirani	*Derris scanderis*	Fabaceae
19	Dudhuloi, Suamloi	*Ichnocarpus frutescens*	Apocynaceae
20	Durarikoli	*Opilia amentacea (Erycibe paniculata)*	Opiliaceae
21	Durkoli	*Erycibe paniculata*	Convolvulaceae
22	Ganj	*Millettia auriculata (M. extensa)*	Fabaceae
23	Gohirakanta	*Dalbergia spinosa*	Fabaceae
24	Goparkanhu	*Cryptolepis buchananii*	Asclepiadaceae
25	Handiphuta'	*Pueraria tuberosa*	Fabaceae
26	Hoya	*Hoya parasitica (H. verticillata)*	Asclepiadaceae
27	Kaincha	*Abrus precatorius*	Fabaceae
28	Kalakatirani	*Derris trifoliata*	Fabaceae
29	Kankada	*Momordica dioica*	Cucurbitaceae
30	Kathakatirani	*Dalbergia candenatensis*	Fabaceae
31	Khamba Alu	*Dioscorea alata*	Dioscoreaceae
32	Kosa-alu	*Dioscorea pubera*	Dioscoreaceae
33	Kunjalata	*Ipomoea quamoclit*	Convolvulaceae
34	Latapalas	*Butea parviflora*	Fabaceae
35	Marda	*Millettia racemosa*	Fabaceae
36	Matka	*Solena amplexicaulis*	Cucurbitaceae
37	Muturilaha, Muturi	*Smilax macrophylla (S. zeylanica)*	Smilacaceae
38	Nirmuli	*Cuscuta spp.*	Cuscutaceae
39	Nentel	*Caesalpinia crista*	Caesalpiniaceae
40	Panayiri	*Aristolochia indica*	Aristolochiaceae
41	Pani-alu	*Dioscorea oppositifolia*	Dioscoreaceae
42	Pichhuli	*Gouania leptostachya*	Rhamnaceae
43	Ralgidi	*Pentatropis capensis*	Asclepiadaceae
44	Satabari	*Asparagus racemosus*	Asparagaceae
45	Sali	*Bauhinia vahlii*	Caesalpiniaceae
Herbs			
1	Agnijal, Banajalangi	*Vernonia cinerea*	Asteraceae
2	Anakarati	*Solanum xanthocarpum*	Solanaceae

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Sahu 7/2/19

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Champua

Sl. No.	Common Name	Botanical Name	Family
3	Badiania	*Phyllanthus fraternus*	Phyllanthaceae
4	Balngalol	*Tragia plukenetii*	Euphorbiaceae
5	Baramull	*Sida spinosa*	Malvaceae
6	Banachanda	*Cleome viscosa*	Cleomaceae
7	Banhaldi	*Curcuma aromatica*	Zingiberaceae
8	Barcha	*Leonotis nepetifolia*	Lamiaceae
9	Basanga	*Justicia adhatoda*	Acanthaceae
10	Bhui-aonla	*Phyllanthus niruri*	Phyllanthaceae
11	Bhuin-neem	*Andrographis paniculata*	Acanthaceae
12	Bisalyakarani	*Tridax procumbens*	Asteraceae
13	Chepti	*Evolvulus alsinoides*	Convolvulaceae
14	Gayatulasi	*Leucas aspera*	Lamiaceae
15	Haldigundi	*Spilanthes calva (Acmella paniculata)*	Asteraceae
16	Iswarjata	*Celosia cristata*	Amaranthaceae
17	Krushnaparni	*Desmodium polycarpum (D. heterocarpon)*	Fabaceae
18	Lajwanti	*Mimosa pudica*	Mimosaceae
19	Madanga	*Loranthus spp.*	Loranthaceae
20	Mayurachulia	*Celosia argentea*	Amaranthaceae
21	Panikendull	*Crinum defixum (Crinum viviparum)*	Amaryllidaceae
22	Salparni	*Desmodium gangeticum*	Fabaceae
23	Shialkanta	*Argemone mexicana*	Papavaraceae
24	Talmull	*Curculigo orchioides*	Hypoxidaceae
25	Tulsi	*Ocimum sanctum*	Lamiaceae
26	-	*Eupatorium odoratum*	Asteraceae
27	-	*Xanthium stumarium*	Asteraceae
Grasses			
1	Chhana	*Imperata arundinacea*	Poaceae
2	Chorkanta	*Chrysopogon (Andropogon) aciculatus*	Poaceae
3	Khara	*Cymbopogon spp.*	Poaceae
4	Duba	*Cynodon dactylon*	Poaceae
5	Ghonda-bena	*Bothriochloa spp.*	Poaceae
6	Nalia	*Myriostachya wightiana*	Poaceae
7	Panighasa	*Eragrostis spp*	Poaceae
8	Phuljhadu	*Thysanolaena maxima*	Poaceae
9	Sabai	*Eulaliopsis binata*	Poaceae
10	Sinkhola	*Heteropogon contortus*	Poaceae
Orchids			
1		*Acampe carinata*	Orchidaceae
2		*Aerides maculosa*	Orchidaceae
3		*Dendrobium spp.*	Orchidaceae
4		*Vanda roxburghii*	Orchidaceae

COUNTERSIGNED

Range Officer

Table 4: List of Faunal species in the Buffer Zone (10 km around lease)

Sl. No.	Common Name / Local Name	Scientific Name	Schedule of Wildlife Protection Act in which listed
Mammals			
1.	Barking Deer (Kutura)	*Muntiacus muntjak*	III
2.	Civet / Katasha	*Paradoxurus sp.*	II
3.	Common house Rat / Musa	*Rattus rattus*	V
4.	Common Langur / Hanuman	*Semnopithecus entellus* Syn. *Presbytis entellus*	II
5.	Common Mongoose / Hatia Neula	*Herpestes edwardsi*	II
6.	Elephant (Hathi)	*Elephas maximus*	I
7.	Grizzled giant squirrel / Salara Musa	*Ratufa indica*	II
8.	House Rat / Mus	*Rattus rattus*	V
9.	Hyaena / Heta Bagha	*Hyaena hyaena*	III
10.	Indian Field Mouse	*Mus booduga*	V
11.	Indian Fox / Siyaru	*Vulpes bengalensis*	II
12.	Indian hare / Thekua	*Lepus nigricollis ruficaudatus*	IV
13.	Indian Mole Rat / Gatua musa	*Bandicota bengalensis*	IV
14.	Indian Porcupine / Jhinka	*Hystrix indica*	IV
15.	Jackal / Bilua	*Canis aureus*	II
16.	Jungle Cat / Bana Biradi	*Felis chaus*	II
17.	Kuji Neula	*Herpestes javanicus*	IV
18.	Otter / Odha	*Lutra lutra*	II
19.	Rhesus Macaque / Pati	*Macaca mulatta*	II
20.	Sloth Bear / Bhalu	*Melursus ursinus*	I, II
21.	Squirrel / Gurdichimusa	*Funambulus pennantii*	IV
22.	Wild Boar / Barha	*Sus scrofa*	III
Reptiles			
1.	Banded Krait / Rana	*Bungarus fasciatus*	IV
2.	Cobra / Gokhra	*Naja naja*	II
3.	Common Krait / Kaudia chiti	*Bungarus caeruleus*	IV
4.	Common Skink	*Mabuya carinata*	-
5.	Garden Lizard	*Calotes versicolor*	-
6.	Monitor Lizard / Godhi	*Varanus bengalensis*	I
7.	Python / Ajagara	*Python molurus*	I
8.	Russel's Earth Boa / Domundia	*Syn. Typhlops braminus*	IV
9.	Russel's Viper / Chandraboda	*Daboia russelii Syn. Vipera russelii*	II
10.	Saw Scaled Viper / Chiti	*Echis carinatus*	IV
11.	Yellow Rat Snake / Dhamena	*Ptyas mucosa*	II

COUNTERSIGNED

6/12/15

Divisional Forest Officer,

Forest Range Officer
Champua

Avifauna

The list of birds found in the study area along with their conservation status is given below:

Table 5: List of Birds in Buffer Zone

Sl. No.	Common Name	Scientific Name	Schedule of Wildlife Protection Act in which listed
1.	Jungle Bush Quail	*Perdicula asiatica*	IV
2.	Shikra / Baja-pakhi	*Accipiter badius*	IV
3.	Bank Myna / Ghukalika	*Acridotheres ginginianus*	IV
4.	Common Myriah / Bani	*Acridotheres tristis*	IV
5.	Common Iora	*Aegithina tiphia*	-
6.	Quaker Babbler	*Alcippe poioicephala*	-
7.	White Breasted Water Hen / Dahuka	*Amaurornis phoenicurus*	IV
8.	Pond Heron	*Ardeola grayii*	IV
9.	Jungle Babbler / Kundachadei	*Argya striata Syn. Turdoides striatus*	IV
10.	Spotted Owlet / Pocha	*Athene brama*	IV
11.	Cattle Egret / Baga	*Bubulcus ibis*	IV
12.	Crow Pheasant / Kumbhatua	*Centropus sinensis*	IV
13.	White-necked Stork	*Ciconia episcopus*	IV
14.	Purple Sunbird	*Cinnyris asiaticus*	IV
15.	Pied Crested Cuckoo	*Clamator jacobinus*	IV
16.	Blue Rock Pegion / Deulitpara	*Columba livia*	-
17.	House Swift / Chatak	*Copsychus saularis*	IV
18.	Magpie Robin	*Copsychus saularis*	IV
19.	Indian Roller	*Coracias benghalensis*	IV
20.	Indian roller	*Coracias benghalensis*	
21.	Jungle Crow / Damarakau	*Corvus macrorhynchos*	IV
22.	Common Crow / Patikau	*Corvus splendens*	V
23.	Cuckoo	*Cuculus spp.*	
24.	Tree Pie / Jays	*Dendrocitta vagabunda*	IV
25.	Drongo / Kajalapati	*Dicrurus adsimilis*	IV
26.	Lesser golden-backed woodpecker	*Dinopium benghalense*	IV
27.	Little Egret / Baga	*Egretta garzetta*	IV
28.	Koel / Koil	*Eudynamys scolopaceus*	IV
29.	Partridge / Teetri	*Francolinus spp.*	IV
30.	Painted spur-fowl	*Galloperdix lunulata*	IV
31.	Red Jungle Fowl / Banakukuda	*Gallus gallus*	IV
32.	Grey Jungle Fowl	*Gallus sonneratii*	IV
33.	Pied Mynah	*Gracupica contra Syn. Sturnus contra*	IV
34.	White Breasted Kingfisher	*Halcyon smyrnensis*	IV

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Sl. No.	Common Name	Scientific Name	Schedule of Wildlife Protection Act in which listed
35.	Shrikes	*Lanius spp.*	-
36.	Yellow Checked Tit	*Parus xanthogenys*	IV
37.	Chestnut Headed Bee-eater	*Merops leschenaulti*	IV
38.	Small Green Bee-eater	*Merops orientalis*	-
39.	Small Indian Cormorant	*Phalacrocorax niger*	IV
40.	Pariah Kite / Chila	*Milvus migrans*	IV
41.	Wagtail	*Motacilla spp.*	IV
42.	Black Headed Oriole / Haldibasanta	*Oriolus xanthornus*	IV
43.	Tailor Bird	*Orthotomus sutorius*	IV
44.	House Sparrow / Gharchatia	*Passer domesticus*	-
45.	Pea Cock	*Pavo cristatus*	I
46.	Spotted Babbler	*Pellorneum ruficeps*	-
47.	Weaver Bird / Bayachadhei	*Ploceus spp.*	IV
48.	Black Ibis	*Pseudibis papillosa*	IV
49.	Parrot	*Psittacula eupatria*	-
50.	Rose Ringed Parakeet	*Psittacula krameri*	-
51.	Red Vent Bulbul	*Pycnonotus cafer*	IV
52.	White Cheeked Bulbul	*Pycnonotus leucogenys*	IV
53.	Spotted Dove	*Spilopelia chinensis*	IV
54.	Doves	*Streptopelia spp.*	IV
55.	Yellow-legged green pigeon	*Treron phoenicoptera*	IV
56.	Common bustard-quail	*Turnix suscitator*	IV

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Divisional Forest Officer,
Keonjhar Division

Forest Range Officer
Champua

Annexure-IX

Cost Norm For Block plantation {@1600 Plants per Hectare}(Fodder Plantation)						
For ten year maintenance.						
Wage rate- @Rs315						
Sl. No	Item of Work	Preferable Period of Execution	Person days	Labour cost @Rs 315/- per day	Material (Rs)	Total (Rs)
0th Year (Advance Work)						
1	Survey, Demarcation and Pillar Posting,	Nov / Dec	2	630	0	630
2	Site Preparation	Nov / Dec	12	3780	0	3780
3	Alignment & Stacking of pits.	Jan / Feb	2	630	0	630
4	Digging of pits (30cm cube)	Feb / March	40	12600	0	12600
5	Additional cost for pitting 45cmx45cmx45cm 70% enhance				8708	8708
6	Nursery Cost (18 month old seedling) Part@37.96/seedling (Rs25/-in 0th yr +Rs12.96 in 1st year)for 1760seedlings (1600+160)	Jan / March	44	13860	2939	16799
6a	Additional cost (Nursery)				27377	27377
	S.Total		100	31500	39024	70524
7	Monitoring & Supervision charges 5% of the cost					3526.2
	G.Total		100	31500	39024	74050.2
1st Year / Planting Year						
8	Nursery Cost (6 month old seedling) Balance @3.08 for 1100 seedling	Apr-June	21.5	6772.5	593	7365.5
8a	Additional cost (Nursery)				15530.1	15530.1
9	Fencing For an average of 250meter /ha@Rs 76.80/- per meter for bamboo twings and bamboo thorn fencing	May/June	38	11970	8560	20530
10	Carriage and planting Causality replacement and application og Insecticide, manure etc.	July / Aug	21	6615	0	6615
11	Cost of Insecticide & Fertilizer. (a) NPK @50gm/ plant as basal dose=80kg @Rs24/- per Kg : Rs1920/- (b) Urea 70gm per plantin two subsequent doses@6/- per kgRs672/- (c) Granullar Insecticides (Themet , Forest, etc @5gm/ plant@Rs80/ kg=Rs640/-			0	3232	3232
12	1st Weeding (Complete weeding)	Aug / Sept	7	2205	0	2205
13	Manuring of urea 35gm/ plant	Aug / Sept	5	1575	0	1575
14	2nd Weeding (Complete weeding)	Sept / Oct	5	1575	0	1575

15	Soil Working(50cm Radius around plant) maureing 35g/ plant		7	2205	0	2205
16	Soil conservation measures in the form of Staggered trenches of 2m Lx.5m x0.5m @ 30 no/ ha.	Sept/ Oct.	10	3150	0	3150
17	Fire line tracing & inspection path		3	945	0	945
18	Watch & Ward		7	2205	0	2205
	Sub Total		**124.5**	**39217.5**	**27915.1**	**67132.6**
19	Monitoring & Supervision charges 5% of the cost					3356.63
	G.Total		**124.5**	**39217.5**	**27915.1**	**70489.23**
	2nd Year Maintenance					
20	Casualty Replacement (10%) with nursery cost	July / Aug	4	1260	1988.8	3248.8
21	weeding (Complete weeding)		6	1890	0	1890
22	Cost of Fertilizer @NPK 70g/ plant (Rs24.00 per Kg & Insecticides @5g/ plant for 160 plants 800 gm @Rs80/- per Kg			0	2752	2752
23	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	5080	11380
24	Soil working 50bm Radius around Plant	Oct / Nov	7	2205	0	2205
25	Application of Fertilizer & insecticides.	Sept/ Oct	4	1260	0	1260
26	Fire line tracing (2m Wide fire line over 400m long)	Feb/ March	3	945	0	945
26	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		**59**	**18585**	**9821**	**28406**
27	Monitoring & Supervision charges 5% of the cost					1420
	G.Total		**59**	**18585**	**9821**	**29826**
	3rd Year maintenance					
28	Weeding and application of fertilizer	Aug / Sept	7	2205	0	2205
29	Cost of fertilizer. NPK @50g/ plant @Rs24/- per Kg			0	1920	1920
30	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
31	Soil Working(50cm Radius around plant)	Oct / Nov	7	2205	0	2205
32	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Fec / March	3	945	0	945
33	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		**52**	16380	**2920**	**19300**
34	Monitoring & Supervision charges 5% of the cost					965

	G.Total		**52**	**16380**	**2920**	**20265**
4th Year maintenance						
35	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	945	0	945
36	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		**18**	5670	**0**	**5670**
37	Monitoring & Supervision charges 5% of the cost					284
	G.Total		**18**	**5670**	**0**	**5954**
5th Year maintenance						
35	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	945	0	945
36	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		**18**	5670	**0**	**5670**
37	Monitoring & Supervision charges 5% of the cost					284
	G.Total		**18**	5670	**0**	**5954**
6th Year maintenance						
35	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	945	0	945
36	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		**18**	5670	**0**	**5670**
37	Monitoring & Supervision charges 5% of the cost					284
	G.Total		**18**	5670	**0**	**5954**
7th Year maintenance						
35	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	945	0	945
36	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		**18**	5670	**0**	**5670**
37	Monitoring & Supervision charges 5% of the cost					284
	G.Total		**18**	5670	**0**	**5954**
8th Year maintenance						
35	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	945	0	945
36	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		**18**	5670	**0**	**5670**
37	Monitoring & Supervision charges 5% of the cost					284

	G.Total		**18**	**5670**	**0**	**5954**
9th Year maintenance						
35	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	945	0	945
36	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		18	5670	0	5670
37	Monitoring & Supervision charges 5% of the cost					284
	G.Total		**18**	**5670**	**0**	**5954**
10th Year maintenance						
35	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	945	0	945
36	Watch & Ward	April / March	15	4725	0	4725
	Sub Total		18	5670	0	5670
37	Monitoring & Supervision charges 5% of the cost					284
	G.Total		**18**	**5670**	**0**	**5954**
	Grand Total		**461.5**	**145373**	**79680**	**236305**

ABSTRACT.					
Year	Person days	Labour Component	Material Component	Monitoring & Supervision charge 5% of total cost	Total
0th Yr	100	31500	39024	3526	74050
1st yr	124.5	39218	27915	3357	70489
2nd Yr	59	18585	9821	1420	29826
3rd Yr	52	16380	2920	965	20265
4th Yr	18	5670	0	284	5954
5th Yr	18	5670	0	284	5954
6th Yr	18	5670	0	284	5954
7th Yr	18	5670	0	284	5954
8th Yr	18	5670	0	284	5954
9th Yr	18	5670	0	284	5954
10th Yr	18	5670	0	284	5954
Total	**461.5**	145373	**79680**	**11253**	**236305**

Annexure-X

Cost Norm for Raising of Bamboo Plantation under OBDP(State Plan) Scheme 400 Plants per Ha/Wage rate @Rs 315/- per day.						
Sl.No.	Item of work	Period of Activity	Labour in Mandays	Lobour Cost(Rs)	Material Cost(Rs)	Total Cost in (Rs)
	A. 0th year (Advance work) Pre planting operation					
1	Cost of raising 440 seedlings (part) @ Rs.12.43 per seedlings (Rs.8.67 in 0th year+ Rs.3.76 in 1st year)	Jan-Mar	11.5	3623	594.8	4217.30
2	Survey, Demarcation and Pillar posting	Feb-Mar	2	630	0	630.00
3	Site Preparation	Feb-Mar	2	630		630.00
4	Alignment and stacking of pits	Feb-Mar	2	630		630.00
5	Digging of pits of size 45cm cube	Feb-Mar	25	7875		7875.00
	Total Including cost of 440 seedlings (part)		**42.5**	13388	**594.8**	**13982.30**
6	**Monitoring & Supervision charge 5% of the total Cost**					**699.12**
	Grand Total		**42.5**	**13388**	**594.8**	**14681.42**
	B. FIRST YEAR / PLANTING YEAR					
1	Cost of 440 polypot seedlings (balance) @ Rs.3.76 per seedlings	Apr-June	4	1260	534.40	1794.4
2	Fencing For an avarage of 250 meters/ha @Rs.76.80/- per meter for bamboo twigs and bamboo thorn fencing	May/June	38	11970	8560	20530.0
3	Marriage, Planting including casualty replacement, manuring(basaldose)and insecticide application	July- Aug	5	1575	0	1575.0

4	Cost of fertilizer & insecticide (a) NPK 50 gms/plant @Rs.24/- per kg=Rs.480.00 (b) Granular Insecticide 5 gms/plant @Rs.80/- per kg=Rs.160.00 (c) Cost of Potash (MOP) @ 65gm/plant @ Rs.16.80/- per kg=Rs.437.00	July- Aug	0	0	1077	1077.0
5	1st weeding (around the plant 1 m radius)	Aug- Sept	2	630	0	630.0
6	2nd weeding (around the plant 1 m radius)	Oct- Nov	2	630	0	630.0
7	Soil working (1 m radius around the plant) & manuring using chemical fertilizer (Urea/DAP/NPK etc.)	Oct- Nov	2	630	240	870.0
8	SMC measures in form of staggered trenches of 2m L x 50 cm W x 50 cm D @ 40/ha	Jan-Feb	13	4095	0	4095.0
9	Fire tracing and inspection path	Jan-Feb	3	945	0	945.0
10	Watch and ward	Oct- Mar	7	2205	0	2205.0
11	Contingency		0	0	211	211.0
	TOTAL		76	23940	10622	34562
12	**Monitoring & Supervision charge 5% of the total Cost**					1728
	Grand Total		76	23940	10622	36290
	C. SECOND YEAR MAINTENANCE					
1	Casualty replacement with nursery cost	June- July	1	315	497.20	812.2
2	Application of fertilizer	Aug- Sept	1	315	0	315.0
3	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant @ Rs.16.80/- per kg=Rs.437.00	Aug- Sept	0	0	437	437.0
4	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	5080	11380.0
5	Weeding (around the plant 1 m radius)	Aug- Sept	2	630	0	630.0
6	Soil working (1 m radius around the pit)	Oct- Nov	2	630	0	630.0
7	Fire tracing (2m wide fireline over 400 m lone	Jan-Feb	3	945	0	945

8	Watch and ward	Apr-Mar	15	4725	0	4725
9	Contingency		0	0	185	185
	TOTAL		**44**	13860	**6199.20**	**20059.2**
	Monitoring & Supervision charge 5% of the total cost					**1002.96**
	Grand Total		**44**	**13860**	**6199.20**	**21062.2**
	D. THIRD YEAR MAINTENANCE					
1	Weeding and application of fertilizer	Aug-Sept	2	630	0	630
2	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant@ Rs.16.80/- per kg=Rs.437.00	Aug-Sept	0	0	437	437
3	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
4	Soil working (1 m radius around the pit)	Oct-Nov	2	630	0	630
5	Fire tracing	Jan-Feb	3	945	0	945
6	Watch and ward	Whole Year	15	4725	0	4725
7	Contingency		0	0	207	207
	TOTAL		**42**	13230	**1644**	**14874**
	Monitoring & Supervision charge 5% of the total Cost					**743.7**
	Grand Total		**42**	**13230**	**1644**	**15617.7**
	E. 4th YEAR MAINTENANCE					
1	Weeding and application of fertilizer	Aug-Sept	2	630	0	630
2	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant@ Rs.16.80/- per kg=Rs.437.00	Aug-Sept	0	0	437	437
3	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
4	Soil working (1 m radius around the pit)	Oct-Nov	2	630	0	630
5	Fire tracing	Jan-Feb	3	945	0	945
6	Watch and ward	Whole Year	15	4725	0	4725
7	Contingency		0	0	207	207
	TOTAL		**42**	13230	**1644**	**14874**
	Monitoring & Supervision charge 5% of the total Cost					**743.7**
	Grand Total		**42**	**13230**	**1644**	**15617.7**

F. 5th YEAR MAINTENANCE						
1	Weeding and application of fertilizer	Aug- Sept	2	630	0	630
2	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant@ Rs.16.80/- per kg=Rs.437.00	Aug- Sept	0	0	437	437
3	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
4	Soil working (1 m radius around the pit)	Oct-Nov	2	630	0	630
5	Fire tracing	Jan-Feb	3	945	0	945
6	Watch and ward	Whole Year	15	4725	0	4725
7	Contingency		0	0	207	207
	TOTAL		42	13230	1644	**14874**
	Monitoring & Supervision charge 5% of the total Cost					**743.7**
	Grand Total		42	**13230**	**1644**	**15617.7**
G. 6th YEAR MAINTENANCE						
1	Weeding and application of fertilizer	Aug- Sept	2	630	0	630
2	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant@ Rs.16.80/- per kg=Rs.437.00	Aug- Sept	0	0	437	437
3	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
4	Soil working (1 m radius around the pit)	Oct-Nov	2	630	0	630
5	Fire tracing	Jan-Feb	3	945	0	945
6	Watch and ward	Whole Year	15	4725	0	4725
7	Contingency		0	0	207	207
	TOTAL		42	13230	1644	14874
	Monitoring & Supervision charge 5% of the total Cost					**743.7**
	Grand Total		42	**13230**	**1644**	**15617.7**
H. 7th YEAR MAINTENANC						
1	Weeding and application of fertilizer	Aug- Sept	2	630	0	630
2	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant@ Rs.16.80/- per kg=Rs.437.00	Aug- Sept	0	0	437	437

3	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
4	Soil working (1 m radius around the pit)	Oct-Nov	2	630	0	630
5	Fire tracing	Jan-Feb	3	945	0	945
6	Watch and ward	Whole Year	15	4725	0	4725
7	Contingency		0	0	207	207
	TOTAL		**42**	13230	**1644**	**14874**
	Monitoring & Supervision charge 5% of the total Cost					**743.7**
	Grand Total		**42**	**13230**	**1644**	**15617.7**
I.8th YEAR MAINTENANCE						
1	Weeding and application of fertilizer	Aug- Sept	2	630	0	630
2	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant@ Rs.16.80/- per kg=Rs.437.00	Aug- Sept	0	0	437	437
3	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
4	Soil working (1 m radius around the pit)	Oct-Nov	2	630	0	630
5	Fire tracing	Jan-Feb	3	945	0	945
6	Watch and ward	Whole Year	15	4725	0	4725
7	Contingency		0	0	207	207
	TOTAL		**42**	13230	**1644**	**14874**
	Monitoring & Supervision charge 5% of the total Cost					**743.7**
	Grand Total		**42**	**13230**	**1644**	**15617.7**
J.9th YEAR MAINTENANCE						
1	Weeding and application of fertilizer	Aug- Sept	2	630	0	630
2	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant@ Rs.16.80/- per kg=Rs.437.00	Aug- Sept	0	0	437	437
3	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
4	Soil working (1 m radius around the pit)	Oct-Nov	2	630	0	630
5	Fire tracing	Jan-Feb	3	945	0	945

6	Watch and ward	Whole Year	15	4725	0	4725
7	Contingency		0	0	207	207
	TOTAL		**42**	13230	**1644**	14874
	Monitoring & Supervision charge 5% of the total Cost					**743.7**
	Grand Total		**42**	**13230**	**1644**	**15617.7**
	K.10th YEAR MAINTENANCE					
1	Weeding and application of fertilizer	Aug- Sept	2	630	0	630
2	Cost of fertilizer Cost of Potash (MOP) @ 65gm/plant@ Rs.16.80/- per kg=Rs.437.00	Aug- Sept	0	0	437	437
3	Repair and maintenance of Bamboo fence including material cost	May/June	20	6300	1000	7300
4	Soil working (1 m radius around the pit)	Oct-Nov	2	630	0	630
5	Fire tracing	Jan-Feb	3	945	0	945
6	Watch and ward	Whole Year	15	4725	0	4725
7	Contingency		0	0	207	207
	TOTAL		**42**	13230	**1644**	**14874**
	Monitoring & Supervision charge 5% of the total Cost					**743.7**
	Grand Total		**42**	**13230**	**1644**	**15617.7**
	Grand Total		**498.5**	**157027.5**	**30568.0**	**196975.28**

Abstract					
Year	Person days	Labour Cost @315/-	Material cost	Monitoring and Supervision @5%	Total
0th	42.5	13387.50	594.80	699.12	14681.42
1st	76	23940.00	10622.00	1728.10	36290.10
2nd	44	13860.00	6199.20	1002.96	21062.16
3rd	42	13230.00	1644.00	743.70	15617.70
4th	42	13230.00	1644.00	743.70	15617.70
5th	42	13230.00	1644.00	743.70	15617.70
6th	42	13230.00	1644.00	743.70	15617.70
7th	42	13230.00	1644.00	743.70	15617.70
8th	42	13230.00	1644.00	743.70	15617.70
9th	42	13230.00	1644.00	743.70	15617.70
10th	42	13230.00	1644.00	743.70	15617.70
	498.5	157027.50	30568.00	9379.78	196975.28 or 196975/-

14949/2017/F & E

SUMMARY RECORD OF THE 14TH MEETING OF EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENTAL APPRAISAL OF MINING PROJECTS CONSTITUTED UNDER EIA NOTIFICATION, 2006.

The 14th meeting of the Expert Appraisal Committee for Environmental Impact Assessment of Mining Projects of the Ministry of Environment and Forests was held on April 25-27, 2011.

After welcoming the Committee Members, discussion on each of the agenda items was taken up ad-seriatim.

Item No. 1:

1.1 Confirmation of the minutes of the 13th Meeting.

The minutes of the 13th meeting were confirmed as circulated.

Item No. 2: Consideration of the Proposals listed in the Agenda:

2.1 Dubna-Sakradih Iron & Manganese Ore Mining Project of M/s Orissa Mining Corporation Ltd., villages Handibhanga, Jampani, Badakalimati, Dubna, Purunadih, Naibaga and Basantpur, District Keonjhar, Orissa (Consultant: MECON, Ranchi)

The proposal was considered by the Committee and the proponent made a presentation on the same. The proposal is for renewal of mine lease which fell due in December, 2009 and enhancement of production of iron ore to 1.0 million TPA and manganese ore to 0.06 million TPA. The additional TOR for this project were prescribed on 22.12.2008. Public hearing has been held on 3.9.2009. The mine lease area is 1332.019 ha, which includes 1148.88 ha of forestland. No National Park / Sanctuary is reported within 10 km of the mine lease area. A map duly authenticated by DFO cum Wildlife Warden, Keonjhar Division has been submitted by the proponent. The mine is reported to be closed since 2007. It is a violation case as the proponent had started production of iron ore after 1994, without obtaining requisite prior environmental clearance. It was stated that temporary working permission has been granted for 253.229 ha of already broken up forestland and mine working will be restricted to the already broken up area. No private land is to be acquired for the project. The life of the mine for working within the already broken up area of 253.229 ha of area is estimated to be 6 to 7 years. Mine working will be opencast semi-mechanized. Peak water requirement is estimated as 289 kld, which will be obtained from Jaipa nadi. The ultimate working depth will be 509 m AMSL. The groundwater table is reported to vary between 410 ? 418 m AMSL. Mine working will not intersect groundwater table. It is estimated that 8.048 million m3 of OB will be generated. Backfilling is proposed, which will be commenced from 3rd year. It is estimated that about 189 ha of excavated area will be backfilled and afforested. The baseline AAQ data showed that the RSPM levels are higher side. It was also observed that the information and data contained in the EIA report and the mine plan do not reconcile especially in terms of equipment and machinery to be used and GLC values. The issues raised during public hearing were also considered and discussed in the meeting. It was reported that there is no court case pending against the project.

Based on the presentation made and discussions held, the Committee sought information on the following:-

(i) The EIA report and the mine plan should be mutually consistent in terms of data and information.

14949/2017/F & E

(ii) Specific safeguard measures proposed for control of RSPM levels should be detailed.

(iii) Mineralogical composition of dust especially the concentration of manganese in air should be given.

(iv) Water requirement to be rechecked and reconfirmed.

(v) Permission from the Competent Authority for drawl of requisite quantity of water for the project shall be secured and a copy furnished.

(vi) Detailed scheme / plan for diversion / realignment of seasonal drains / channels passing through the lease area should be given. Based on detailed analysis, it may be shown whether it will affect the hydrology of the area.

(vii) It may also be shown whether the dump site is getting drained properly. The relevant details in this regard should be furnished.

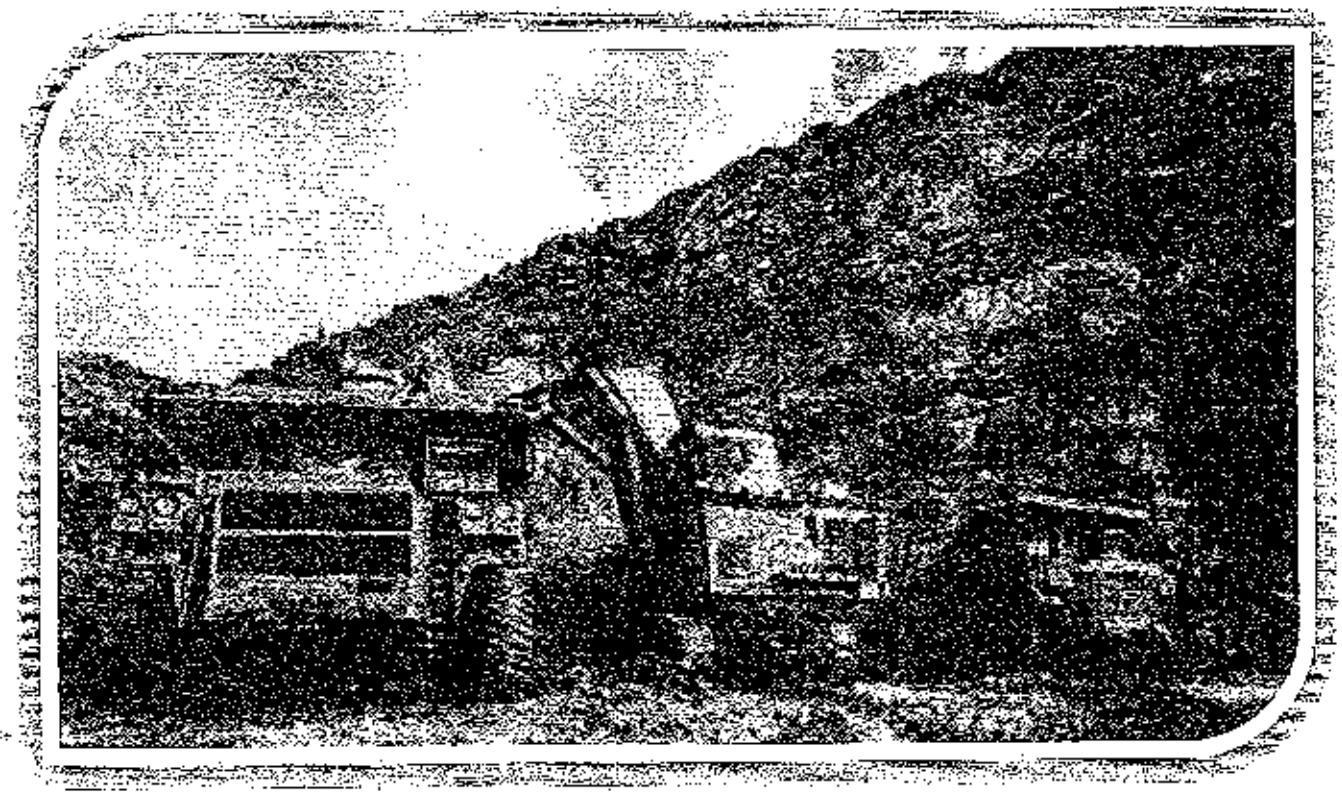
(viii) Information relating to flora & fauna should be collected afresh and details furnished which may inter-alia include frequency, density and abundance. The period of which the data has been collected should be specified.

(ix) Primary survey of critical wildlife habitat should be carried out and details furnished.

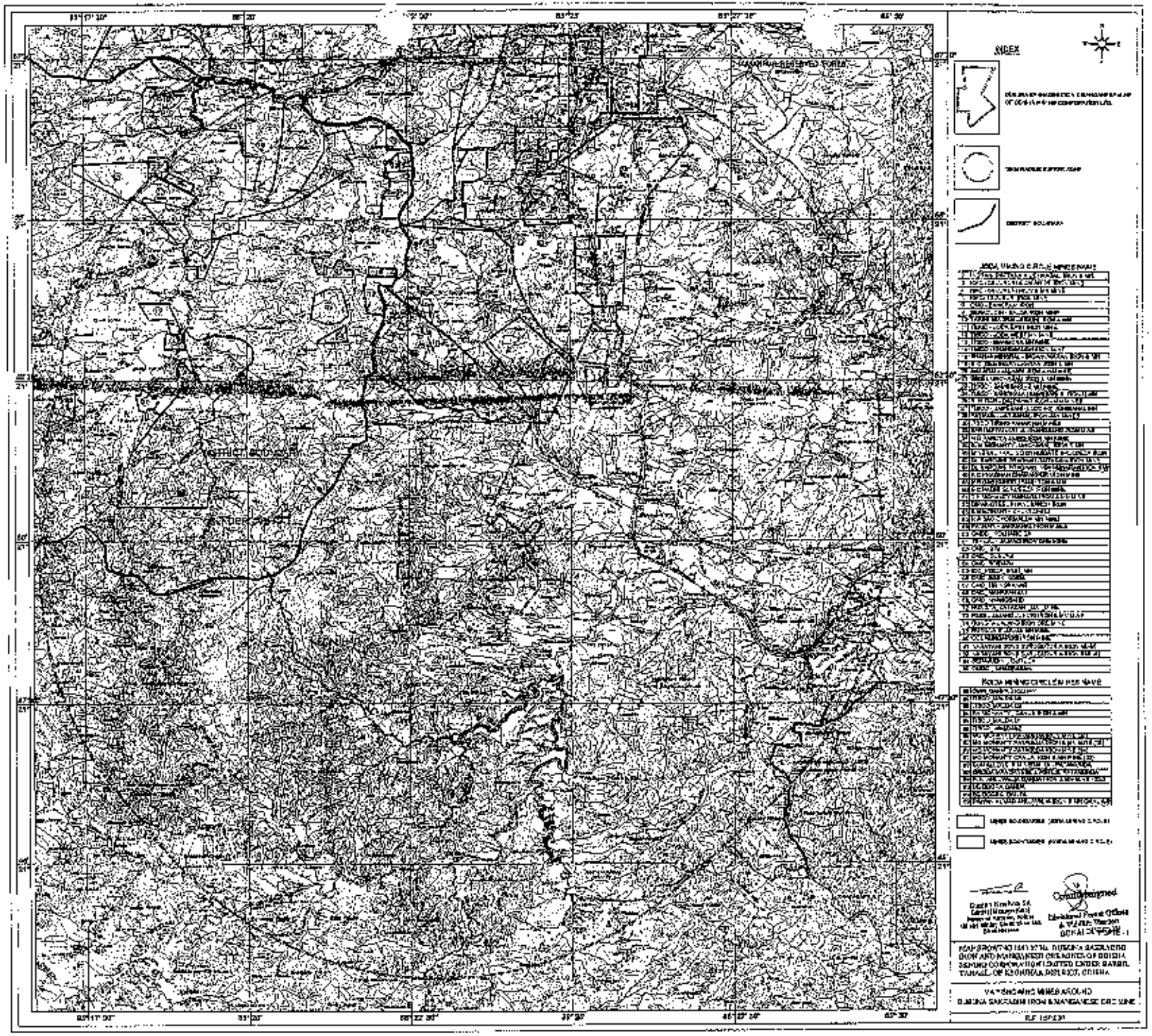
(x) Information relating to input parameters used for modelling should be given as specified in the TORs.

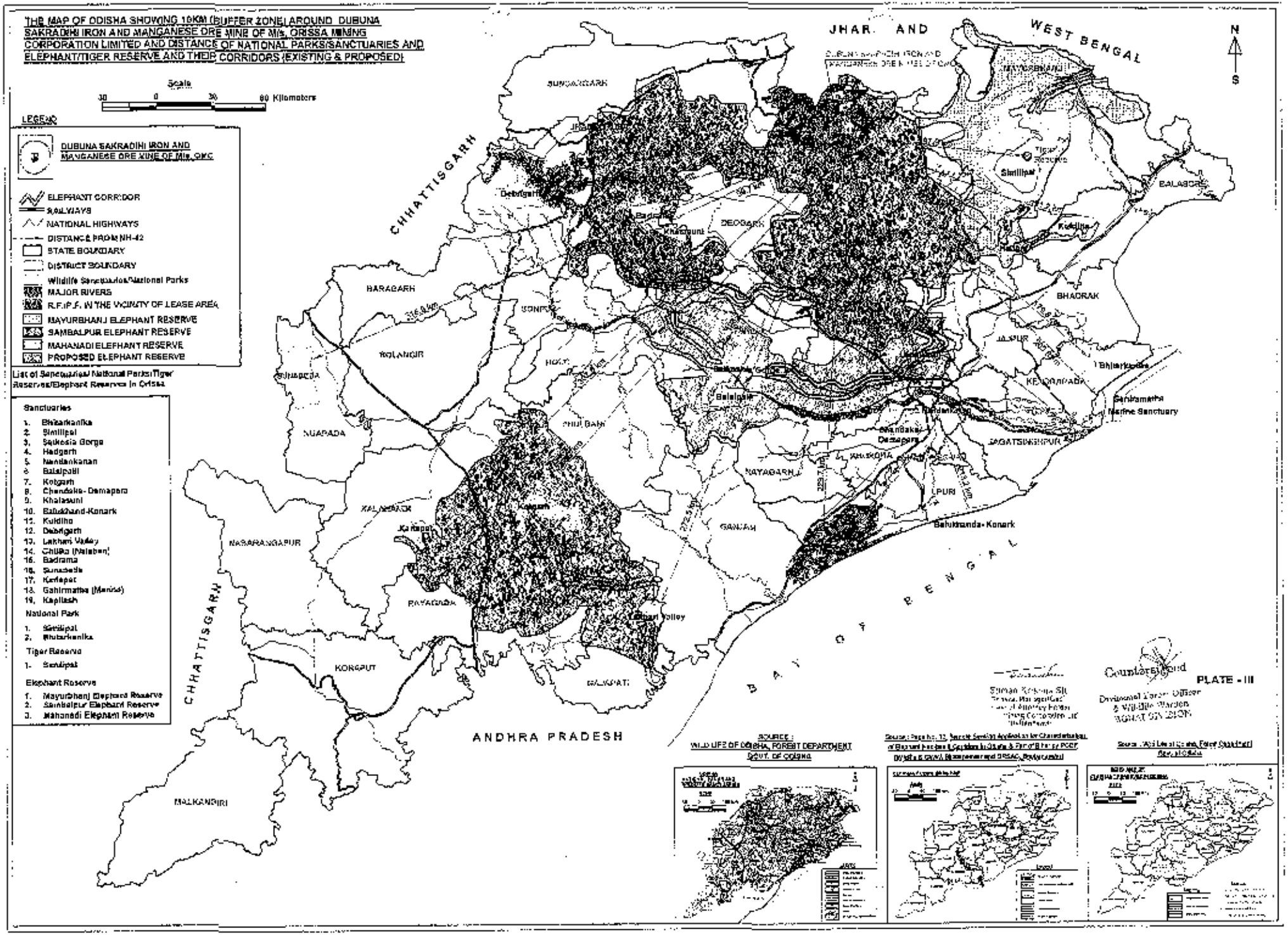
(xi) Statement in tabular form giving details of compliance of TOR in the EIA report should be given along with crossed referencing of the EIA report with relevant sections and pages.

It was decided that the proponent will submit the response / information on the above-mentioned points by 30.8.2011 and simultaneously circulate the same to the Members of the EAC and thereafter the proposal will be considered by the EAC during its meeting to be held in September, 2011.



Designed by CHANDANAM, Cuttack


INDEX
KANDHAMAL RESERVED FOREST
Divisional Forest Officer


THE MAP OF ODISHA SHOWING 10KM (BUFFER ZONE) AROUND DUBUNA SAKRADIHI IRON AND MANGANESE ORE MINE OF M/s. ORISSA MINING CORPORATION LIMITED AND DISTANCE OF NATIONAL PARKS/SANCTUARIES AND ELEPHANT/TIGER RESERVE AND THEIR CORRIDORS (EXISTING & PROPOSED)
Scale
30 0 30 60 Kilometers
LEGEND
DUBUNA SAKRADIHI IRON AND MANGANESE ORE MINE OF M/s. OMC
ELEPHANT CORRIDOR
RAILWAYS
NATIONAL HIGHWAYS
DISTANCE FROM NH-42
STATE BOUNDARY
DISTRICT BOUNDARY
Wildlife Sanctuaries/National Parks
MAJOR RIVERS
R.F./P.F. IN THE VICINITY OF LEASE AREA
MAYURBHANJ ELEPHANT RESERVE
SAMBALPUR ELEPHANT RESERVE
MAHANADI ELEPHANT RESERVE
PROPOSED ELEPHANT RESERVE
List of Sanctuaries/ National Parks/Tiger Reserves/Elephant Reserves in Orissa
Sanctuaries
1. Bhitarkanika
2. Similipal
3. Satkosia Gorge
4. Hadgarh
5. Nandankanan
6. Balukpalli
7. Kotgarh
8. Chandaka- Damapara
9. Khalasuni
10. Baliadhand-Konark
11. Kuldiha
12. Debrigarh
13. Lakhari Valley
14. Chilika (Nalaban)
15. Badrama
16. Sunabeda
17. Karlapat
18. Gahirmatha (Marine)
19. Kapilash
National Park
1. Similipal
2. Bhitarkanika
Tiger Reserve
1. Similipal
Elephant Reserve
1. Mayurbhanj Elephant Reserve
2. Sambalpur Elephant Reserve
3. Mahanadi Elephant Reserve
JHARKHAND
WEST BENGAL
CHHATTISGARH
ANDHRA PRADESH
BAY OF BENGAL
SUNDARGARH
DEOGARH
SAMBALPUR
BARAGARH
BOLANGIR
SONEPUR
NUAPADA
KALAHANDI
NABARANGAPUR
KORAPUT
MALKANGIRI
BALASORE
BHADRAK
JAJPUR
KENDRAPARA
JAGATSINGHPUR
PURI
NAYAGARH
KHURDA
GANJAM
Simlipal
Kuldiha
Bhitarkanika
Satkosia Gorge
Hadgarh
Nandankanan
Balukpalli
Kotgarh
Chandaka- Damapara
Khalasuni
Baliadhand-Konark
Debrigarh
Lakhari Valley
Badrama
Sunabeda
Karlapat
Gahirmatha (Marine)
Kapilash
Satkosia Gorge
Tiger Reserve
Chilika
Simlipal
Mayurbhanj
Sambalpur
Mahanadi
SOURCE :
WILD LIFE OF ODISHA, FOREST DEPARTMENT
GOVT. OF ODISHA
Source : Page No. 13, Specific Spatial Application for Characterization of Elephant Habitat Corridors in States & Part of Bihar by POEF (WII & IGNFA), Bhagwantpur and ORSAC, Bhubaneswar
Source : Wild Life of Orissa, Forest Department, Govt. of Orissa
Counterpart
Divisional Forest Officer
& Wildlife Warden
ANGUL (W) DIVISION
PLATE - III

111809/2022/F & E

OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION
Phone No- 06766-254315, email ID- dfokjr.od@gov.in

No. 710 /6F-Mining-98/2021
Dated, Keonjhar the 28-01-2022

To

The Executive Director, F&IS,
M/s OMC Ltd, OMC House,
Bhubaneswar- 751001

Sub: Proposal for non-forestry use of 1243.27 ha of forest land for mining of Iron and Manganese ore in Dubuna Sakradihi Mines in favour of Odisha Mining Corporation Ltd in Keonjhar District of Odisha.

X-Sub: **Demand of funds for Regional Wildlife Management Plan of Dubuna–Sakradihi Iron and Manganese mines of M/s OMC Ltd.**

Ref: F. No. 8-26/2019-FC dated 06.05.2021 of MoEF&CC, Govt. of India and letter No. 10F(con)108/2015/126159/F&E dated 05.12.2018 of Govt. of Odisha, Forest and Environment Department.

Sir,

With reference to the aforementioned letters on the captioned subject and in compliance to condition No. A.11 of Stage- 1 approval dated 06.05.2021 of MoEF&CC, Govt. of India, you are requested to deposit an amount **Rs.109225558/- (Rupees ten crore ninety-two lakh twenty-five thousand five hundred fifty-eight) only** towards the Regional Wildlife Management plan as per letter No. 10F(con)108/2015/126159/F&E dated 05.12.2018 of Special Secretary to Govt. Forest & Environment Department, Odisha, Bhubaneswar. The demanded amount has to be deposited through **e-portal** of MoEF&CC as provided in the **https://parivesh.nic.in/** and the proof/evidence of the deposit of fund be submitted to this office for further necessary action at this end.

Regional Wild Life Management plan of
Keonjhar-Bonai over-1332.019 Ha.@ Rs. 82,000/ha. = Rs. 109225558.00

(Rupees ten crore ninety-two lakh twenty-five thousand five hundred fifty eight) only

Yours faithfully,
28/01/22
Divisional Forest Officer,
Keonjhar Division.

Memo No. 711 /Dated. 28-01-2022
Copy submitted to the Regional Chief Conservator of Forests, Rourkela Circle, Rourkela / Principal Chief Conservator of Forests, FD&NO, FC Act, O/o the PCCF & HoFF, Odisha, Bhubaneswar for favour of kind information.

28/01/22
Divisional Forest Officer,
Keonjhar Division.

AGENCY COPY

Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 11-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
Application No.	5830349994
MoEF/SG File No.	6-26/2019-FC
Location.	ORRISA
Address.	OMC HouseKhordha
Amount(in Rs)	209108458/-

Amount in Words :Twenty Crore Ninety-One Lakh Eight Thousand Four Hundred and Fifty-Eight Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0903710
Pay to Account No.	150825030349994 Valid only for this challan amount
Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

Union Bank

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 11-03-2022

Agency Name.	ODISHA MINING CORPORATION LTD
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Bank Name & Address:	Union Bank Of India Lodhi Complex Branch, Block 11,CGO Complex, Phase I, Lodhi Road, New Delhi -110003

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

After making successful payment, User Agencies may send a line of confirmation through Email: helpdeskcampa@corpbank.co.in

Note:After making the required payment through challan, if the payment status has not been updated even after 7 working days, then kindly mail a copy of your challan with transaction date to Email: cb0371@unionbankofindia.com

Sl. No.	Particulars	Amount
1	Scheme for Gap Planting and Soil & moisture conservation activities within 100 m	25942300.00
2	Scheme for one and half time safety zone	13853900.00
3	RWMP	109225558
4	SSWLCP	600.867 Lakh
Total		209108458/-

12/03/2022
S. Mohapatra
Dy. General Manager (Fin)

UBINI22076649463

ANNEXURE-XVII

FORM NO.II
(for projects otherthan linear projects)
Government of Odisha
Office of the District Collector, Keonjhar

No. 267 Dt. 22.02.2017

TO WHOMSOEVER IT MAY CONCERN

In compliance of the Ministry of Environment and Forests (MoEF), Government of India's letter No.11-9/98-FC(Pt) dt.3rd August, 2009 wherein the MoEF issued guidelines on submission of evidences for having initiated and completed the process of settlement of rights under the Scheduled Tribes and Other Traditional Forest Dwellers(Recognition of Forest Rights Act), 2006 ('FRA' for short) on the forest land proposed to be diverted for non-forest purposes, it is certified that **1243.664** hectares of forest land proposed to be diverted in favour of **M/s OMC Ltd.** for the purpose of mining activities in **Dubuna-Sakradihi Iron & Manganese Mine** in Keonjhar District falls within jurisdiction of Dubuna, Handibhanga, Jampani, Purunadihi, Pidhapokhari ,Naibuga and Basantapur villages in Barbil Tahasil

It is further certified that

(a) the complete process of identification and settlement of rights under the FRA has been carried out for the entire **1243.664** hectares of forest land proposed for diversion. A copy of records of all consultations and meetings of the Forest Rights Committee(s), Gram Sabha(s), Sub-Division Level Committee(s) and the District level Committee are enclosed as annexure- 1 to annexure- 61

(b) the proposal for such diversion (with full details of the project and its implications, in vernacular/local language) have been placed before each concerned Gram Sabha(s) of forest dwellers who are eligible under the FRA.

(c) the each of concerned Gram Sabha(s), has certified that all formalities/processes under the FRA have been carried out, and that they have given their consent to the proposed diversion and the compensation and ameliorative measures, if any, having understood the purpose and the details of proposed diversion. Copies of Gram Sabha Resolutions of village- Dubuna, Handibhanga, Jampani, Purunadihi, Purunadihi, Naibuga and Basantapur are enclosed as annexure- 5,15,24,33,41,49 and 58

(d) the discussion and decisions on such proposals had taken place only when there was a quorum of minimum 50% of the members of Gram Sabha present.

(e) No such facilities managed by Government requiring diversion of forest land u/s 3(2) of the Forest Rights Act, 2006 exist over the forest land proposed for diversion.

(f) the rights of Primitive Tribal Groups and Pre-Agricultural Communities, where applicable have been specifically safeguarded as per section 3(1)(e) of the FRA.

(Dr.N. Thirumala Naik)
Collector, Keonjhar

ANNEXURE-I

PROCEEDING OF THE

DISTRICT LEVEL COMMITTEE MEETING

ON FOREST RIGHTS

HELD ON 10.02.17 AT 4 PM IN THE

MINI CONFERENCE HALL OF COLLECTORATE

KEONJHAR

PROCEEDING OF THE DISTRICT LEVEL FOREST RIGHTS COMMITTEE MEETING HELD ON 10.02.17 AT 4.00 P.M. IN MINI CONFERENCE HALL OF THE COLLECTORATE, KEONJHAR

District Level Forest Rights Committee meeting was held on 10.2.17 at 4 PM in the Durbar Hall of Collectorate, Keonjhar under the Chairmanship of Collector, Keonjhar. The list of members/participants present in the meeting is attached in **Annexure (I).**

The Agenda wise discussion made as follows:-

1. CONFIRMATION OF PROCEEDING OF THE LAST D.L.C. MEETING HELD ON 22.11.16.

The proceedings of the last D.L.C. meeting held on 22.11.2016. was circulated among all the members vide Memo No. 3277 /ITDA(K) FRC/dtd. 06.12.16. As no objection received from any quarter, the said proceeding is confirmed.

2. DIVERSION OF FOREST LAND TOWARDS NON-FOREST ACTIVITIES- ISSUANCE OF CERTIFICATE THEREOF.

The PA, ITDA told the house that following 05 nos. of diversion proposals have been received from the Sub-Collector-cum-Chairman, SDLC , Champua for diversion of Forest land towards Non-Forest activities-Issuance of certificate thereof.

Sl. No	Name of the User's Agency	Purpose	Name of the Sub-Collector	Mouza covering	Name of the Tahasil	Area involved
01	Khandabandha Iron Ore Mines of OMC Ltd.	Mining activities	Champua	Khandbandha/ Jalahari / Jorali / Gurnda	Barbil	50.866 Ha.
02	Tiringpahar Iron Ore Mines of OMC Ltd.	Safty zone	-do-	Khandbandha / Kundurpani	-do-	6.578 Ha.
03	Uchabali Iron Ore Mines of OMC Ltd.	Mining activities	-do-	Balada/ Kundaposi / Uchabali	-do-	68.091 Ha
04	Dubuna –Sekradihi Iron & Manganese Mines of OMC Ltd	-do-	-do-	Dubuna/ Handibhanga/ Jampani/ Pidhapokhari /Purunadihi / Naibuga/ Basantapur	Barbil & Jhumpura	1243.664 Ha.
05	Bansapani Iron Ore Mines of OMC Ltd.	Mining activities	Champua	Bansapani/Khutupani/Jalahari/ Baitarani RF	Barbil	32.969 Ha.

All the above 5 proposals were discussed and examined thoroughly by the committee and decision taken in each case is given below;

A) KHANDABANDHA IRON ORE MINES OF OMC LTD.

On scrutiny of Case record, it is found that as per request of User's Agency Odisha Mining Corporation Limitd for compliance of ST & OTFD Act,2006 for diversion of forest land of Hc.. 50.866 towards non-forest activities for Mining and allied activities in Khandabandha Iron Ore Mines. The District Office instructed to the PA,ITDA,Keonjhar-cum-Dist.Nodal Officer,FRA vide letter No.2590/Rev. dtd. 16.12.16 communicated by the Collector, Keonjhar to enquire the matter on settlement of rights under FRA in the forest area involved in the project and forward the findings in the prescribed format specified in this regard within the stipulated period. The PA,ITDA,Keonjhar has forwarded the proposal to the BDO,Joda vide Letter No. 3422/ITDA Dt.16.12.16 with a request to enquire the matter on settlement of rights under FRA and obtain consent of Gram Sabhas in the light of observation of Secy. MoTA.Govt.of India and submit report to the SDLC,Champua with subsequent memo to Tahasildar,Barbil. . The Sub-Collector,Champua & Chairman,SDLC has submitted the proposal after due approval in SDLC held on 28.01.17. The Details Village wise are given below :

Village-Khandaboudha

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.16.2.2013 (Annexure-A1) where in Forest Right Committee members were also selected. Again on 03.12.16 (Annexure-A2) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Khandabandha a Gramsabha was held on 19.12.16 (Annexure-A3) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Jalahari

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.20.05.12 (Annexure-A4) where in Forest Right Committee members were also selected. Again on 05.12.16 (Annexure-A5) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Jalahari a Gramsabha was held on 20.12.16 (Annexure-A6) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Jorali

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.13.2.13 (Annexure-A7) where in Forest Right Committee members were also selected. Again on 06.12.16 (Annexure-A8) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Jaroli a Gramsabha was held on 21.12.16 (Annexure-A9) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Guruda

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.23.3.08 (Annexure-A10) where in Forest Right Committee members were also selected. Again on 07.12.16 (Annexure-A11) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Guruda a Gramsabha was held on 21.12.16 (Annexure-A12) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

The SDLC,Champua in their meeting held on 28.1.2017 furnished certificate ensuring attendance of more that 50% of voters of the concerned villages and verifying the signatures /LTI of the participants duly attested with reference to Electoral Roll of the village. The SDLC further certified that the ST & OTFD(RFR) Act,2006 and amendment rule,2012 has been ensured in respect of village Khandabandha, Jalahari, Jorali and Guruda and there is no claim either individual and community on the forest land proposed for diversions in the respective villages. For better appreciation of the DLC,the details of village,extent of land & other relevant information concerning diversion of forest land measuring an area of 50.866 Ha. of User's Agency Orisssa Mining Corporation Limited..

Name of the village/ Mouza	Extent of land apply (In Ha.)	Kisam of the land	Date of Gram Sabha when the diversion proposal approved	No.of Voters as per Electoral roll	No.of Voters signed in the Gram Sabha	Whether genuineness of voters verified with reference of Sl.No.of Electoral roll by authorized Govt. official in Gram Sabha	Whether joint verification certificate is counter signed by the Chairman SDLC	Previously Gram Sabha held in conterned village where provisions of FR Act was discussed
Khandbandh	40.454	Sabik Forest	19.12.16	786	521	Yes	Yes	16.2.13 –FRC constituted 3.12.16-FRC-
Jalahari	2.904	Jungle	20.12.16	1258	849	yes	yes	20.5.12.–FRC constituted 5.12.16-FRC-
Jorali	2.386	-do-	21.12.16	1830	1215	yes	yes	13.2.13 –FRC constituted 6.12.16-FRC-
Guruda	5.122	-do-	21.12.16	1230	825	Yes	Yes	23.3.08 –FRC constituted 7.12.16-FRC-
	50.866							

The diversion proposals submitted after approval in SDLC held on dated 28.01.17. The detail land schedule duly signed by Forest Range Officer, Champua & Tahasildar, Barbil. Considering the (i) approval of the Gram Sabha of respective villages,(ii) recommendation of SDLC, Champua dtd.28.1.17 (iii) Joint verification certificates ensuring participation of more than 50% of the voters of the villages and "No claim" either Individual or Community on the proposed Forest land under ST &OTFD (RFR) Act,2006 & Rules there under ,(iv) land particulars for proposed diversion land jointly signed by Tahasildar, Barbil and Forest Range Officer, Barbil (v)Enquiry report signed by Sub-Collector, Champua Tahasildar, Barbil and Forest Range Officer, Champua ,President of FRC Committee of the concerned village (vi)proceedings of SDLC, Champua held on 28.1.17, (vii) and the certification about no claim over the proposed land by ST,PTG & OTFD under FR Act for individual and CFR purposed. , The DLC (FR), Keonjhar convinced that:-

a) The complete process for identification and settlement of rights under the FRA has been carried out for the entire 50.866 Hectares forest land proposed for diversion in village Khandabandha, Jalahari, Jorali & Guruda as revealed from the proceedings of the Gram Sabha.
b) The proposal for such diversion in vernacular/local language have been placed before each concerned Gram Sabha of forest dwellers, who are eligible under the FRA, as revealed from the proceeding of the Gram Sabha.
c) The concerned Gram Sabhas have certified that all formalities/processes under the FRA have been carried out, and that they have given their consent to the proposed diversion and the compensation and ameliorative measures, if any, having understood the purpose and details of proposed diversion.
d) It reveals from the enquiry report furnished by Revenue & Forest personnel the discussion and decisions on such proposals had taken place only when there was a quorum of minimum 50% of the members of Gram Sabh present.
e) It reveals from the enquiry report furnished by Revenue & Forest personnel that no such facilities managed by the Govt. as required under section 3(2)of the FRA requiring diversion of forest land exist within the applied area as.
f) the right of PTG and PAC where applicable have been specifically safeguarded as per section 3(1)(e) of the FRA as reveals from the enquiry report furnished by Revenue & Forest personnel.
g) It reveals from the proceeding of the Gram Sabha of village that no ST or OTFD were in possession of the forest land proposed for diversion before 13.12.2005.
h) Further it reveals from the Gram Sabha proceedings of the above villages that no tribal or OTFD are presently residing nor any title of rights has been granted under the ST & OTFD(RFR)Act,2006 to any tribal or OTFD on the Forest land proposed for diversion.

The DLC has examined the case and approved for issuance of FRA certificate in favour of **Orissa Mining Corporation in Khandabandha Iron Ore Mines.**

B) TIRINGPAHAR IRON ORE MINES OF OMC LTD.

On scrutiny of Case record, it is found that as per request of User's Agency Odisha Mining Corporation Limitd for compliance of ST & OTFD Act,2006 for diversion of forest land of Hc.. 6.578 towards non-forest activities for safty zone involved in Tiring Iron Ore Mines. The District Office instructed to the PA,ITDA,Keonjhar-cum-Dist.Nodal Officer,FRA vide letter No.2432/Rev. dtd. 2.12.14 communicated by the Collector, Keonjhar to enquire the matter on settlement of rights under FRA in the forest area involved in the project and forward the findings in the prescribed format specified in this regard within the stipulated period. The PA,ITDA,Keonjhar has forwarded the proposal to the BDO,Joda vide Letter No. 2587/ITDA Dt.4.12.14 with a request to enquiry the matter on settlement of rights under FRA and obtain consent of Gram Sabhas in the light of observation of Secy. MoTA,Govt.of India and submit report to the SDLC,Champua with subsequent memo to Tahasildar,Barbil. . The Sub-Collector,Champua & Chairman,SDLC has submitted the proposal after due approval in SDLC held on 28.01.17..The Details Village wise are given below :

Village-Khandaboudha

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.16.2.2013 (Annexure-A13) where in Forest Right Committee members were also selected. Again on 03.12.16 (Annexure-A14) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Khandabandha a Gramsabha was held on 19.12.16 (Annexure-A15) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Kundulapahi

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.16.3.08 (Annexure-A16) where in Forest Right Committee members were also selected. Again on 01.11.15 (Annexure-A17) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Kundurupani a Gramsabha was held on 4.11.15 (Annexure-A18) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area. forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

The SDLC,Champua in their meeting held on 28.1.2017 furnished certificate ensuring attendance of more that 50% of voters of the concerned villages and verifying the signatures /LTI of the participants duly attested with reference to Electoral Roll of the village. The SDLC further certified that the ST & OTFD(RFR) Act,2006 and amendment rule,2012 has been ensured in respect of village Khandabandha, & Kundurupani and there is no claim either individual and community on the forest land proposed for diversions in the respective villages. For better appreciation of the DLC,the details of village,extent of land & other relevant information concerning diversion of forest land measuring an area of 6.578 Ha. of User's Agency Orissa Mining Corporation Limited..

Name of the village / Mouza	Extent of land apply (In Ha.)	Kisam of the land	Date of Gram Sabha when the diversion proposal approved	No.of Voters as per Electoral roll	No.of Voters signed in the Gram Sabha	Whether genuineness of voters verified with reference of Sl.No.of Electoral roll by authorized Govt. official in Gram Sabha	Whether joint verification certificate is counter signed by the Chairman SDLC	Previously Gram Sabha held in concerned village where provisions of FR Act was discussed
Khandbandh & Kundurpani	6.578 Ha.	Jungle	19.12.16	786	521	Yes	Yes	16.2.13 –FRC constituted 3.12.16-FRC-
Kundulapani			4.11.15	714	424	Yes	Yes	16.3.08–FRC constituted 1.11.15-FRC-
	6.578 Ha.							

The diversion proposals submitted after approval in SDLC held on dated, 28.01.17. The detail land schedule duly signed by Forest Range Officer, Champua & Tahasildar, Barbil. Considering the (i) approval of the Gram Sabha of respective villages,(ii) recommendation of SDLC, Champua dtd.28.1.17 (iii) Joint verification certificates ensuring participation of more than 50% of the voters of the villages and "No claim" either Individual or Community on the proposed Forest land under ST &OTFD (RFR) Act,2006 & Rules there under ,(iv) land particulars for proposed diversion land jointly signed by Tahasildar, Barbil and Forest Range Officer, Barbil (v)Enquiry report signed by Sub-Collector, Champua Tahasildar, Barbil and Forest Range Officer, Champua ,President of FRC Committee of the concerned village (vi)proceedings of SDLC, Champua held on 28.1.17, (vii) and the certification about no claim of the proposed land by ST,PTG & OTFD under FR Act for individual and CFR purposed. , The DLC (FR), Keonjhar convinced that:-

i) The complete process for identification and settlement of rights under the FRA has been carried out for the entire 6.578 Hectares forest land proposed for diversion in village Khandabandha, & Kundurupáni as revealed from the proceedings of the Gram Sabha.

j) The proposal for such diversion in vernacular/local language have been placed before each concerned Gram Sabha of forest dwellers, who are eligible under the FRA, as revealed from the proceeding of the Gram Sabha.

k) The concerned Gram Sabhas have certified that all formalities/processes under the FRA have been carried out, and that they have given their consent to the proposed diversion and the compensation and ameliorative measures, if any, having understood the purpose and details of proposed diversion.

l) It reveals from the enquiry report furnished by Revenue & Forest personnel the discussion and decisions on such proposals had taken place only when there was a quorum of minimum 50% of the members of Gram Sabh present.

m) It reveals from the enquiry report furnished by Revenue & Forest personnel that no such facilities managed by the Govt. as required under section 3(2)of the FRA requiring diversion of forest land exist within the applied area as.

n) the right of PTG and PAC where applicable have been specifically safeguarded as per section 3(1)(e) of the FRA as reveals from the enquiry report furnished by Revenue & Forest personnel.

o) It reveals from the proceeding of the Gram Sabha of village that no ST or OTFD were in possession of the forest land proposed for diversion before 13.12.2005,

p) Further it reveals from the Gram Sabha proceedings of the above villages that no tribal or OTFD are presently residing nor any title of rights has been granted under the ST & OTFD(RFR)Act,2006 to any tribal or OTFD on the Forest land proposed for diversion.

The DLC has examined the case and approved for issuance of FRA certificate in favour of **Orissa Mining Corporation in Tiringpahar Iron Ore Mines.**

C) UNCHABALI IRON ORE MINES OF OMC LTD.

On scrutiny of Case record, it is found that as per request of User's Agency Odisha Mining Corporation Limitd for compliance of ST & OTFD Act,2006 for diversion of forest land of **Hc. 68.091** towards non-forest activities for mining activities involved in **Unchabali Iron Ore Mines**, The District Office instructed to the PA,ITDA,Keonjhar-cum-Dist.Nodal Officer,FRA vide letter No.1746/Rev. dtd. 8.8.16 communicated by the Collector, Keonjhar to enquire the matter on settlement of rights under FRA in the forest area involved in the project and forward the findings in the prescribed format specified in this regard within the stipulated period. The PA,ITDA,Keonjhar has forwarded the proposal to the BDO,Joda vide Letter No. 2033/ITDA Dt.9.8.16 with a request to enquiry the matter on settlement of rights under FRA and obtain consent of Gram Sabhas in the light of observation of Secy. MoTA,Govt.of India and submit report to the SDLC,Champua with subsequent memo to Tahasildar,Barbil. . The Sub-Collector,Champua & Chairman,SDLC has submitted the proposal after due approval in SDLC held on 28.01.17..The Details Village wise are given below :

Village-Unchabali

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.23.3.08 (Annexure-A19) where in Forest Right Committee members were also selected. Again on 24.6.14 (Annexure (A20) Pallisabha Sabha was held to create awareness on various provision and benefit of FR Act among the villagers, On 16.12.16 (Annexure-A21) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Unchabali a Gramsabha was held on 20.12.16 (Annexure-A22) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Kundaposi

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.16.3.08 (Annexure-A22) where in Forest Right Committee members were also selected. Again on 14.12.16 (Annexure-A23) FRC was held to approved the diversion of forest land in favour of OMC

Limited. . For village Kundaposi a Gramsabha was held on 20.12.16 (Annexure-A24) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Balada

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.16.3.08 (Annexure-A25) where in Forest Right Committee members were also selected. Again on 20.2.13 (Annexure-A26) FRC was held to create awareness on various provision and benefit of FR Act among the villagers. On 17.12.16 (Annexure-27) was approved the diversion of forest land in favour of OMC Limited. . . For village Balada a Gramsabha was held on 20.12.16 (Annexure-A28) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

The SDLC,Champua in their meeting held on 28.1.2017 furnished certificate ensuring attendance of more that 50% of voters of the concerned villages and verifying the signatures /LTI of the participants duly attested with reference to Electoral Roll of the village. The SDLC further certified that the ST & OTFD(RFR) Act,2006 and amendment rule,2012 has been ensured in respect of village Uchabali, Kundaposi add Balada and there is no claim either individual and community on the forest land proposed for diversions in the respective villages. For better appreciation of the DLC,the details of village,extent of land & other relevant information concerning diversion of forest land measuring an area of 68.091 Ha. of User's Agency Orisssa Mining Corporation Limited..

Name of the village/ Mouza	Extent of land apply (In Ha.)	Kisam of the land	Date of Gram Sabha when the diversion proposal approved	No.of Voters as per Electoral roll	No.of Voters signed in the Gram Sabha	Whether genuineness of voters verified with reference of Sl.No.of Electoral roll by authorized Govt. official in Gram Sabha	Whether joint verification certificate is counter signed by the Chairman SDLC	Previously Gram Sabha held in concerned village where provisions of FR Act was discussed
Uchabali	44.205	Jungle	20.12.16	637	464	Yes	Yes	23.3.08–FRC constituted 16.12.16-FRC- & 24.6.14
Kundapoi	0.082	Jungle.	20.12.16	340	226.	yes	yes	16.3.08–FRC constituted 14.12.16-FRC-
Balada	23.804	-do-	20.12.16	747	550	yes	yes	16.3.08–FRC

									constituted
									17.12.16-FRC & 20.2.13
	68.091								

The diversion proposals submitted after approval in SDLC held on dated 28.01.17. The detail land schedule duly signed by Forest Range Officer, Champua & Tahasildar, Barbil. Considering the (i) approval of the Gram Sabha of respective villages,(ii) recommendation of SDLC, Champua dtd.28.1.17 (iii). Joint verification certificates ensuring participation of more than 50% of the voters of the villages and "No claim" either Individual or Community on the proposed Forest land under ST &OTFD (RFR) Act,2006 & Rules there under ,(iv) land particulars for proposed diversion land jointly signed by Tahasildar, Barbil and Forest Range Officer, Barbil (v)Enquiry report signed by Sub-Collector, Champua Tahasildar, Barbil and Forest Range Officer, Champua ,President of FRC Committee of the concerned village (vi)proceedings of SDLC, Champua held on 28.1.17, (vii) and the certification about no claim over the proposed land by ST,PTG & OTFD under FR Act for individual and CFR purposed. , The DLC (FR), Keonjhar convinced that:-

q) The complete process for identification and settlement of rights under the FRA has been carried out for the entire **68.091 Hectares** forest land proposed for diversion in village Unchabali, Kundaposi and Balanda as revealed from the proceedings of the Gram Sabha.

r) The proposal for such diversion in vernacular/local language have been placed before each concerned Gram Sabha of forest dwellers, who are eligible under the FRA. as revealed from the proceeding of the Gram Sabha.

s) The concerned Gram Sabhas have certified that all formalities/processes under the FRA have been carried out, and that they have given their consent to the proposed diversion and the compensation and ameliorative measures, if any, having understood the purpose and details of proposed diversion.

t) It reveals from the enquiry report furnished by Revenue & Forest personnel the discussion and decisions on such proposals had taken place only when there was a quorum of minimum 50% of the members of Gram Sabh present.

u) It reveals from the enquiry report furnished by Revenue & Forest personnel that no such facilities managed by the Govt. as required under section 3(2)of the FRA requiring diversion of forest land exist within the applied area as.

v) the right of PTG and PAC where applicable have been specifically safeguarded as per section 3(1)(e) of the FRA as reveals from the enquiry report furnished by Revenue & Forest personnel.

w) It reveals from the proceeding of the Gram Sabha of village that no ST or OTFD were in possession of the forest land proposed for diversion before 13.12.2005.

x) Further it reveals from the Gram Sabha proceedings of the above villages that no tribal or OTFD are presently residing nor any title of rights has been granted under the ST & OTFD(RFR)Act,2006 to any tribal or OTFD on the Forest land proposed for diversion.

The DLC has examined the case and approved for issuance of FRA certificate in favour of Orissa Mining Corporation in Unchabali Iron Ore Mines.

D) DUBUNA-SEKRADIHI IRON & MANAGANESE MINES OF OMC LTD.

On scrutiny of Case record, it is found that as per request of User's Agency Odisha Mining Corporation Limitd for compliance of ST & OTFD Act,2006 for diversion of forest land of Hc.. 1243.664 towards non-forest activities for mining activities involved in Dubuna Sekradihi Iron & Managanese Mines. The District Office instructed to the PA,ITDA,Keonjhar-cum-Dist.Nodal Officer,FRA vide letter No.2269//Rev. dtd. 24.10.16 communicated by the Collector, Keonjhar to enquire the matter on settlement of rights under FRA in the forest area involved in the project and forward the findings in the prescribed format specified in this regard within the stipulated period. The PA,ITDA,Keonjhar has forwarded the proposal to the BDOs,Joda & Jhumpura. vide Letter No. 3009/ITDA Dt.15.11.16 with a request to enquiry the matter on settlement of rights under FRA and obtain consent of Gram Sabhas in the light of observation of Secy. MoTA,Govt.of India and submit report to the SDLC,Champua with subsequent memo to Tahasildars,Barbil & Jhumpura . . The Sub-Collector,Champua & Chairman,SDLC has submitted the proposal after due approval in SDLC held on 28.01.17..The Details Village wise are given below :

Village-Dubuna

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.3.1.13 (Annexure-A29) where in Forest Right Committee members were also selected. Again on 15.12.16 (Annexure (A30) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Dubuna a Gramsabha was held on 21.12.16 (Annexure-A31) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corpertion Limited.

Village-Handibhanga

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.12.4.13 (Annexure-A31) where in Forest Right Committee members were also selected. Again on 16.12.16 (Annexure-A32) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Handibhanga a Gramsabha was held on 20.12.16 (Annexure-A33) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corpertion Limited.

Village-Jamupani

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.14.4.13 (Annexure-A34) where in Forest Right Committee members were also selected. Again on 15.12.16 (Annexure-A35) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Jamupani a Gramsabha was held on 20.12.16 (Annexure-A36) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest

land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Pidhapokhari

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.18.4.13 (Annexure-A37) where in Forest Right Committee members were also selected. Again on 13.12.16 (Annexure-A38) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Pidhapokhari a Gramsabha was held on 17.12.16 (Annexure-A39) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Purunadihi

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.19.4.13 (Annexure-A40) where in Forest Right Committee members were also selected. Again on 14.12.16 (Annexure-A41) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Purunadihi a Gramsabha was held on 21.12.16 (Annexure-A42) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Naibuga

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.18.4.13 (Annexure-A43) where in Forest Right Committee members were also selected. Again on 14.12.16 (Annexure-A44) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Naibuga a Gramsabha was held on 21.12.16 (Annexure-A45) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

Village-Basantapur

Previously awareness on Forest Right Act was made in village by holding a Pallisabha on Dtd.22.4.13 (Annexure-A46) where in Forest Right Committee members were also selected. Again on 8.12.16 (Annexure-A47) FRC was held to approved the diversion of forest land in favour of OMC Limited. . . For village Basantpur a Gramsabha was held on 20.12.16 (Annexure-A48) where in discussion on Forest Right claim was made and it was found that no STs & OTFD people lived in the proposed area of forest land and do not depend upon the said forest area for earning their livelihood. The Gram Sabha convinced that there is no claim of any STs,PTGs & OTFD over the proposed area forest land and unanimously approved the diversion of forest land in favour of M/s. Orissa Mining Corportion Limited.

The SDLC,Champua in their meeting held on 28.1.2017 furnished certificate ensuring attendance of more that 50% of voters of the concerned villages and verifying the signatures /LTI of the participants

duly attested with reference to Electoral Roll of the village. The SDLC further certified that the ST & OTFD(RFR) Act,2006 and amendment rule,2012 has been ensured in respect of village Dubuna, Handibhanga, Jamupani, Pidhapokhari, Purunadihi, Naibuga & Basantpur and there is no claim either individual and community on the forest land proposed for diversions in the respective villages. For better appreciation of the DLC,the details of village,extent of land & other relevant information concerning diversion of forest land measuring an area of 1243.664 Ha. of User's Agency Orisssa Mining Corporation Limited..

Name of the village/ Mouza	Extent of land apply (in Ha.)	Kisam of the land	Date of Gram Sabha when the diversion proposal approved	No.of Voters as per Electoral roll	No,of Voters signed in the Gram Sabha	Whether genuineness of voters verified with reference of Sl.No.of Electoral roll by authorized Govt. official in Gram Sabha	Whether joint verification certificate is counter signed by the Chairman SDLC	Previously Gram Sabha held in concerned village where provisions of FR Act was discussed
Dubuna	76.037	Jungle	21.12.16	800	488	Yes	Yes	3.1.13 –FRC constituted 15.12.16-FRC-
Handibhartga	5.497	Jungle	20.12.16	197	147	yes	yes	12.4.13 –FRC constituted 16.12.16-FRC-
Jampani	64.828	-do-	20.12.16	96	69	yes	yes	14.4.13 –FRC constituted 15.12.16-FRC-
Pidhapokhari	725.158	-do	17.12.16	420	298	Yes	Yes	18.4.13 –FRC constituted 13.12.16-FRC-
Purunadihi	2.394	-do	21.12.16	456	312	yes	yes	19.4.13 –FRC constituted 14.12.16-FRC-
Naibuga	338.732	-do-	21.12.16	1063	707	yes	yes	18.4.13 –FRC constituted 14.12.16-FRC-
Basantapur	31.018	-do-	20.12.16	1401	937	yes	yes	22.4.13 –FRC constituted 8.12.16-FRC-
	1243.664							

The diversion proposals submitted after approval in SDLC held on dated 28.01.17. The detail land schedule duly signed by Forest Range Officer, Champua & Tahasildar, Barbil. Considering the (i) approval of the Gram Sabha of respective villages,(ii) recommendation of SDLC, Champua dtd.28.1.17 (iii) Joint verification certificates ensuring participation of more than 50% of the voters of the villages and "No claim" either Individual or Community on the proposed Forest land under ST &OTFD (RFR) Act,2006 & Rules there under ,(iv) land particulars for proposed diversion land jointly signed by Tahasildar, Barbil and Forest Range Officer, Barbil (v)Enquiry report signed by Sub-Collector, Champua Tahasildar, Barbil and Forest Range Officer, Champua ,President of FRC Committee of the concerned village (vi)proceedings of SDLC, Champua held on 28.1.17, (vii) and the certification about no claim over the proposed land by ST,PTG & OTFD under FR Act for individual and CFR purposed. , The DLC (FR), Keonjhar convinced that:-

y) The complete process for identification and settlement of rights under the FRA has been carried out for the entire **1243.664** Hectares forest land proposed for diversion in villages. Dubuna, Handibhanga, Jamupani, Pidhapokhari, Purunadihi, Naibuga & Basantpur as revealed from the proceedings of the Gram Sabha.,

z) The proposal for such diversion in vernacular/local language have been placed before each concerned Gram Sabha of forest dwellers, who are eligible under the FRA, as revealed from the proceeding of the Gram Sabha.

aa) The concerned Gram Sabhas have certified that all formalities/processes under the FRA have been carried out, and that they have given their consent to the proposed diversion and the compensation and ameliorative measures, if any, having understood the purpose and details of proposed diversion.

bb) It reveals from the enquiry report furnished by Revenue & Forest personnel the discussion and decisions on such proposals had taken place only when there was a quorum of minimum 50% of the members of Gram Sabh present.

cc) It reveals from the enquiry report furnished by Revenue & Forest personnel that no such facilities managed by the Govt as required under section 3(2)of the FRA requiring diversion of forest land exist within the applied area as.

dd) the right of PTG and PAC where applicable have been specifically safeguarded as per section 3(1)(e) of the FRA as reveals from the enquiry report furnished by Revenue & Forest personnel.

ee) It reveals from the proceeding of the Gram Sabha of village that no ST or OTFD were in possession of the forest land proposed for diversion before 13.12.2005.

ff) Further it reveals from the Gram Sabha proceedings of the above villages that no tribal or OTFD are presently residing nor any title of rights has been granted under the ST & OTFD(RFR)Act,2006 to any tribal or OTFD on the Forest land proposed for diversion.

The DLC has examined the case and approved for issuance of FRA certificate in favour of **Orissa Mining Corporation in Dubuna Sekradihi Iron & Manganese Mines**

E) Banspani Iron Ore M/s OMC Ltd.

On scrutiny of Case record, it is found that as per request of User's Agency Odisha Mining Corporation Limitd for compliance of ST & OTFD Act,2006 for diversion of forest land of He.. 32.969 towards non-forest activities for Mining activities involved in Banspani Iron Ore Mines. The District Office instructed to the PA,ITDA,Keonjhar-cum-Dist.Nodal Officer,FRA vide letter No.3//Rev. dtd. 2.1.17 communicated by the Collector, Keonjhar to enquire the matter on settlement of rights under FRA in the forest area involved in the project and forward the findings in the prescribed format specified in this regard within the stipulated period. The PA,ITDA,Keonjhar has forwarded the proposal to the BDO,Joda vide Letter No. 146/ITDA Dt.18.1.17 with a request to enquiry the matter on settlement of rights under FRA and obtain consent of Gram Sabhas in the light of observation of Secy. MoTA,Govt.of India and submit report to the SDLC,Champua with subsequent memo to Tahasildars,Barbil. . The Sub-Collector,Champua & Chairman,SDLC has submitted the proposal after due approval in SDLC held on 28.01.17..The Details Village wise are given below :

Name of the village/ Mouza	Extent of land apply (in Ha.)	Kisam of the land	Date of Gram Sabha when the diversion proposal approved	No.of Voters as per Electoral roll	No.of Voters signed in the Gram Sabha	Whether genuineness of voters verified with reference of Sl.No.of Electoral roll by authorized Govt. official in Gram Sabha	Whether joint verification certificate is counter signed by the Chairman SDLC	Previously Gram Sabha held in concerned village where provisions of FR Act was discussed
Banspani	4.063	Jungle	Gram Sabha proceeding not received					
Khuntupani	24.544	Jungle	-do-					
Jalahari	1.152	-do-	20.12.16	1258	831	yes	yes	20.5.12—FRC constituted 5.12.16-FRC-
Baitarani RF	3.210	-do						
	32.969							

The gram sabha proceeding in respect of village Jalahari has been received. But the proceeding of village Banspani & Khuntapani have not been received so far.

The Nodal Officer,FRA was directed to put up in the next DLC meeting after receipt of complete Gram Sabha proceedings.

Therefore, it was unanimously decided by the District Level Committee to submit proposal of **Odisha Mining Corporation Limited i.e. Khandabandha Iron Ore Mines, Tirigpahar Iron Ore Mines , Unchabali Iron Ore Mines & Dubuna Sekradihi Iron & Manganese Mines** to Collector & District Magistrate, Keonjhar for issuance of certificate regarding compliance of STs and OTFDs (RFR) Act,2006 & Rules there under.

The District Nodal Officer, FR was directed to submit the original documents of **Odisha Mining Corporation Limited i.e. Khandabandha Iron Ore Mines, Tirigpahar Iron Ore Mines , Unchabali Iron Ore Mines & Dubuna Sekradihi Iron & Manganese Mines** to the Collector & District Magistrate, Keonjhar for issuance of certificate regarding compliance of STs and OTFDs (RFR) Act,2006 & Rules there under.

The meeting ended with a vote of thanks to the Chair as well as the participants

PA,ITDA-CUM-NODAL OFFICER (FRA)

COLLECTOR, KEONJHAR

INTEGRATED TRIBAL DEVELOPMENT AGENCY : KEONJHAR

Memo No. 264 /ITDA(FR) Dated : 13/2/17.

Copy submitted to the Director(ST-cum-Addl. Secretary to Govt., ST & SC Development Department, Odisha, Bhubaneswar/ Collector, Keonjhar / ADM,Keonjhar for kind information and necessary action.

PROJECT ADMINISTRATOR,ITDA,
-CUM-DIST. NODAL OFFICER, FRA

Memo No 265 /ITDA Dated : 13/2/17

Copy to all members for information and necessary action.

PROJECT ADMINISTRATOR,ITDA,
-CUM-DIST. NODAL OFFICER, FRA

ANNEXURE-2

ENQUIRY REPORT ON DIVERSION OF FOREST LAND(INCLUDING AS ON 25.10.1980) FOR NON FOREST PURPOSE - ENSURING COMPLIANCE OF SCHEDULED TRIBE & OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHT) ACT, 2006 & AMENDMENT RULES,2012.

1.	Name of the User Agency	:	M/s Odisha Mining Corporation Ltd	
2.	Name of the Project and purpose of Diversion	:	Dabuna-Sekradihi Iron & Manganese Mines.	
3.	Name of the village(s) and R.F. area covered under Diversion Proposal	:	Dabuna	76.037ha
			Total	76.037 ha.
4.	Name of the G.P.(s)	:	Badakalimati G.P.	
5.	Name of the Tahasil	:	BARBIL	
6.	Extent of Forest land under Diversion	:	76.037 Ha	
a)	Revenue Forest : Area in Acre/ Hect. (Details of Land schedule & map is Annexed as per Format-I)	:	76.037 Ha	
b)	Reserved Forest : Area in Acre/ Hect. (Map to be enclosed)	:		
c)	Total Area : In Acre/ Hect.	:	76.037 Ha	
7.	If any claims received under Forest Right Act, 2006 out of the above diversion Proposal	:	No	
I.	If Yes, give details of claims received (To be enclosed in Format-II & III)	:	No.	
a)	Total claims approved in the Dist. Level Committee out of the above diversion Proposal	:	--	
(i)	For Revenue Forest (In Acre/Hect.)	:	--	
(ii)	For Reserved Forest (In Acre/ Hect.)	:		

	b)	Balance area for diversion alongwith Map	:	--
	(i)	Revenue Forest (In Acre/Hect.)	:	--
	(ii)	Reserved Forest (In Acre/ Hect.)	:	--
	II.	If No, Joint field verification by Revenue & Forest personnel regarding Forest Right claim, if any, for individual/ community in the proposed diversion area	:	No such claim exists within the proposed diversion area.
8.	a)	Whether proposal for such diversion of forest land have been placed before each of the Gram Sabha of Forest Dwellers who are eligible under Forest Right Act & details of the Project and its implications have been explained to them in local language.	:	Yes
	b)	Whether such discussion and decision on such proposal had taken place with a quorum of minimum 50 % of members of the Gram Sabha present or not.	:	The discussion and decision on such proposal had taken place with a quorum of minimum 50% of members of the Grama Sabha present.
	c)	Whether rights of Primitive Tribal Groups and pre-agricultural community have been specifically safe guarded as per section 3(1)(e) of Forest Right Act.	:	YES
	d)	Whether the diversion of forest land for facilities managed by Government as required u/s 3(2) of the Forest Right Act (if any) have been completed and that the Gramsabha has consented to it.	:	No such claim exist within the applied area for diversion.
9.		Documents to be enclosed		
	a)	Proposed land schedule and Map for Diversion		Yes, attached
	b)	Gramsabha Resolution in vernacular language and English translation		Yes, attached

c) Any other documents — Video CD, Still Photo of Grama Sabha attached, Map for diversion attached.

10.

Remarks

Recommended for issue of compliance certificate under Forest Right Act, 2006 and Amendment Rules, 2012 for proposed diversion of forest land measuring /6.037 Hect. for non forest purpose i.e, Mining purpose in favour of Dubuna-Sekradihi Iron & Manganese Ore Mines., M/s Odisha Mining Corporation Ltd.

Makula Munda.
Sarpanch/ President/ Secretary,
F.R.C.

Range Officer
Forest Range Officer
Champua Range

Tahasildar,
TAHASILDAR
BAMEBIL

Asst. Dist. Welfare Officer
Champua

Sub-Collector
Champua

FORMAT-I

Details of Revenue Forest lands for diversion (supported by Map in Duplicate)

Mouza	Khata No.	Plot No.	Kissam	Area (In Acre)	DLC (deemed forest land)
Dubuna	98.	5	Declared as Forest	24.703	
Dubuna	98	6	Declared as Forest	4.512	
Dubuna	98	8	Declared as Forest	3.519	
Dubuna	98.	14	Declared as Forest	29.040	
Dubuna	98	15	Declared as Forest	31.054	
Dubuna	98	16	Declared as Forest	23.883	
Dubuna	98	36	Declared as Forest	10.717	
Dubuna	98	40	Declared as Forest	5.454	
Dubuna	97	1	Declared as Forest	0.437	
Dubuna	22	21	Declared as Forest	1.268	
Dubuna	95	22	Declared as Forest	1.105	
Dubuna	97	751	Declared as Forest	0.007	
Dubuna	96	2	Declared as Forest	0.086	
Dubuna	98	17	Declared as Forest	1.960	
Dubuna	74	18	Declared as Forest	1.577	
Dubuna	96	19	Declared as Forest	0.596	

Dubuna	74	20	Declared as Forest	0.222
Dubuna	95	24	Declared as Forest	13.104
Dubuna	96	28	Declared as Forest	0.049
Dubuna	96	29	Declared as Forest	1.270
Dubuna	4	30	Declared as Forest	0.282
Dubuna	82/3	31	Declared as Forest	0.035
Dubuna	97	32	Declared as Forest	0.581
Dubuna	56	33	Declared as Forest	2.535
Dubuna	56	34	Declared as Forest	0.089
Dubuna	56	35	Declared as Forest	0.796
Dubuna	97	37	Declared as Forest	0.843
Dubuna	97	38	Declared as Forest	0.025
Dubuna	97	39	Declared as Forest	0.457
Dubuna	97	40	Declared as Forest	0.259
Dubuna	97	44	Declared as Forest	0.756
Dubuna	82/12	45	Declared as Forest	0.801
Dubuna	97	50	Declared as Forest	0.126
Dubuna	97	558	Declared as Forest	0.138
Dubuna	97	565	Declared as Forest	0.002

Dubuna	98	640	Declared as Forest	0.163
Dubuna	97	641	Declared as Forest	0.541
Dubuna	4	642	Declared as Forest	2.407
Dubuna	52	643	Declared as Forest	0.801
Dubuna	95	648	Declared as Forest	0.284
Dubuna	95	649	Declared as Forest	0.363
Dubuna	95	650	Declared as Forest	2.014
Dubuna	95	651	Declared as Forest	1.515
Dubuna	95	652	Declared as Forest	2.093
Dubuna	97	653	Declared as Forest	1.112
Dubuna	97	654	Declared as Forest	1.058
Dubuna	98	655	Declared as Forest	0.425
Dubuna	97	656	Declared as Forest	6.706
Dubuna	96	752	Declared as Forest	0.062
Dubuna	96	763	Declared as Forest	0.001
Dubuna	97	770	Declared as Forest	1.307
Dubuna	97	772	Declared as Forest	1.421
Dubuna	97	803	Declared as Forest	0.383
Dubuna	97	811	Declared as Forest	0.077

Dubuna	97	822	Declared as Forest	1.095	
Dubuna	95	823	Declared as Forest	0.638	
Dubuna	97	826	Declared as Forest	0.813	
Dubuna	97	831	Declared as Forest	0.277	
Dubuna	82/15	875	Declared as Forest	0.049	
Grand Total	-	-	-	(187.892 Acre) 76.037 Ha.	

FORMAT- II

A) For Revenue Forest Land (Forest Right Claims)

Mouza	Name of the claimant under F.R .Act	Khata No	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

FORMAT-III

B) For Reserved Forest Land (Forest Right Claims)

Mouza	Name of the claimant under F.R.Act	Khata No	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Baitami Reserve Forest	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Asst. Dist. Welfare Officer
Champua

Forest Range Officer
Champua Range

TAHASILDAR
BARBIL

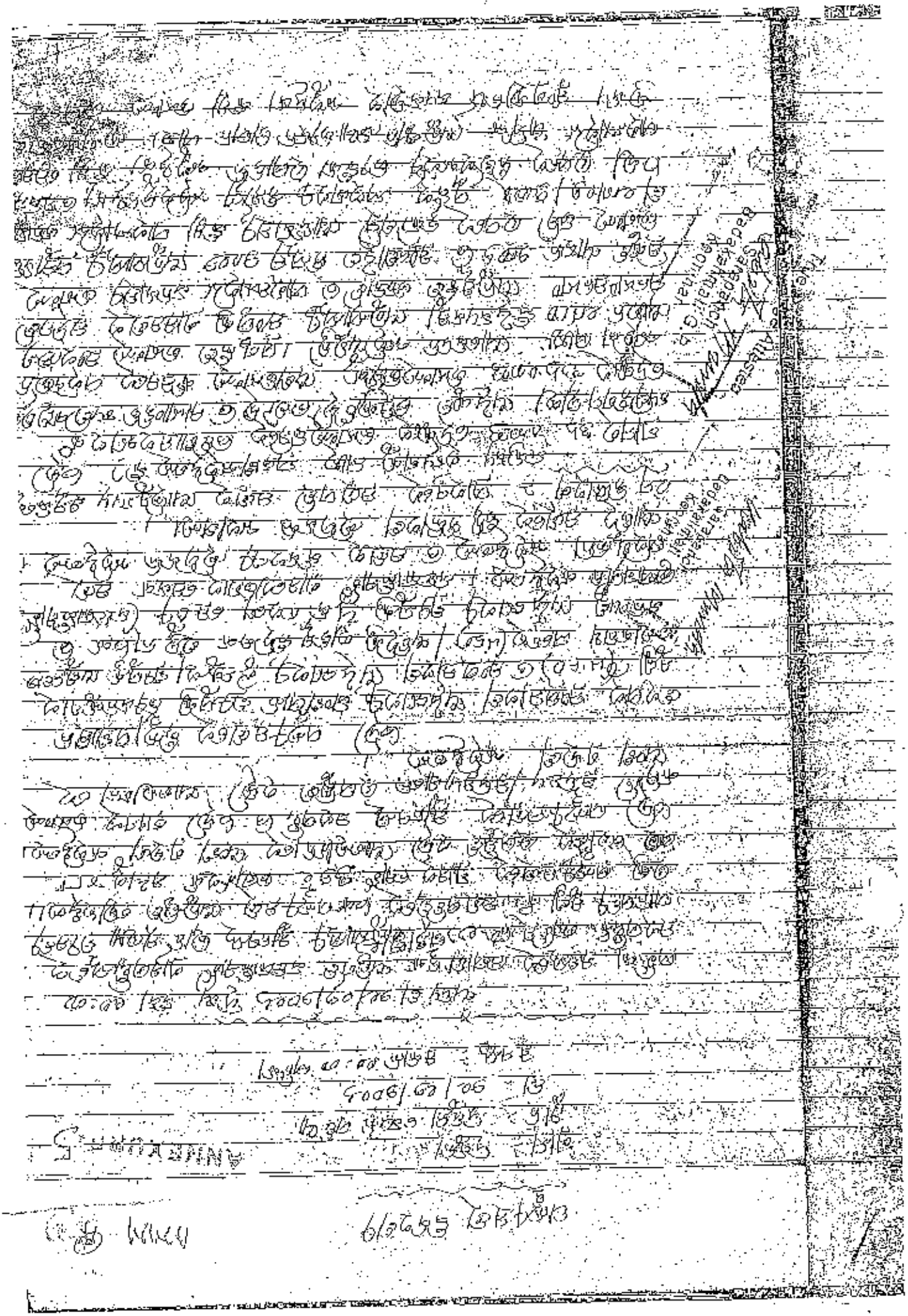
ANNEXURE-4

CERTIFICATE OF VERIFICATION

1. Certified that more than 50% voters of the village have attended the Gram Sabha and signed the resolution. Out of **800 voters** of village Dabuna, 488 voters have signed on the resolution copy out of which 269 members are women.
2. Certified that serial nos of Electoral Roll have been mentioned against the signature/L.T.I. of the Gram Sabha Resolution.
3. Certificate regarding genuineness of signature/L.T.I. with reference to electoral roll was verified and found correct has been mentioned in each page of the Gram Sabha resolution.
4. Certified that the ST & OTFD (RFR) Act, 2006 and amendment Rule,2012 has been ensured in respect of concerned village and there is no claim either individual or community on the forest land proposed for diversion.

Tahasildar, Barbil
TAHASILDAR
BARBIL

31/1/17
Sub-Collector
Champua



Minutes OF PALLI SABHA

ANNEXURE 10

Village – Dubuna
Venue - Dubuna , Play Ground
Time - 10.00A.M.
Date - 21.12.2016

As per the notice no.122 of Bada Kalimati Sarpanch a Palli Sabha was held on dated 21.12.12.2016 at 10.00 A.M. under the Chairmanship of ward member Smt Panapati Munda. Out of 721 members 488members were attended and participated in the meeting. Local Sarpanch Smt Kabita Munda and members of Forest committee of the village were present and participated in discussion.

From the District Administration Welfare Extension Officer (WEO) Bansapal Sri Jiban Kumar Munnda and WEO Jhumpura sri Asutos Lokanath Ghadai , ARI Sri Bhadra Naik & Forester Kalimati Sri Dhruba Charana Sethi were present in Palli Sabha. Grama Rojogar Sebak of Badakalimati Panchayat has continue the meeting and maintain the proceeding of the meeting. The resolutions are as follows:

1st Resolution: The President explained about objective of the meeting. The officer of Dubna/Sekharadihi Iron & Manganese Mines under OMC a undertaking of Government of Odisha has applied to convert 76.037 Hac. forest land to unforested land. The unbiased and actual opinion was called from the present villagers and forest right committee as per low and execution of prevailing forest conservation act 1980 ,Forest right act 2006 and amendment of law 2017, according to that the direct and indirect dependency i.e house , dependent for earning livelihoods, traditional cultural institution or collection of non timber Forest product (NTFP).

2nd Resolution: During the point of discussion WEO Jhumpura Sri Ghadai, was explained that there is no tribal or primitive tribal are residing or not depending for livelihoods before 13.12.2016 as per the Forest Right act 2006 and amendment of low 2012.

Even if 2nos. of awareness program was conducted in different times as per the Forest Right act 2006 and amendment of low 2012. A copy is attached along with minutes of the meeting.

3rd Resolution: Present ARI, Local Forester Sri Sethi was informed in the meeting about proposed location in hector of land to the villagers. Dissection was made on the dependency of primitive of tribal, local tribal peoples, public and member of Forest Right committee as per Forest Right act 2006 and amendment of act 2012.

Attended villagers were unanimously agreed in presence of Forest committee, Govt. officials, local Sarapanch and ward member for diversion of proposed 76.037 hac forest land of Sekharadihi Iron & Manganese Mines running through OMC. The President has taken decision to send the proposal to higher authority for approval. It was declared through loud speaker machine.

4th Resolution: After vote of thanks to the attended villagers and Govt. officials and discussion was made on periphery development for the village such as:

1. Drinking Water facility
2. CC Road to all house Hold
3. Electrification and installation of Solar light sight by road
4. Constriction of new house for post office.
5. Management of Indra smrity Vidya Pitha by OMC.
6. Construction of Charitable Hospital
7. Provision School Bus for school going children
8. Involvement of villager in raw material transportation
9. Construction of toilets in every House Hold
10. Employment according to education
11. Hanging of employment notice at Panchayat Office notice board

The President proposed to concern Mines Manager, BDO, Tahasildar to execute above developmental activities.

The President close the meeting with a vote of thanks for smooth conducting of Palli Sabha to the attended villagers, GOVT officials and Forest committee workers.

The minutes of the meeting was written by GRS and prepared Palli Sabha copy to submit the Tahasildar and BDO office for further course of action.

Signature

Sd/-
(WEO, Joda)

ENQUIRY REPORT ON DIVERSION OF FOREST LAND(INCLUDING AS ON 25.10.1980) FOR NON FOREST PURPOSE – ENSURING COMPLIANCE OF SCHEDULED TRIBE & OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHT) ACT, 2006 & AMENDMENT RULES,2012.

1.	Name of the User Agency		M/s Odisha Mining Corporation Ltd
2.	Name of the Project and purpose of Diversion	:	Dahuna-Sekradihi Iron & Manganese Mines.
3.	Name of the village(s) and R.F. area covered under Diversion Proposal	:	Pidhapokhari R.F 725.158ha Total 725.158ha.
4.	Name of the G.P.(s)	:	Badakalimati G.P.
5.	Name of the Tahasil		BARBIL
6.	Extent of Forest land under Diversion	:	725.158 Ha
a)	Revenue Forest : Area in Acre/ Hect. (Details of Land schedule & map is Annexed as per Format-I)	:	
b)	Reserved Forest : Area in Acre/ Hect. (Map to be enclosed)	:	725.158 ha
c)	Total Area : In Acre/ Hect.	:	725.158 Ha
7.	If any claims received under Forest Right Act, 2006 out of the above diversion Proposal	:	No
I.	If Yes, give details of claims received (To be enclosed in Format-II & III)	:	No.
a)	Total claims approved in the Dist. Level Commiltee out of the above diversion Proposal	:	--
(i)	For Revenue Forest (In Acre/Hect.)	:	--
(ii)	For Reserved Forest (In Acre/ Hect.)	:	--

	-b)	Balance area for diversion alongwith Map	:	Nil.
	(i)	Revenue Forest (In Acre/Hect.)		Nil
	(ii)	Reserved Forest (In Acre/ Hect.)	:	Nil.
	II.	If No, Joint field verification by Revenue & Forest personnel regarding Forest Right claim, if any, for Individual/ community in the proposed diversion area	:	Nil
8.	a)	Whether proposal for such diversion of forest land have been placed before each of the Gram Sabha of Forest Dwellers who are eligible under Forest Right Act & details of the Project and its implications have been explained to them in local language.	:	Yes
	b)	Whether such discussion and decision on such proposal had taken place with a quorum of minimum 50 % of members of the Gram Sabha present or not.	:	The discussion and decision for diversion of 725.158 Ha. of Forest land for use of non forest purpose had taken place with a quorum of minimum 50% of members of the Grama Sabha present.
	c)	Whether rights of Primitive Tribal Groups and pre-agricultural community have been specifically safe guarded as per section 3(1)(e) of Forest Right Act.	:	Nil.
	d)	Whether the diversion of forest land for facilities managed by Government as required u/s 3(2) of the Forest Right Act (if any) have been completed and that the Gramsabha has consented to it.	:	Nil.
9.		Documents to be enclosed		
	a)	Proposed land schedule and Map for Diversion		Attached
	b)	Grama sabha Resolution in vernacular language and English translation		Attached

c) Any other documents — Video CD, Still Photo of Gramsabha attached, Map for diversion attached.

10.

Remarks

Recommended for issue of compliance certificate under Forest Right Act, 2006 and Amendment Rules, 2012 for proposed diversion of forest land measuring 725.158 Hect. for non forest purpose i.e, Mining purpose in favour of Dubuna-Sekradihi Iron & Manganese Ore Mines., M/s Odisha Mining Corporation Ltd.

Sarpanch/ President/ Secretary,
F.R.C.

Range Officer
Forest Range Officer
Champua Range

Tahasildar,
Barbil.
TAHASILDAR
BARBIL

Asst. Dist. Welfare Officer
Champua

Sub-Collector
Champua

FORMAT-I

Details of Revenue Forest lands for diversion (supported by Map in Duplicate)

Mouza	Khata No.	Plot No.	Kissam	Area (In Ha)	DLC (deemed forest land)
Pidapokhari	Nil.	Nil.	Nil.	Nil.	Nil.
Grand Total	-	-	-		-

FORMAT- II

A). For Revenue Forest Land (Forest Right Claims)

Mouza	Name of the claimant under F.R .Act	Khata No	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

FORMAT-III

B) For Reserved Forest Land (Forest Right Claims)

Mouza	Name of the claimant under F.R.Act	Khata No	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Baltarni Reserve Forest	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Asst. Dist. Welfare Officer
Champua

Sub-Collector
Champua

Forest Range Officer
Champua Range

Tahasildar, Barbil.
TAHASILDAR
BARBIL

OFFICE OF THE

BADAKALIMATI GRAM PANCHAYAT

AT- BADAKALIMATI,PO- SILJODA,VIA- JODA,DIST- KEONJHAR

Ref. No.:..... Date...22/09/2025

ANNEXURE-39

ପ୍ରାପ୍ତବ୍ୟକ୍ତି,

ଶ୍ରୀଯୁକ୍ତ ଜୟାଧୁରିଉନ୍ନୟନ ଯୋଜନାଦ୍ୱାରା,ଜୋଡା।

ବିଷୟ:- (ଗ୍ରାମପଞ୍ଚାୟତ ଜଳଯୋଗାଣ ପ୍ରୋତ୍ସାହନ ଯୋଜନା)

ମହାଶୟ,

ଆପଣଙ୍କୁ ଜଣାଇବାକୁ ସୂଚନା ଦିଆଯାଉଛି ଯେ,ଆମ ଗ୍ରାମପଞ୍ଚାୟତର ଅନୁସୂଚିତ ଜାତି ଓ ଅନୁସୂଚିତ ଜନଜାତି ଅଧ୍ୟୁଷିତ ଅଞ୍ଚଳରେ ପାନୀୟ ଜଳର ଅଭାବ ଦୂରୀକରଣ ପାଇଁ ଏହି ଯୋଜନାରେ ଆବେଦନ କରାଯାଇଛି। ଏହି ଯୋଜନାରେ ଗ୍ରାମର ପ୍ରତ୍ୟେକ ପରିବାରକୁ ପାଇପ୍ ମାଧ୍ୟମରେ ପାନୀୟ ଜଳ ଯୋଗାଇବା ପାଇଁ ପ୍ରସ୍ତାବ ଦିଆ

GENUINENESS CERTIFICATE

40

1. Certified that 258 persons have attended the Pallisabha/Grama Sabha on 3.12.16 in village Pada Pokhari under Pada Kalimati G.P. vide letter no. 137 dt. 7/12/16

2. Certified that the proposal involves forest land measuring 725.158 Ha. out of 725.158 Ha reserve forest kissam has been resolved by more than 50% voters giving their consent for such diversion.

3. Certified that the serial No. in the electoral roll of each signatory have been marked against their signature and duly certified.

4. Certified that the mandatory provision of ST & OTFDC (RFR) Act-2006 and Amendment Rule 2012 have been ensured in respect of the interest of the villagers and there is no claim either individual or community pending for disposal in the village. It is further certified that no ST/SC/PTG/PAC/PVTG people are residing inside the forest area going to be diverted in this proposal.

Kabita Munda
SARAPANCH

Bhandra Sekhar Bardhan
GRAM ROZGAR SEVAK
Badakalimati, Gram Panchayat

B.D.O., JODA

Welfare Extension Officer
JODA

A2 ଶ୍ରୀଜଗନ୍ନାଥ ଶିକ୍ଷାପୀଠ: ପିପିଲିଗୋପାଳପୁର A3

ATMN-135

ସ୍ମାରକ: ପିପିଲିଗୋପାଳପୁର

ବିଷୟ: ପିପିଲିଗୋପାଳପୁର ଗଜପତିସାହି ଚାଷକ ଜମିଦାର

ସମ୍ପର୍କରେ: ଯୋଗାଣ ଦେଇ ଥିବା ସମ୍ପର୍କରେ।

ତାଃ ୧୨/୦୨/୨୦୦୬ ANNEXURE-IV

ଏତଦ୍ଦ୍ୱାରା ଏହା ଜଣାଯାଉଛି ଯେ ଉପରୋକ୍ତ ଜମିଦାର ଆମ ସଂସ୍ଥାରୁ ୧୦୦୦ ଟଙ୍କା ମୂଲ୍ୟର ଚାଷ ସମ୍ବନ୍ଧୀୟ ସାମଗ୍ରୀ ଯୋଗାଣ ପାଇଁ ଅନୁରୋଧ କରିଥିଲେ। ସେ ଅନୁଯାୟୀ ଆମେ ଉକ୍ତ ସାମଗ୍ରୀ ଯୋଗାଣ କରିଥିଲୁ। ଏହି ସାମଗ୍ରୀ ଯୋଗାଣ ପାଇଁ ଆମେ ଜମିଦାରଙ୍କ ଠାରୁ ଟଙ୍କା ପାଇବା ପାଇଁ ଥିଲୁ। ଏହି ସାମଗ୍ରୀ ଯୋଗାଣ ପାଇଁ ଜମିଦାର ଆମକୁ ଟଙ୍କା ଦେଇ ନାହାନ୍ତି। ଏହି ସାମଗ୍ରୀ ଯୋଗାଣ ପାଇଁ ଜମିଦାର ଆମକୁ ଟଙ୍କା ଦେଇ ନାହାନ୍ତି। ଏହି ସାମଗ୍ରୀ ଯୋଗାଣ ପାଇଁ ଜମିଦାର ଆମକୁ ଟଙ୍କା ଦେଇ ନାହାନ୍ତି।

Vidhata Mishra
Saraswati Kalimata Mandir
Badakalimata Mandir
True Love Messenger
Vidhata Mishra
Saraswati Kalimata Mandir
Badakalimata Mandir


Sarappanch
Badakalimali G.P.
Sarappanch
Badakalimali G.P.
Kendhar

Sarpanch
Badakalimati G.P.
Keonthal

Bank P.S. members

True Page Xerox

Sarpanch
Badakalimati G.P.
Keonthal

Minutes OF PALLI SABHA

ANNEXURE-45

Village - Pidhipokhori
Venue - Pidhipokhori, Badaposi Sahi, Play Ground
Time - 10.00A.M.
Date - 13.12.2016

As per the notice no.104 of Bada Kalimati Sarpanch a Palli Sabha was held on dated 13.12.2016 at 10.00 A.M. under the Chairmanship of ward member Sri Samara Munda. Out of 420 members 298 members were attended and participated in the meeting. Local Sarpanch Smt Kabita Munda and members of Forest committee of the village were present and participated in discussion. From the District Administration Welfare Extension Officer (WEO), Revenue Inspector (RI) & Forester were present in Palli Sabha.

Grama Rojogar Sebak of Badakalimati Panchayat has continue the meeting and maintain the proceeding of the meeting. The resolutions are as follows:

1st Resolution: The President explained about objective of the meeting. The officer of Dubna/Sekharadihi Iron & Manganese Mines under OMC a undertaking of Government of Odisha has applied to convert 725.158 Hac. forest land to unforested land. The unbiased and actual opinion was called from the present villagers and forest right committee as per low and execution of prevailing forest conservation act 1980 ;Forest right act 2006 and amendment of law 2012, according to that the direct and indirect dependency i.e constriction of house , earning livelihoods, dependent for traditional cultural institution or collection of timber Forest product (NTFP).

2nd Resolution: During the point of discussion WEO Sri Trilochan Das, Dubna RI Sri Bikash Sahoo was explained that 111 members have received Forest Right Pata as per the Forest Right Act 2006. Beside this opinion was given regarding there is no tribal or primitive tribal are residing or not depending for livelihoods before 13.12.2016. Even if 3 nos. of awareness program was conducted in different times as per the Forest Right act 2006 and amendment of low 2012. A copy is attached along with minutes of the meeting.

3rd Resolution: Present RI Sri Bikash Sahoo, Local Forester Sri Santosh Kumar was informed in the meeting about proposed location in hector of land to the villagers. Dissection was made on the dependency of primitive of tribal, local tribal peoples, public and member of Forest Right committee as per Forest Right act 2006 and amendment of act 2012.

Attended villagers were unanimously agreed in presence of Forest committee, Govt. officials, local Sarapanch and ward member for diversion of proposed 725.158 hac forest land of Sokharadihi Iron & Manganese Mines running through OMC. The President has taken decision to send the proposal to higher authority for approval. It was declared through loud speaker machine.

After vote of thanks to the attended villagers and Govt. officials and discussion was made on periphery development for the village such as water Supply, Education, Health, Construction of road, employment to local educated people. The President proposed to concern Mines Manager, BDO, Tahasildar to execute above developmental activities.

The President close the meeting with a vote of thanks for smooth conducting of Palli Sabha to the attended villagers, GOVT officials and Forest committee workers.

The minutes of the meeting was written by GRS and prepared Palli Sabha copy to submit the Tahasildar and BDO office for further course of action.

Sd/
CWEO, Joda.

ENQUIRY REPORT ON DIVERSION OF FOREST LAND FOR NON FOREST PURPOSE - ENSURING COMPLIANCE OF SCHEDULED TRIBE & OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHT) ACT, 2006 & AMENDMENT RULES, 2012.

ANNEXURE 29

1.	Name of the User Agency	: M/s Odisha Mining Corporation Ltd.
2.	Name of the Project and Purpose of Diversion	: Dubna-Sekradihi Iron & Manganese Mines.
3.	Name of the village(s) and R.F. area covered under Diversion Proposal	: Purunadihi
4.	Name of the G.P.(s)	: Badakalimati
5.	Name of the Tahasil	: Barbil
6.	Extent of Forest land under Diversion	: 2.394 Ha.
a)	Revenue Forest : Area in Acre/ Hect. (Details of Land schedule & map is Annexed as per Format-I)	: 2.394 Ha.
b)	Reserved Forest : Area in Acre/ Hect. (Map to be enclosed)	: Nil.
c)	Total Area : In Acre/ Hect.	: 2.394 Ha.
7.	If any claims received under Forest Right Act, 2006 out of the above diversion Proposal	: No
I.	If Yes, give details of claims received (To be enclosed in Format II & III)	: Nil.
a)	Total Claims approved in the Dist. Level Committee out of the above diversion Proposal	: Nil.
(i)	For Revenue Forest (In Acre/ Hect.)	: Nil.
(II)	For Reserved Forest (In Acre/ Hect.)	: Nil.

b)	Balance area for diversion along with Map	: Nil.
(i)	Revenue Forest (In Acre/ Hect)	. Nil.
(ii)	Reserved Forest (In Acre/ Hect.)	: Nil.
II.	If No, Joint filed verification by Revenue & Forest personnel regarding Forest Right claim, If any, for Individual/community in the proposed diversion area.	: Nil.
8.	a) Whether Proposal for such diversion of forest land have been placed before each of the Gram Sabha of Forest Dwellers who are eligible Under Forest Right Act & details of the Project And its Implication have been explained to them in local language.	: Yes.
b)	Whether such discussion and decision on Such proposal had taken place with a Quorum of minimum 50% of members of the Gramsabha present or not.	: The discussion and decision for diversion of 2.394 Ha. of Forest land for use of non forest purpose had taken place with a quorum of minimum 50% of members of the Gramsabha present.
c)	Whether rights of Primitive Tribal Groups and Pre-agricultural community have been specifically safe guarded as per section 3(1)(c)of Forest Right Act.	: Nil.
d)	Whether the diversion of Forest land for Facilities managed by Government as required u/s 3(2) of the Forest Right Act (If any) have been completed and that the Gramsabha has consented to it.	: Nil.
9.	Documents to be enclosed	
a)	Proposed land schedule and Map for Diversion.	: Attached
b)	Gramsabha Resolution in vernacular Language and English translation.	: Attached

c) Any other documents — Video CD, Still Photo of Grama Sabha attached, Map for diversion attached.

10.

Remarks

Recommended for issue of compliance certificate under Forest Right Act, 2006 and Amendment Rules, 2012 for proposed diversion of forest land measuring 2.394 Hect. for non forest purpose i.e, Mining purpose in favour of Dubuna-Sekradihi Iron & Manganese Ore Mines., M/s Odisha Mining Corporation Ltd.

Sarpanch/ President/ Secretary,
F.R.C.

Range Officer
Forest Range Officer
Champua Range

Tahasildar
Barbil.
TAHASILDAR
BARBIL

Asst. Dist. Welfare Officer
Champua

31.1.17
Sub-Collector
Champua

FORMAT-I

Details of Revenue Forest land for diversion (supported by Map in Duplicate)

Mouza	Khata No.	Plot No.	Kissam	Area (In Acre)	DLC (deemed forest land)
Purunadihi	63	4	Declared as Forest	4.935	
Purunadihi	63	5	Declared as Forest	0.981	
Grand Total -		-	-	(5.916 Acer) 2.394 Ha.	

FORMAT-II

A) For Revenue Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act.	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Purunadihi	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

FORMAT-III

B) For Reserved Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act.	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Purunadihi	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Forest Range Officer
Champua Range

Tahasildar
TAHASILDAR
BARBIL

Asst. Dist. Welfare Officer
Champua

Sub-Collector
Champua

ANNEXURE-30

CERTIFICATE OF VERIFICATION

1. Certified that more than 50% voters of the village have attended the Gram Sabha and signed the resolution. Out of **456 voters** of village Purunadihi, 312 voters have signed on the resolution copy out of which 156 members are women.
2. Certified that serial nos of Electoral Roll have been mentioned against the signature/L.T.I. of the Gram Sabha Resolution.
3. Certificate regarding genuineness of signature/L.T.I. with reference to electoral roll was verified and found correct has been mentioned in each page of the Gram Sabha resolution.
4. Certified that the ST & OTFD (RFR) Act, 2006 and amendment Rule,2012 has been ensured in respect of concerned village and there is no claim either individual or community on the forest land proposed for diversion.

Tahasildar, Barbil
TAHASILDAR
BARBIL

31.1.17
Sub-Collector
Champua

OFFICE OF THE

BADAKALIMATI GRAM PANCHAYAT

At- BADAKALIMATI,PO- SILJODA,VIA- JODA,DIST- KEONJHAR

Ref. No.:..... Date.....

ANNEXURE-31

ପ୍ରାପ୍ତିସ୍ୱୀକାର

ଶ୍ରୀଯୁକ୍ତ ଯୋଗ୍ଜୀତ୍ ମୁଣ୍ଡ୍ ପାଟ୍‌କାନ୍ଦୀ, ଜୋଡା

ବିଷୟ :- (ଗ୍ରାମ ସଭା ନିଜସୂଚୀ ପ୍ରସ୍ତୁତ ସମ୍ପର୍କରେ)

ମହାଶୟ,

ଆପଣଙ୍କର ପତ୍ର ସଂଖ୍ୟା- ୬୪୦୬ ତା/୧୨/୨୦୧୫ ଦିନ ଏକତ୍ରିତ ପୁନଃ ଗ୍ରାମ ଉଚ୍ଚେଦ ହୋଇଥିବା ସମ୍ପର୍କରେ ଆପଣଙ୍କ ପତ୍ରଟିକୁ ୨.୦୩.୨୪ ତାରିଖରେ ଅନୁଷ୍ଠିତ ବାଦାକାଳିମାଟି ଗ୍ରାମ ପଞ୍ଚାୟତ ସାଧାରଣ ସଭାରେ ଉପସ୍ଥାପନ କରାଯାଇଥିଲା ଏବଂ ସର୍ବସମ୍ମତି କ୍ରମେ ଏହି ଗ୍ରାମ ସଭା ନିଜସୂଚୀ ଠାରୁ ସଂଲଗ୍ନ ଅଂଶ ବାଦ ଦିଆଯାଇ ଆପଣଙ୍କ ଦ୍ୱାରା ଦାଖଲ କାଳୀନ ଥିବା ନିମ୍ନରେ ପ୍ରସ୍ତୁତ କରାଯାଇଛି ।

ଇତି

ଆପଣଙ୍କ ବିଶ୍ୱସ୍ତ

ସ୍ୱା :-

ସରପଞ୍ଚ, ବାଦାକାଳିମାଟି

ତା ୨୨/୧୨/୨୦୧୫

ନମ୍ବର ଅନୁଯାୟୀ ନାହିଁ

ଏହାର ଅକାଟିତା ନକଲ ଏହାସହିତ ସଂଲଗ୍ନ କରାଯାଇଛି ଓ ଦାଖଲ କାଳୀନ ନିମନ୍ତେ ପ୍ରସ୍ତୁତ କରାଯାଇଛି ।

Kabita Munda
Sarapanch
Badakalimati Gram Panchayat
Keonjhar

ANNEXURE

GENUINENESS CERTIFICATE

1. Certified that 312 Nos. of Voters have attended the Palligrama/Grama Sabha held on 21.12.2016 at village Ramanadoddi as per the notice issued by the Sarapanch Gadakolladagi vide Letter No. LEO ಕೆಟ್ಟ:12:16

2. Certified that the proposal for diversion forest land measuring 2.304 Ha. which 2.304 Ha. fall and Sabha has been accepted by the majority of Gram Sabha giving their consent for such diversion.

3. Certified that the Sarapanch has explained the proposal to the people present and

4. Certified that no objection received by the Gram Panchayat against the proposal. All the people present in the village. It is to certify that people are voluntarily for the forest land diverted for proposed.

Sarapanch
Gadakolladagi Gram Panchayat

SARAPANCH P.E.O. WEO, JIDA BLOCK GRAM ROZGAR SEVAK

Minutes of Palli Sabha

ANNEXURE-34

Village - Purunadihi
Venue - Purunadihi , Play Ground
Time - 02.00 P.M.
Date - 21.12.2016

As per the notice no.160 of Bada Kalimati Sarpanch a Palli Sabha was held on dated 21.12.2016 at 02.00 P.M. under the Chairmanship of ward member Sri Hari Hara Naik. Out of 456 members 312 members were attended and participated in the meeting. Local Sarpanch and members of Forest committee members of the village were present and participated in discussion.

From the District Administration Welfare Extension Officer (WEO) Bansapal, Revenue Inspector (RI) Dubuna & Forester Bada kalimati were present in Palli Sabha. Grama Rojogar Sebak of Badakalimati Panchayat has continue the meeting and maintain the proceeding of the meeting. The resolutions are as follows:

1st Resolution: The President explained about objective of the meeting. The officer of Dubna/Sekharadihi Iron & Manganese Mines under OMC a undertaking of Government of Odisha has applied to convert 2.394 Hac. forest land to unforested land. The unbiased and actual opinion was called from the present villagers and forest right commit as per low and execution of prevailing forest conservation act 1980, Forest right act 2006 and amendment of law-2012, according to that the direct and indirect dependency i.e not constructed house any house by the schedule Tribe or traditional tribe before 13.12.2005, dependent for earning livelihoods, traditional cultural institution or collection of timber Forest product (NTFP).

2nd Resolution: During the point of dissection WEO Sri Jivan Sing Munda, Dubna RI Sri Bikash Sahoo was explained that many people have applied for forest Right Pata as per the Forest Right Act 2006. Beside this opinion was given regarding there is no tribal or primitive tribal are residing or not depending for livelihoods before 13.12.2016. Even if many awareness program was conducted in different times as per the Forest Right act 2006 and amendment of low 2012. A copy is attached along with minutes of the meeting.

3rd Resolution: Present RI Sri Bikash Sahoo and Local Forester was informed in the meeting about proposed 2.394 hector of land to the villagers. Dissection was made on the dependency of primitive of tribal, local tribal peoples, public and member of Forest Right committee as per Forest Right act 2006 and amendment of act 2012.

Attended villagers were unanimously agreed in presence of Forest committee, Govt. officials, local Sarapanch and ward member for diversion of proposed 2.394 hac Forest land of Sekharadihi Iron & Manganese Mines running through OMC. The President has taken decision to send the proposal to higher authority for approval. It was declared through loud speaker machine.

4th Resolution: After vote of thanks to the attended villagers and Govt. officials and discussion was made on periphery development for the village such as:

1. Employment according to qualification.
2. CC Road in the village.
3. Drinking water facility.
4. Electrification in the village and street light.
5. Plantation in Gochara and anabadi land.
6. Toilet to all house hold..
7. Electrification in school, supply of Computer and sports equipment.
8. Construction of 16 sheeted hospital.
9. Mobile health camp.
10. Supply of agriculture equipment to the farmers.
11. Help to the SHG.
12. Boundary wall at religious place.
13. Pucca house to all affected household.
14. Construction of club house for SHG and children in each sahi.
15. Vocational training center at Purunadihi.
16. Old age pension.
17. Financial assistance for cultural program.
18. Ambulance service.
19. Supply of Sports equipment.
20. Bathing Ghat.

ENQUIRY REPORT ON DIVERSION OF FOREST LAND FOR NON FOREST PURPOSE - ENSURING COMPLIANCE OF SCHEDULED TRIBE & OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHT) ACT, 2006 & AMENDMENT RULES, 2012.

ANNEXURE-53

1.	Name of the User Agency	: M/s Odisha Mining Corporation Ltd.
2.	Name of the Project and Purpose of Diversion	: Dubna-Sekradihi Iron & Manganese Mines.
3.	Name of the village(s) and R.F. area covered under Diversion Proposal	: Basantpur
4.	Name of the G.P.(s)	: Basantpur
5.	Name of the Tahasil	: Jhumpura
6.	Extent of Forest land under Diversion	: 31.018 Ha.
a)	Revenue Forest : Area in Acre/ Hect. (Details of Land schedule & map is Annexed as per Format-I)	: 31.018 Ha.
b)	Reserved Forest : Area in Acre/ Hect. (Map to be enclosed)	: Nil.
c)	Total Area : In Acre/ Hect.	: 31.018 Ha.
7.	If any claims received under Forest Right Act, 2006 out of the above diversion Proposal	: No
I.	If Yes, give details of claims received (To be enclosed in Format II & III)	: Nil.
a)	Total Claims approved in the Dist. Level Committee out of the above diversion Proposal	: Nil.
(i)	For Revenue Forest (In Acre/ Hect.)	: Nil.
(ii)	For Reserved Forest (In Acre/ Hect.)	: Nil.

b)	Balance area for diversion along with Map	: Nil.
(i)	Revenue Forest (In Acre/ Hect)	: Nil.
(ii)	Reserved Forest (In Acre/ Hect.)	: Nil.
II.	If No, Joint filed verification by Revenue & Forest personnel regarding Forest Right claim, if any, for individual/community in the proposed diversion area.	: Nil.
8.	a) Whether Proposal for such diversion of forest land have been placed before each of the Gram Sabha of Forest Dwellers who are eligible Under Forest Right Act & details of the Project And its implication have been explained to them in local language.	: Yes.
b)	Whether such discussion and decision on Such proposal had taken place with a Quorum of minimum 50% of members of the Gramsabha present or not.	: The discussion and decision for diversion of 31.018 Ha. of Forest land for use of non forest purpose had taken place with a quorum of minimum 50% of members of the Gramsabha present.
c)	Whether rights of Primitive Tribal Groups and Pre-agricultural community have been specifically safe guarded as per section 3(1)(e)of Forest Right Act.	: Nil.
d)	Whether the diversion of Forest land for Facilities managed by Government as required u/s 3(2) of the Forest Right Act (If any) have been completed and that the Gramsabha has consented to it.	: Nil.
9.	<u>Documents to be enclosed</u>	
a)	Proposed land schedule and Map for Diversion.	: Attached
b)	Gramsabha Resolution in vernacular Language and English translation.	: Attached

c) Any other documents — Video CD, Still Photo of Grama Sabha attached, Map for diversion attached.

10.

Remarks

Recommended for issue of compliance certificate under Forest Right Act, 2006 and Amendment Rules, 2012 for proposed diversion of forest land measuring 31.018 Hect. for non forest purpose i.e, Mining purpose in favour of Dubuna-Sekradihi Iron & Manganese Ore Mines., M/s Odisha Mining Corporation Ltd.

Sarpanch/ President/ Secretary,
F.R.C.

Range Officer
Forest Range Officer
Champua Range

Tahasildar
TAHASILDAR
Champua
Rorail.

Asst. Dist. Welfare Officer
Champua

31.1.17
Sub-Collector
Champua

FORMAT-I

Details of Revenue Forest land for diversion (supported by Map in duplicate)

Mouza	Khata		Plot No.		Kissam	Total Area	As per DGPS survey of	As per Tahasil RoR / Bhulekh	DLC (deemed forest land)	Remarks
	Old	New	Old	New						
1	2	3	4	5	6	7	8	9	10	11
Basantapur		239/1	1		Parbata-I	9.500	62.661	9.500	Declared as Forest	Before 1990 Plot No.1, Ac.70.500 & Plot No. 2, Ac.60.000 was under Khata No-239/1. After alienation vide case no.2/1992 Ac.61.000 & Ac.5.500 has been deducted and kept under Khata No.239 alloting a new plot no.1/2565 & 2/2566 respectively.
-do-		239/1	2		Parbata-I	54.500	6.225	54.500	-do-	
-do-	236		653		Junlge	2.250	0.830	2.250	-do-	
-do-	236		655		Jungle	0.660	0.200	0.660	-do-	
-do-	236		575		Gochar	29.000	5.923	29.000	-do-	
-do-	238		648		T-II	0.460	0.465	0.460	-do-	
-do-	238		652		S-II	0.410	0.173	0.410	-do-	
-do-	238			649/2171	T-I	0.100	0.074	0.100	-do-	
-do-	238			657/2357	Bati	2.760	0.096	2.760	-do-	
						99.640	76.647	99.640		

Asst. Dist. Welfare Officer
Champua

Forest Range Officer
Champua Range

TAHASILDAR
JHUMPURA

31.1.17
Sub-Collector
Champua

FORMAT-II

A) For Revenue Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act.	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Basantpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

FORMAT-III

B) For Reserved Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act.	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Basantpur	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Forest Range Officer
Champua Range

TAHASILDAR
Champua

Asst. Dist. Welfare Officer
Champua

Sub Collector
Champua

CERTIFICATE OF VERIFICATION

ANNEXURE-54

1. Certificate that more than 50% voters of the village have attended the Gram Sabha and signed the resolution. Out of **1401 voters** of village **Basantpur, 937 voters** have signed on the resolution copy, out of which **448 members** are women.

2. Certified that serial nos of Electoral Roll have been mentioned against the signature/ L.T.I. of the Gram Sabha Resolution.

3. Certificate regarding genuineness of Signature/ L.T.I. with reference to electoral roll was verified and found correct has been mentioned in each page of the Gram Sabha resolution.

4. Certified that the ST & OTFD (RFR) Act, 2006 and amendment Rule,2012 has been ensured in respect of concerned village and there is no claim either individual or community on the forest land proposed for diversion.

Tahasildar, Jhumpura
TAHASILDAR
JHUMPURA

31.1.17
Champua

GRAM-SABHA

DUBUNA-SAKRADIHI MINES

VILLAGE- BASANTPUR

BLOCK- JHUMPURA

DIST :- KEONJHAR

O. M. C. Ltd.

Annexure 57

GENUINENESS CERTIFICATE

1. Certified that 934 Nos. of Voters have attended the Pallisabha/Grama Sabha held on dtd. 20.12.2016 in village Basantpur as per the notice issued by the Sarapanch Basantpur G.P. vide Letter No. 1095 BGP/16 dt 26.11.16

2. Certified that the proposal for diversion of forest land measuring 3.1.018 Ha. which includes 3.1.018 Ha. Hal and Sabik kissam has been resolved by the consent of more than 50% voters giving their consent for such diversion.

3. Certified that the serial No. in the electoral roll of each signatory have been marked against their signature and duly certified.

4. Certified that the mandatory provision of ST & OTFDC (RFR) Act-2006 and Amendment Rule 2012 have been ensured in respect of the interest of the villagers and there is no claim either individual or community pending for disposal in the village. It is further certified that no ST/SC/PTG/PAC/PVTG people are residing inside the forest area going to be diverted in this proposal.

SARAPANCH
SARAPANCH
BASANTAPUR G.P

P.E.O.

WEO, JHUMPURA BLOCK

B.D.O., JHUMPURA

ANNEXURE-58

BASANTAPUR G.P

True Copy Attested

True Page Attested
SARAPANCH

BASANTAPUR C.P.

Blue Page Attested
SARAN
BASANTAPUR C.P.

INTEGRATED TRIBAL DEVELOPMENT AGENCY : KEONJHAR
ST& SC Development Department,Govt.of Odisha
Ph.91-6766-255568, E.Mail-itdakeonjhar @yahoo.com

NO 3769 /ITDA DT. 15.11.16

To

The BDO,Joda/Jhumpura

Sub : Issue of Certificate ensuring compliance of STs & OTFD(RFR) Act,2006 in respect of Forest land measuring 1243.664 Ha. Proposed to be diverted for mining activities in Dubuna-Sekradihi Iron & Manganese Mine of M.s OMC Ltd.

Sir,

In enclosing herewith the the copy of L.No.13793/OMC/F&E/2016 dt. 27.9.2016 of the Executive Director(F&C) M/s OMC Limited regarding issue of certificate ensuring compliance of STs & OTFD (RFR)Act,2006 in respect of the 1243.664 Ha.of forest land located in Village Basantapur, Naibuga,Dubuna,Handibhanga, Jampani, Purunadihi, Pidhapokhari RF & Naibuga RF under Barbil & Jhumpura Tahasil received from Collector,Keonjhar vide L.No.2269/Rev. dt.24.10.16 (copy enclosed) for enquiry into the matter and take steps for obtaining consent of the Gram Sabha or Gram Sabhas wherever required after detail examination of applied area Ha. 1243.664 in consultation with Tahasildars,Barbil and Jhumpura. The procedure should be completed within a specified period as prescribed in the Rule.

You are requested to enquiry the matter on settlement of rights under FRA in the forest land and take steps for obtaining consent of the Gram Sabha in the light of observation of Secretary, MoTA, Govt. of India which was communicated to you vide memo No.945/ITDA Dt.19.5.2014 and L.No.1270/ITDA Dt.27.6.2014. and submit your findings in the format-II to the SDLC, Champua within the time frame. You are also requested to give due attention to ensure non-occurrence of the defects pointed out vide Letter No.17011/dt.6.5.14 of MoTA, Govt.of India

Yours faithfully,

Enclosure : As above

Project Administrator, ITDA,
Keonjhar-cum-Dist.Nodal Officer, FRA

//02//

Memo No 3010 /ITDA Dated : 15.11.16

Copy along with copy of the letter No. 13793/OMC/F&E/2016 dt. 27.9.2016 of the Executive Director(F&E) M/s OMC Limited and Copy of the letter No. 2269/dt.24.10.16 of Collector,Keonjhar are forwarded to the Tahasildar, Barbil & Tahasildar, Jhumpura for information and necessary action with request to extend necessary cooperation for conducting Gram Sabha as per Rules.

Project Administrator, ITDA
Keonjhar-cum-Dist.Nodal Officer,FRA

Memo No 3011 /ITDA Dated 15.11.16

Copy along with copy of the letter No.. 13793/OMC/F&E/2016 dt. 27.9.2016 of the Executive Director(F&E) M/s OMC Limited and Copy of the letter No. 2269/dt.24.10.16 of Collector,Keonjhar forwaded to the Sub-Collector, Champua -cum-Chairman,SDLC for information and necessary action. He is requested to take necessary proper follow up action after receipt of Gram Sabha proceeding observing all formalities prescribed .The SDLC shall examine the Gram Sabha reports and submit exhaustively report/ proceedings to the DLC for taking further action at this end..

Project Administrator, ITDA
Keonjhar-cum Dist.Nodal Officer, FRA

Memo No 3012 /ITDA Dated : 15.11.16

Copy submitted to the Collector, Keonjhar for kind information with reference to his letter No.2269/Rev Dt.24.10.16

Project Administrator, ITDA
Keonjhar-cum-Dist.Nodal Officer,FRA

Minutes OF PALLI SABHA

ANNEXURE-61

Village – Basantapur
Venue – Front Ground of Rajib Gandhi Sebakendra
Time – 10.00 A.M.
Date – 20.12.2016

As per the notice no. 695 dated 26.11.2016 of Sarapanch of Basantpur Panchayat a Palli Sabha was held on dated 20.12.2016 at 10.00 A.M. under the Chairmanship Local Sarapanch Sushree Laxmi Naik. Out of 1401 members 937 members were attended and participated in the meeting. Local Sarapanch Sushree Laxmi Naik, P.S. Member Sri Santanu Kumar Barik and Member of Forest committee of the village were present and participated in discussion.

1st Resolution: The President explained about objective of the meeting. The Authority of Dubna-Sekradihi Iron & Manganese Mines under OMC a undertaking of Government of Odisha has applied to convert 31.018 Hac. forest land to non-forest land. As per terms and conditions of forest conservative act, 1980, forest right act 2006 & amendment rule 2012, the opinion from the Schedule Tribe, Traditional Forest dwellers villagers and members of forest committee regarding living through Gharabari, dependent on earning, traditional institution, using of minor forest community and managing their family directly or indirectly depending upon forest before 13.12.2005 were taken. The above forest land belongs to Hall & Sabik record.

2nd Resolution: During discussion Sri Ashutosh Loknath Ghadei, W.L.O, Jhumpura block & Sri Nitarani Mohanta, R.I. of Malda expressed that 71.02 Acre forest land patta has been distributed amont 81 persons under forest right act 2006. Apart from this opinion was taken that no schedule Tribe or traditional forest dweller was living by constructing house or depended for earning upon the proposed forest land.

Awareness as per forest right act 2006 and amendment rule 2012 has been done at different times. The copy of this is attached with this resolution.

3rd Resolution: Present R.I. Srimati Anitarani Mohanta & Sri Santosh Kumar Sethy, Forester have explained the villagers regarding the location of land of the reserve forest coming under Dubna-Sekradihi Mines. They have also discussed about the dependability of the local Schedule Tribe, villagers & members of village forest committee upon the reserve forest as per recognised forest right act 2006 and amended rule 2016.

The forest land of 31.018 Ha proposed to be converted into Non-forest land by OMC authority was discussed among the present villagers, members of forest committee Ward members, Sarapanch and they have given their positive views. Lastly the said proposal was approved by all and the president of meeting declared in loud speaker to sent the proposal to OMC authority for further course of action.

The president proposed for vote of thanks to the Govt. Officers and Villagers. She also requested the mines authority , B.D.O., Thasildar and Forest officer to look into the development work of water supply, road construction, health and employment of educated people of the area.

The Welfare extension Officer, Jhumpura given thanks to present Govt. Officer and villagers for smooth conducting of Meeting and closed the Meeting.

The details of the resolution was recorded by WEO, Jhumpura and prepared to sent the copies to B.D.O. and Tahsildar.

WEO

ENQUIRY REPORT ON DIVERSION OF FOREST LAND FOR NON FOREST PURPOSE - ENSURING COMPLIANCE OF SCHEDULED TRIBE & OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHT) ACT, 2006 & AMENDMENT RULES, 2012.

ANNEXURE-4(c)

1.	Name of the User Agency	: M/s Odisha Mining Corporation Ltd.
2.	Name of the Project and Purpose of Diversion	: Dubna-Sekradihi Iron & Manganese Mines.
3.	Name of the village(s) and R.F. area covered under Diversion Proposal	: Naibaga
4.	Name of the G.P.(s)	: Basantpur
5.	Name of the Tahasil	: Jhumpura
6.	Extent of Forest land under Diversion	: 338.732 Ha.
a)	Revenue Forest : Area in Acre/ Hect. (Details of Land schedule & map is Annexed as per Format-I)	: 290.554 Ha.
b)	Reserved Forest : Area in Acre/ Hect. (Map to be enclosed)	: 48.178 Ha.
c)	Total Area : In Acre/ Hect.	: 338.732 Ha.
7.	If any claims received under Forest Right Act, 2006 out of the above diversion Proposal	: No
I.	If Yes, give details of claims received (To be enclosed in Format II & III)	: Nil.
a)	Total Claims approved in the Dist. Level Committee out of the above diversion Proposal	: Nil.
(i)	For Revenue Forest (In Acre/ Hect.)	: Nil.
(ii)	For Reserved Forest (In Acre/ Hect.)	: Nil.

b) Balance area for diversion along with Map : Nil.

(i) Revenue Forest (In Acre/ Hect) : Nil.

(ii) Reserved Forest (In Acre/ Hect.) : Nil.

II. If No, Joint filed verification by Revenue & Forest personnel regarding Forest Right claim, if any, for individual/community in the proposed diversion area. : Nil.

8. a) Whether Proposal for such diversion of forest land have been placed before each of the Gram Sabha of Forest Dwellers who are eligible Under Forest Right Act & details of the Project And its implication have been explained to them in local language. : Yes.

b) Whether such discussion and decision on Such proposal had taken place with a Quorum of minimum 50% of members of the Gramsabha present or not. : The discussion and decision for diversion of 338.732 Ha. of Forest land for use of non forest purpose had taken place with a quorum of minimum 50% of members of the Gramsabha present.

c) Whether rights of Primitive Tribal Groups and Pre-agricultural community have been specifically safe guarded as per section 3(1)(e)of Forest Right Act. : Nil.

d) Whether the diversion of Forest land for Facilities managed by Government as required u/s 3(2) of the Forest Right Act (if any) have been completed and that the Gramsabha has consented to it. : Nil.

9. <u>Documents to be enclosed</u>

a) Proposed land schedule and Map for Diversion. : Attached

b) Gramsabha Resolution in vernacular Language and English translation. : Attached

c) Any other documents — Video CD, Still Photo of Grama Sabha attached, Map for diversion attached.

10.

Remarks

Recommended for issue of compliance certificate under Forest Right Act, 2006 and Amendment Rules, 2012 for proposed diversion of forest land measuring 338.732 Hect. for non forest purpose i.e, Minihy purpose in favour of Dubuna-Sekradihi Iron & Manganese Ore Mines., M/s Odisha Mining Corporation Ltd.

Sarpanch/ President/ Secretary,
F.R.C.

Range Officer
Forest Range Officer
Champua Range

Tahasildar, Champua
Barbil.
TAHASILDAR
Champua

Asst. Dist. Welfare Officer
Champua

Sub-Collector
Champua

FORMAT-I

Details of Revenue Forest land for diversion (supported by Map in duplicate)

Mouza	Khata		Plot No.		Kissam	Total Area	As per DGPS survey in Ac.	As per Tahasil RoR / Bhulekh	DLC (deemed forest land)	Remarks
	Old	New	Old	New						
1	2	3	4	5	6	7	8	9	10	11
Naibaga	124		18		Parbata-II	20.500	0.353	20.500	Declared as Forest	
-do-	124		19		-do-	27.270	3.902	27.270	-do-	
-do-	124		232		-do-	13.750	2.036	13.750	-do-	
-do-	124		316		-do-	38.600	32.003	38.600	-do-	
-do-	124		317		-do-	21.720	10.030	21.720	-do-	
-do-	124		321		-do-	16.380	16.956	16.380	-do-	
-do-	124		352		-do-	19.170	6.593	19.170	-do-	
-do-	124		357		-do-	18.000	17.940	18.000	-do-	
-do-	124		358		-do-	32.250	33.278	32.250	-do-	
-do-	124		383		-do-	13.700	14.122	13.700	-do-	
-do-	124		433		-do-	9.750	10.070	9.750	-do-	
-do-	124		434		-do-	26.620	27.515	26.620	-do-	
-do-	124		435		-do-	40.000	39.781	40.000	-do-	
-do-	124		436		-do-	40.000	39.727	40.000	-do-	
-do-	124		437		-do-	40.500	43.439	40.500	-do-	
-do-	124		438		-do-	38.450	31.506	38.450	-do-	
-do-	124		441		-do-	40.000	1.282	40.000	-do-	
-do-	124		442		-do-	40.000	21.150	40.000	-do-	
-do-	124		443		-do-	40.000	23.626	40.000	-do-	
-do-	124		444		-do-	40.000	23.890	40.000	-do-	
-do-	124		445		-do-	40.000	19.146	40.000	-do-	
-do-	124		468		-do-	36.500	27.352	36.500	-do-	
-do-	124		469		-do-	36.250	27.681	36.250	-do-	
-do-	124		470		-do-	36.880	21.093	36.880	-do-	
-do-	124		471		-do-	46.000	47.402	46.000	-do-	
Naibaga	124		472		Parbata-II	47.000	48.665	47.000	-do-	

Forest Range Officer
Champua Range

Asst. Tribal Welfare Officer
Champua

Sub-Collector
Champua

TAHASILDAR
JHUMPURA

Mouza	Khata		Plot No.		Kissam	Total Area	As per DGPS survey in Ac.	As per Tahasil RoR / Bhulekh	DLC (deemed forest land)	Remarks
	Old	New	Old	New						
1	2	3	4	5	6	7	8	9	10	11
-do-	124		473		-do-	33.740	34.377	33.740	-do-	
-do-	124			473/1528	-do-	7.260	6.885	7.260	-do-	
-do-	124/1		266		-do-	23.75	0.655	23.75	-do-	
-do-	121		290		Jungle	1.570	1.581	1.570	-do-	
-do-	121		293		-do-	2.130	2.298	2.130	-do-	
-do-	123		332		-do-	3.110	3.346	3.110	-do-	
-do-	121		397		-do-	10.410	11.169	10.410	-do-	
-do-	121		399		-do-	10.500	10.655	10.500	-do-	
-do-	121		407		-do-	0.310	0.363	0.310	-do-	
-do-	121		422		-do-	0.310	0.314	0.310	-do-	
-do-	121		423		-do-	0.450	0.435	0.450	-do-	
-do-	121			311/1434	-do-	4.260	4.468	4.260	-do-	
-do-		124/1		356/1525	Parbata-II	10.630	23.900	10.630	-do-	
-do-	123		288		Patit	0.130	0.059	0.130	-do-	
-do-	123		335		BF-II	0.230	0.213	0.230	-do-	
-do-	123		339		GB	0.650	0.638	0.650	-do-	
-do-	123		369		S-II	0.290	0.287	0.290	-do-	
-do-	124		393		Parbata-II	1.540	1.547	1.540	-do-	
-do-	123		402		S-III	0.150	0.163	0.150	-do-	
-do-	123		420		Sarba Sadharana Jogya	2.000	2.219	2.000	-do-	
-do-	123			382/1405	T-I	0.160	0.190	0.160	-do-	
-do-	123			295/1411	T-I	0.080	0.084	0.080	-do-	
-do-	123			328/1420	T-I	0.200	0.225	0.200	-do-	
-do-	121			420/1476	Basti Jogya	5.000	5.189	5.000	-do-	
-do-	121			420/1477	SSJ	0.500	0.578	0.500	-do-	
-do-	121			420/1478	SSJ	2.500	2.597	2.500	-do-	
-do-	121			420/1479	UJJ	1.000	1.048	1.000	-do-	

Forester
Champua

Asst. Welfare Officer
Champua

Sub-Collector
Champua

TAHASILDAR
CHAMPUA

Mouza	Khata		Plot No.		Kissam	Total Area	As per DGPS survey in Ac.	As per Tahasil RoR / Bhulekh	DLC (deemed forest land)	Remarks
	Old	New	Old	New						
1	2	3	4	5	6	7	8	9	10	11
-do-	121			420/1480	JJJ	4.000	4.680	4.000	-do-	
-do-	121			420/1481	SSJ	5.620	4.920	5.620	-do-	
-do-	121			399/1482	SSJ	2.000	2.137	2.000	-do-	
						953.770	**717.000**	**953.770**		

Forest Range Officer
Champua Range

TAHASILDAR
JHUMPURA

Asst. Dist. Welfare Officer
Champua

21.1.17
Sub-Collector
Champua

FORMAT-II

A) For Revenue Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

FORMAT-III

B) For Reserved Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Naibuga R.F.	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Forest Range Officer
Champua Range

Champua

Asst. Dist. Welfare Officer
Champua

Sub-Collector
Champua

CERTIFICATE OF VERIFICATION

1. Certificate that more than 50% voters of the village have attended the Gram Sabha and signed the resolution. Out of **1063** voters of village **Naibuga**, 707 voters have signed on the resolution copy, out of which **383 members** are women.

2. Certified that serial nos of Electoral Roll have been mentioned against the signature/ L.T.I. of the Gram Sabha Resolution.

3. Certificate regarding genuineness of Signature/ L.T.I. with reference to electoral roll was verified and found correct has been mentioned in each page of the Gram Sabha resolution.

4. Certified that the ST & OTFD (RFR) Act, 2006 and amendment Rule,2012 has been ensured in respect of concerned village and there is no claim either individual or community on the forest land proposed for diversion.

Tahasildar, Jhumpura
TAHASILDAR
JHUMPURA

GRAM-SABHA

DUBUNA-SAKRADIHI MINES

VILLAGE - NAIBUGA

BLOCK - JHUMPURA

O.M.C. Ltd.

OFFICE OF THE PANCHAYAT SAMITI, JHUMPURA

No 93 /Dt. 06.01.17

ANNEXURE-47

To,

The Tahasildar Jhumpura

Sub:- Submission of copy of resolution on conduct of Palli Sabha / Grama Sabha in village Basantpur and Naibuga.

Sir,

With reference to the subject cited above, I am to furnish herewith the copy of resolution in duplicate on conduct of Palli Sabha /Grama Sabha at village Basantpur and Naibuga alongwith two sets of C,Ds & proposed forest diversion plan for taking necessary action at your end.

Encl :- As above

Yours faithfully

6.01.17

Block Development Officer
Jhumpura

Memo No. 94 /Dt. 06-01-17

Copy submitted to the Sub-Collector, Champua / P.A. ITDA, Keonjhar-cum-Dist. Nodal Officer FRA for favour of information and necessary action.

6.01.17

Block Development Officer
Jhumpura

GENUINENESS CERTIFICATE

ANNEXURE-98

1. Certified that 147 Nos. of Voters have attended the Palisabha/Grama Sabha held on dtd. 21.12.2016 in village Nachhipada as per the notice issued by the Sarapanch Basudeipur G.P. vide Letter No. 1093 BDP/16 dt. 26.11.16

2. Certified that the proposal for diversion of forest land measuring 338.732 Ha. which includes 48.178 Ha. reserve forest and 290.554 Ha. D.P. and Sabik Nisam forest was resolved by the consent of more than 50% voters giving their consent for such diversion.

3. Certified that the serial No. in the electoral roll of each signatory have been marked against their signatures and duly certified.

4. Certified that the mandatory provision of ST & OTFDC (RFR) Act-2006 and Amendment Rule 2012 have been ensured in respect of the interest of the villagers and there is no claim either individual or community pending for disposal in the village. It is further certified that no ST/SC/PTG/PVTG/PTVG people are residing inside the forest area going to be diverted in this proposal.

SARPANCH P.E.O/GRS WEO, JHUMPURA BLOCK B.D.O., JHUMPURA

ANNEXURE-U9

Page Attested

BASANTAPUR G.P.

True Page Attested

BASANTA Pore...

Village – Naibuga
Venue – Naibuga, English M.E. School Ground
Time – 10.00 A.M.
Date – 21.12.2016

As per Scheduled programme today i.e. on dated 21.12.2016 at 10.00 A.M. a Grama Sabha was conducted under the Chairmanship of Local Sarapanch at Naibuga Village of Basantpur G.P. as per forest right act 2006 in this meeting Word Member, Villagers, Executives Officer, Grama Forest Committee members and other Govt. Officers are present, out of 1063 voters 707 voters are present in the discussion.

As per letter no. 5854 dated 19.11.2016 of Jhumpura B.D.O. was done on the any demand of villagers as per forest right act 2006 regarding convert of forest land of 290.554 Ha. and reserve forest land 48.178 Ha. of Naibuga Revenue village in favour of Dubna-Sekradihi Mines, of M/s OMC Ltd.

The details are given below:-

Welfare Extension officer explain the villagers about the location of forest land 290.554 Ha. and 48.178 Ha. required for Dubna-Sekradihi Mines which is coming under Naibuga Revenue Village. He also invited the opinions of villagers on the issue as per forest right act 2006.

After discussing on the matter the villagers said that no Scheduled Tribe or Traditional Forest dweller is doing cultivation, House and Professional work in this said forest land. No personal right to the Schedule Tribe and Traditional Forest dweller has been given in this proposed mines area or no application is pending for consideration.

So there is no objection from villagers of Naibuga, if 290.554 Ha. forest land and 48.178 Ha. of reserve forest land will be used for mining activities by Dubna-Sekadihi Mines of M/s OMC Ltd. Above 290.554 Ha. forest land is belonging to Hal and Sabik record.

Lastly the president given vote of thanks to all villagers & Govt. Officials and closed the meeting.

Sd-
W E O

JAGANNATHPUR GRAMPA

JHUMPURA BLOCK
DIST.:- KENDUJHAR(ODISHA)

Ref No.GG/JPR/ 89/16 Date 26/11/2016

ଏହାଦ୍ୱାରା ସମସ୍ତ ପୁରା ଗ୍ରାମ ପଞ୍ଚାୟତ ଲୋକଙ୍କୁ ଜଣାଇବାକୁ ଯାଇ ଏହି ଗ୍ରାମ ପଞ୍ଚାୟତ ଅନ୍ତର୍ଗତ ଜଗନ୍ନାଥପୁର ଗ୍ରାମ ପଞ୍ଚାୟତ ଅଧିନସ୍ଥ ଦୁବୁନା ସେକ୍ରଡିହି ମାଙ୍ଗାନିଜ ଖଣି ଅଞ୍ଚଳରେ ଏମ୍.ଏସ୍.ଡି.ଏମ୍.ସି. ଲିମିଟେଡ୍ ଦ୍ୱାରା ଖଣି ଉତ୍ତୋଳନ ପାଇଁ ଯେଉଁ ଜମି ଅଧିଗ୍ରହଣ କରାଯାଇଛି ସେହି ଜମିରେ ଥିବା ଗଛ ଗଛୁଡ଼ି ଓ ଅନ୍ୟାନ୍ୟ ଫସଲ ଆଦିର ଯଥାଯଥ ମୂଲ୍ୟାୟନ ପାଇଁ ଆସନ୍ତା ୨୮/୧୧/୨୦୧୬ ରିଖରେ ଜଗନ୍ନାଥପୁର ଗ୍ରାମ ପଞ୍ଚାୟତ ଅଫିସ୍ ଠାରେ ଏକ ସାଧାରଣ ସଭା ଆୟୋଜନ କରାଯାଇଛି । ଏହି ସଭାରେ ଉପସ୍ଥିତ ରହି ଆପଣଙ୍କ ଜମିରେ ଥିବା ଗଛ ଗଛୁଡ଼ି ଓ ଅନ୍ୟାନ୍ୟ ଫସଲ ଆଦିର ଯଥାଯଥ ମୂଲ୍ୟାୟନ ପାଇଁ ଆପଣଙ୍କ ସହଯୋଗ କାମନା କରାଯାଉଛି ।

ଏହାଜରୁ ଥାନା - ନୀଳଗିରି - ପିନ୍ ୭୫୬ ୦୨୫ ଜିଲ୍ଲା - କେନ୍ଦୁଝର ।
ଦୂରଭାଷ ସଂଖ୍ୟା - ୦୬୭୬୪ ୨୫୦୨୫ ଫ୍ୟାକ୍ସ - ୨୫୮୮୮

ସରପଞ୍ଚ

ଏହାର ସଭା ଜାରି ଅଞ୍ଚଳରେ ଜମାରୁ ଗଛ ଗଛୁଡ଼ି ଛେଦନ କରିବା ଉଚିତ ହେବ ନାହିଁ । ଯଦି ଛେଦନ କରାଯାଏ ତାହା ଅବୈଧ ବୋଲି ବିବେଚିତ ହେବ ଏବଂ ଏଥିପାଇଁ ଦାୟୀ ବ୍ୟକ୍ତି ଉପଯୁକ୍ତ ଦଣ୍ଡର ଭାଗୀ ହେବେ ।

ସରପଞ୍ଚ

INTEGRATED TRIBAL DEVELOPMENT AGENCY : KEONJHAR
ST& SC Development Department,Govt.of Odisha
Ph.91-6766-255568, E.Mail-itdakeonjhar @yahoo.com

NO 3669 /ITDA DT. 15.11.16

To

The BDO,Joda/Jhumpura

Sub : Issue of Certificate ensuring compliance of STs & OTFD(RFR) Act,2006 in respect of Forest land measuring 1243.664 Ha. Proposed to be diverted for mining activities in Dubuna=Sekradihi Iron & Manganese Mine of M.s OMC Ltd.

Sir,

In enclosing herewith the the copy of L.No.13793/OMC/F&E/2016 dt. 27.9.2016 of the Executive Director(F&E) M/s OMC Limited regarding issue of certificate ensuring compliance of ST's & OTFD (RFR)Act,2006 in respect of the 1243.664 Ha.of forest land located in Village Basantapur, Naibuga,Dubuna,Handibhanga, Jampani, Purunadihi, Pidhapokhari RF & Naibuga RF under Barbil & Jhumpura Tahasil received from Collector,Keonjhar vide L.No.2269/Rev. dt.24.10.16 (copy enclosed) for enquiry into the matter and take steps for obtaining consent of the Gram Sabha or Gram Sabhas wherever required after detail examination of applied area Ha. 1243.664 in consultation with Tahasildars,Barbil and Jhumpura. The procedure should be completed within a specified period as prescribed in the Rule.

You are requested to enquiry the matter on settlement of rights under FRA in the forest land and take steps for obtaining consent of the Gram Sabha in the light of observation of Secretary, MoTA, Govt. of India which was communicated to you vide memo No.945/ITDA Dt.19.5.2014 and L.No.1270/ITDA Dt.27.6.2014. and submit your findings in the format-II to the SDLC, Champua within the time frame. You are also requested to give due attention to ensure non-occurrence of the defects pointed out vide Letter No.1701.1/dt.6.5.14 of MoTA, Govt.of India

Yours faithfully,

Enclosure : As above

Project Administrator, ITDA,
Keonjhar-cum-Dist.Nodal Officer,FRA

Memo No 3010 /ITDA Dated: 25.11.16

Copy along with copy of the letter No. 13793/OMC/F&E/2016 dt. 27.9.2016 of the Executive Director(F&E) M/s OMC Limited and Copy of the letter No. 2269/dt.24.10.16 of Collector,Keonjhar are forwarded to the Tahasildar, Barbil & Tahasildar, Jhumpura for information and necessary action with request to extend necessary cooperation for conducting Gram Sabha as per Rules.

Project Administrator,ITDA,
Keonjhar-cum-Dist.Nodal Officer,FRA

Memo No 3011 /ITDA Dated 25.11.16

Copy along with copy of the letter No.. 13793/OMC/F&E/2016 dt. 27.9.2016 of the Executive Director(F&E) M/s OMC Limited and Copy of the letter No. 2269/dt.24.10.16 of Collector,Keonjhar forwaded to the Sub-Collector, Champua -cum-Chairman,SDLC for information and necessary action. He is requested to take necessary proper follow up action after receipt of Gram Sabha proceeding observing all formalities prescribed .The SDLC shall examine the Gram Sabha reports and submit exhaustively report/ proceedings to the DLC for taking further action at this end..

Project Administrator,ITDA,
Keonjhar-cum-Dist.Nodal Officer,FRA

Memo No 3012 /ITDA Dated: 25.11.16

Copy submitted to the Collector, Keonjhar for kind information with reference to his letter No.2269/Rev Dt.24.10..16

Project Administrator,ITDA,
Keonjhar-cum-Dist.Nodal Officer,FRA

ANNEXURE-II

ENQUIRY REPORT ON DIVERSION OF FOREST LAND(INCLUDING AS ON 25.10.1980) FOR NON FOREST PURPOSE – ENSURING COMPLIANCE OF SCHEDULED TRIBE & OTHER TRADITIONAL FOREST DWELLERS (RECOGNITION OF FOREST RIGHT) ACT, 2006 & AMENDMENT RULES,2012.

1.	Name of the User Agency	:	M/s Odisha Mining Corporation Ltd	
2.	Name of the Project and purpose of Diversion	:	Dabuna-Sekradihi Iron & Manganese Mines.	
3.	Name of the village(s) and R.F. area covered under Diversion Proposal	:	Handibhanga	5.497ha
			Total	5.497 ha.
4.	Name of the G.P.(s)	:	Badakalimati G.P.	
5.	Name of the Tahasil	:	BARBIL	
6.	Extent of Forest land under Diversion	:	5.497 Ha	
a)	Revenue Forest : Area in Acre/ Hect. (Details of Land schedule & map is Annexed as per Format-I)	:	5.497 Ha	
b)	Reserved Forest : Area in Acre/ Hect. (Map to be enclosed)	:	-	
c)	Total Area : In Acre/ Hect.	:	5.497 Ha	
7.	If any claims received under Forest Right Act, 2006 out of the above diversion Proposal	:	No	
I.	If Yes, give details of claims received (To be enclosed in Format-II & III)	:	No.	
a)	Total claims approved in the Dist. Level Committee out of the above diversion Proposal	:	--	
(i)	For Revenue Forest (In Acre/Hect.)	:	--	
(ii)	For Reserved Forest (In Acre/ Hect.)	:	--	

	b)	Balance area for diversion alongwith Map	:	--
	(i)	Revenue Forest (In Acre/Hect.)		--
	(ii)	Reserved Forest (In Acre/ Hect.)	:	--
	II.	If No, Joint field verification by Revenue & Forest personnel regarding Forest Right claim, if any, for Individual/ community in the proposed diversion area	:	No such claim exists within the proposed diversion area.
8.	a)	Whether proposal for such diversion of forest land have been placed before each of the Gram Sabha of Forest Dwellers who are eligible under Forest Right Act & details of the Project and its implications have been explained to them in local language.	:	Yes
	b)	Whether such discussion and decision on such proposal had taken place with a quorum of minimum 50 % of members of the Gram Sabha present or not.	:	The discussion and decision on such proposal had taken place with a quorum of minimum 50% of members of the Grama Sabha present.
	c)	Whether rights of Primitive Tribal Groups and pre-agricultural community have been specifically safe guarded as per section 3(1)(e) of Forest Right Act.	:	YES
	d)	Whether the diversion of forest land for facilities managed by Government as required u/s 3(2) of the Forest Right Act (If any) have been completed and that the Gramsabha has consented to it.	:	No such claim exist within the applied area for diversion.
9.		<u>Documents to be enclosed</u>		
	a)	Proposed land schedule and Map for Diversion		Yes, attached
	b)	Gramsabha Resolution in vernacular language and English translation		Yes, attached

c) Any other documents — Video CD, Still Photo of Grama Sabha attached, Map for diversion attached.

10.

Remarks

Recommended for issue of compliance certificate under Forest Right Act, 2006 and Amendment Rules, 2012 for proposed diversion of forest land measuring 5.497 Hect. for non forest purpose i.e, Mining purpose in favour of Dubuna-Sekradihi Iron & Manganese Ore Mines., M/s Odisha Mining Corporation Ltd.

Sarpanch/ President/ Secretary,
F.R.C.

Range Officer
Forest Range Officer
Champua Range

Tahasildar,
TAHASILDAR
BARBIL.

Asst. Dist. Welfare Officer
Champua

31.1.17
Sub-Collector
Champua

FORMAT-I

Details of Revenue Forest land for diversion (supported by Map in Duplicate)

Mouza	Khata No.	Plot No.	Kissam	Area (in Acre)	DLC (deemed forest land)
Handibhanga	36	292	Declared as Forest	1.505	
Handibhanga	36	294	Declared as Forest	4.011	
Handibhanga	34	321	Declared as Forest	0.279	
Handibhanga	34	506	Declared as Forest	0.343	
Handibhanga	36	266	Declared as Forest	0.277	
Handibhanga	35	267	Declared as Forest	0.259	
Handibhanga	36	269	Declared as Forest	0.121	
Handibhanga	36	270	Declared as Forest	0.067	
Handibhanga	36	286	Declared as Forest	1.451	
Handibhanga	37	289	Declared as Forest	1.359	
Handibhanga	34	290	Declared as Forest	1.880	
Handibhanga	35	293	Declared as Forest	0.467	
Handibhanga	36	326	Declared as Forest	0.277	
Handibhanga	37	341	Declared as Forest	0.320	
Handibhanga	36	426	Declared as Forest	0.084	
Handibhanga	36	505	Declared as Forest	0.714	
Handibhanga	36	507	Declared as Forest	0.168	
Grand Total -		-	-	(13.583 Acre) 5.497 Ha.	

FORMAT-II

A) For Revenue Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act.	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Handibhanga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

FORMAT-III

B) For Reserved Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act.	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Handibhanga	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Forest Range Officer
Champua Range

Asst. Dist. Welfare Officer
Champua

31-1-17
Sub-Collector
Champua

Tahasildar
TAHASILDAR
BARBIL

CERTIFICATE OF VERIFICATION

1. Certified that more than 50% voters of the village have attended the Gram Sabha and signed the resolution. Out of **197 voters** of village Handibhanga, 147 voters have signed on the resolution copy out of which 71 members are women.
2. Certified that serial nos of Electoral Roll have been mentioned against the signature/L.T.I. of the Gram Sabha Resolution.
3. Certificate regarding genuineness of signature/L.T.I. with reference to electoral roll was verified and found correct has been mentioned in each page of the Gram Sabha resolution.
4. Certified that the ST & OTFD (RFR) Act, 2006 and amendment Rule,2012 has been ensured in respect of concerned village and there is no claim either individual or community on the forest land proposed for diversion.

Sub-Collector
Champua

Tahasildar, Barbil
TAHASILDAR
BARBIL

OFFICE OF THE

BADAKALIMATI GRAM PANCHAYAT

AT- BADAKALIMATI,PO- SILJODA,VIA- JODA,DIST- KEONJHAR

Ref. No:- ୧୮୩

Date- ୨୨/୧୨/୧୬

ANNEXURE- 13

ସମ୍ମାନପୁରସର,

ସୂଚନାସ୍ଥଳକୁ ଆବଶ୍ୟକସ୍ଥଳ ପରିଦର୍ଶନପୂର୍ବକ, ମୌଜା
ଜଳାଶୟ :(ବ୍ୟକ୍ତିଗତ ଜଳଚାଷ ପାଇଁ) ସମ୍ବନ୍ଧରେ

ସବିନୟ ନିବେଦନ,

ମୌଜାଟିକି ବଡ଼ ଅସୁବିଧା ହେଉଥିବାରୁ ଏହି ଦରଖାସ୍ତ/୨୦୧୬ ଦାଖଲ କରୁଛି
ଯାହାଦ୍ୱାରା ଆମର ଛେଉଣ୍ଡା ଅଞ୍ଚଳରେ ଜଳଚାଷ ପାଇଁ ଏକ ପୋଖରୀ
ଖୋଳିବା ସାଧାରଣରେ ଅତି ଆବଶ୍ୟକ ହୋଇଥିବାରୁ ଏହି
ଜଳାଶୟ ଖୋଳିବା ପାଇଁ ଦୟାକରି ଆପଣଙ୍କ ନିକଟରେ ଆବେଦନ
କରୁଛୁ । ଆମ ଅଞ୍ଚଳରେ ଏହି ପୋଖରୀ ଖୋଳିବା ସମ୍ଭବ ହେଲେ ଆମ
ଅଞ୍ଚଳର ଅନେକ ଲୋକଙ୍କ ଉପକାର ହେବ ଏବଂ ଏହି ପୋଖରୀ
ଖୋଳିବା ପାଇଁ ଆମେ ସମସ୍ତେ ସହମତି ଅଟୁ ।

ଇତି

ଆବେଦନକାରୀ

ସ୍ୱାକ୍ଷର

ନାମ

Saranabeh
Badakalimati G.P.
Keonjhar

ମନ୍ତବ୍ୟ -

ସ୍ୱା :

ଉପରୋକ୍ତ ଜଳାଶୟଟି ଖୋଳିବା ପାଇଁ ଆମେ ସମସ୍ତେ ସହମତି
ନଥିଭୁକ୍ତ କରି ଏହାକୁ ଆବଶ୍ୟକ ପଦକ୍ଷେପ ନିମନ୍ତେ ସୁପାରିଶ କରୁଛୁ ।

ସ୍ୱାକ୍ଷର

ନାମ

ପଦବୀ

14

GENUINENESS CERTIFICATE

1. Certified that 147 Nos. of Voters have attended the Pallisabha/Grama Sabha held on dtd. 20-12-16 in village Handibhanga..... as per the notice issued by the Sarapanch Badakalimati G.P. vide Letter No. 172 dt 7.12.16

2. Certified that the proposal for diversion of forest land measuring .....5.497..... Ha. which includes 5.497..... Ha. Hal and Sabik kissam has been resolved by the consent of more than 50% voters giving their consent for such diversion.

3. Certified that the serial No. in the electoral roll of each signatory have been marked against their signature and duly certified.

4. Certified that the mandatory provision of ST & OTFDC (RFR) Act-2005 and Amendment Rule 2012 have been ensured in respect of the interest of the villagers and there is no claim either individual or community pending for disposal in the village. It is further certified that no ST/SC/PTG/PAC/PVTG people are residing inside the forest area going to be diverted in this proposal.

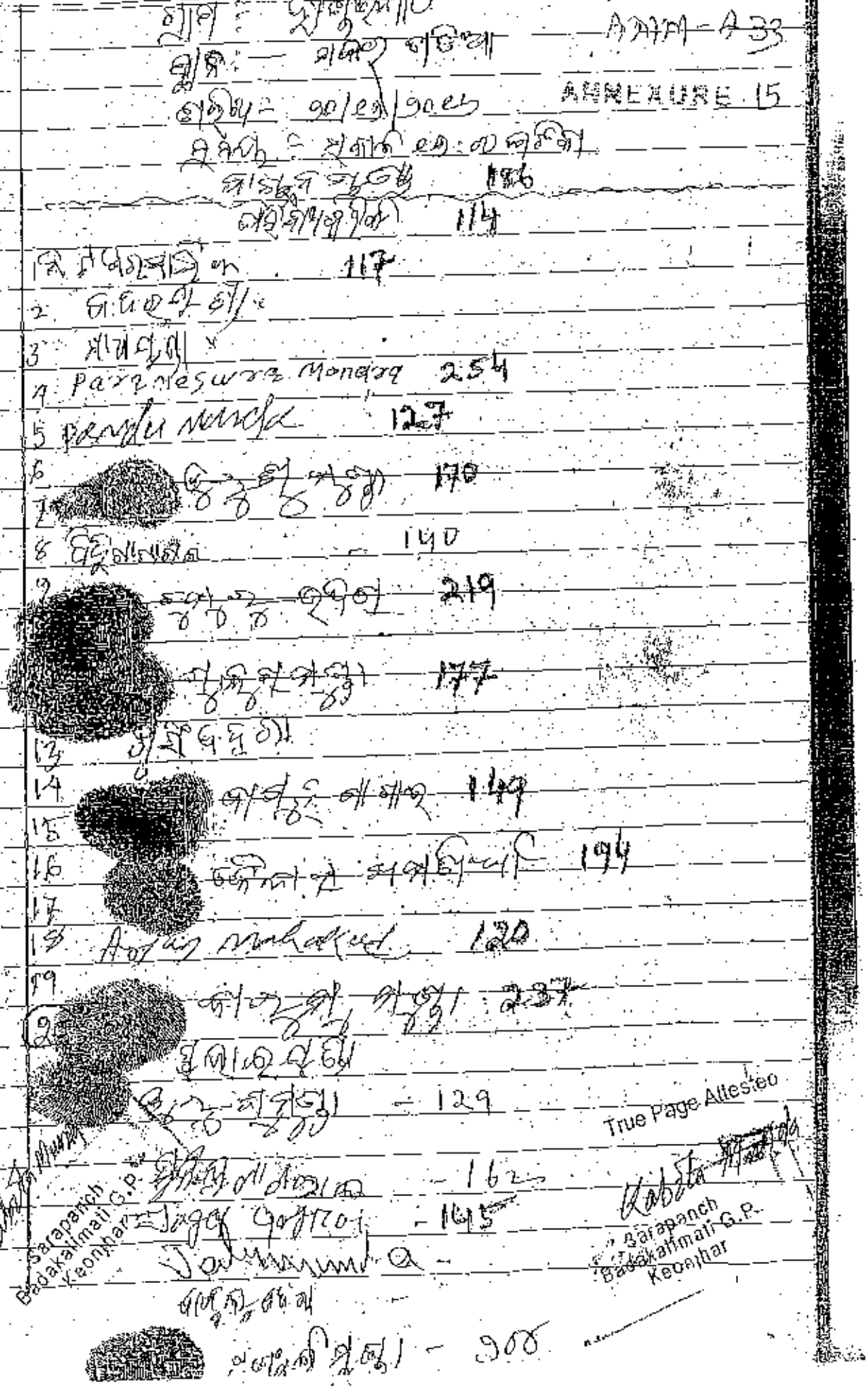
Gobinda @ Chandra Sekhar Bantha

SARAPANCH Sarapanch Badakalimati G.P. P.E.O. Keonjhar

WEO, JODA BLOCK GRAM ROZGAR SEVAK Badakalimati, Gram Panchayat

R.D.O., JODA Joda extension Office

ANNEXURE-15



True Page Attested
Sarapanch
Badakalimati G.P.
Keonjhar

Lti Lilmani mounda 215

ଲିଲାମଣି ମୁଣ୍ଡ

Lti Ponchamundra

Lti Subasha Mundra

Lti Pakamunda

Lti Sanbasi Munda - 262

ସାନ୍ତିଶ ବାସ୍କେ 199

Samsan Basky

Rabindra Ku Khamari

ପାଠ୍ୟ ଓ ଗ୍ରାମ୍ୟ ଜୀବନ ଭିତ୍ତିକ ଚିତ୍ରକଳା
ମାଟିକୁ ଆଧାର କରି ଚିତ୍ରକଳାକୁ ଫୁଟାଇବା ଅତ୍ୟନ୍ତ କଷ୍ଟସାଧ୍ୟ କାମ
ଗ୍ରାମବାସୀଙ୍କର ଅତି ସାଧାରଣ ଜୀବନ ଯାତ୍ରା ଓ ଚାଷ ଆବାଦ ସମ୍ବନ୍ଧୀୟ
ଜିନିଷଗୁଡ଼ିକୁ ଚିତ୍ରରେ ଫୁଟାଇବା ଏମାନଙ୍କର ଏକ ବିଶେଷତ୍ୱ ।
ଏମାନେ ଚିତ୍ରରେ ରଙ୍ଗ ବ୍ୟବହାର କରନ୍ତି ନାହିଁ । ଗାଈ ଗୋବର
ଓ ଚାଉଳ ଗୁଣ୍ଡକୁ ଧଳା ରଙ୍ଗ ପାଇଁ ଏବଂ ଗେରୁ ମାଟିକୁ ଲାଲ ରଙ୍ଗ
ପାଇଁ ବ୍ୟବହାର କରନ୍ତି । ଏମାନେ ଚିତ୍ରରେ ଗାଢ଼ ରଙ୍ଗ ଦେବା
ପାଇଁ ଚାରକୋଲ ବ୍ୟବହାର କରନ୍ତି । ଏମାନେ ଚିତ୍ରରେ ଗାଢ଼ ରଙ୍ଗ ଦେବା
ପାଇଁ ଚାରକୋଲ ବ୍ୟବହାର କରନ୍ତି ।

Sarapanch
Badakalimali G.P.
Keonjhar

Minutes of Palli Sabha

Village - Handibhanga
Venue - Makara Pada
Time - 12 Noon
Date - 20.12.2016

19

As per the notice no.172 dated: 07.12.2016 of Bada Kalimati Sarpanch a Palli Sabha was held on dated 20.12.2016 at 12 Noon. under the Chairmanship of ward member Smt. Jatri Munda. Out of 197 voters 147 voters were attended and participated in the meeting. Local Sarpanch and members of Forest committee of the village were present and participated in discussion. From the District Administration Welfare Extension Officer (WEO) Champua sri Rabindra Kumar Samanta Ray , Revenue Inspector (RI) Bhadra Naik & Forester, Joda sri Dalagobinda Deo were present in Palli Sabha. Grama Rojogar Sebak of Badakalimati Panchayat has continue the meeting and maintain the proceeding of the meeting. The resolutions are as follows:

1st Resolution: In the beginning of meeting the President explained about objective. The officer of Dubna/Sekharadihi Iron & Manganese Mines under OMC a undertaking of Government of Odisha has applied to convert 5.497Hac. forest land to unforested land. The unbiased and actual opinion was called from the present villagers and forest right commit as per low and execution of prevailing forest conservation act 1980, Forest right act 2006 and amendment of law 2012, according to that the direct and indirect dependency i.e constriction of house, earning livelihoods, dependent for traditional cultural institution or collection of timber forest product (NTFP).

2nd Resolution: During the point of discussion WEO Jhumpura Sri SamantaRay , Dubna RI. Sri bhadra Naik was explained that 22 members have applied Forest Right Pata as per the Forest Right Act 2006. Beside this opinion was given regarding there is no tribal or primitive tribal are residing or not depending for livelihoods before 13.12.2016. Even if 3 nos. of awareness program was conducted in different times as per the Forest Right act 2006 and amendment of low 2012. A copy is attached along with minutes of the meeting.

	b)	Balance area for diversion alongwith Map	:	--
	(i)	Revenue Forest (In Acre/Hect.)	:	--
	(ii)	Reserved Forest (In Acre/ Hect.)	:	--
	II.	If No, Joint field verification by Revenue & Forest personnel regarding Forest Right claim, if any, for individual/ community in the proposed diversion area	:	No such claim exists within the proposed diversion area.
8.	a)	Whether proposal for such diversion of forest land have been placed before each of the Gram Sabha of Forest Dwellers who are eligible under Forest Right Act & details of the Project and its implications have been explained to them in local language.	:	Yes
	b)	Whether such discussion and decision on such proposal had taken place with a quorum of minimum 50 % of members of the Gram Sabha present or not.	:	The discussion and decision on such proposal had taken place with a quorum of minimum 50% of members of the Grama Sabha present.
	c)	Whether rights of Primitive Tribal Groups and pre-agricultural community have been specifically safe guarded as per section 3(1)(e) of Forest Right Act.	:	YES
	d)	Whether the diversion of forest land for facilities managed by Government as required u/s 3(2) of the Forest Right Act (if any) have been completed and that the Gramsabha has consented to it.	:	No such claim exist within the applied area for diversion.
9.		Documents to be enclosed		
	a)	Proposed land schedule and Map for Diversion		Yes, attached
	b)	Gramsabha Resolution in vernacular language and English translation		Yes, attached

c) Any other documents — Video CD, Still Photo of Grama Sabha attached, Map for diversion attached.

10.

Remarks

Recommended for issue of compliance certificate under Forest Right Act, 2006 and Amendment Rules, 2012 for proposed diversion of forest land measuring 64.828 Hect. for non forest purpose i.e, Mining purpose in favour of Dubuna-Sekradihi Iron & Manganese Ore Mines., M/s Odisha Mining Corporation Ltd.

Sarpanch/ President/ Secretary,
F.R.C.

Range Officer
Forest Range Officer
Champua Range

Tahasildar
TAHASILDAR
BARBIL

Asst. Dist. Welfare Officer
Champua

Sub-Collector
Champua

FORMAT-I

Details of Revenue Forest land for diversion (supported by Map in Duplicate)

Mouza	Khata No.	Plot No.	Kissam	Area (in Acre)	DLC (deemed forest land)
Jampani	17	53	Declared as Forest	13.756	
Jampani	17	98	Declared as Forest	20.623	
Jampani	17	112	Declared as Forest	29.803	
Jampani	17	113	Declared as Forest	4.203	
Jampani	17	114	Declared as Forest	32.838	
Jampani	17	116	Declared as Forest	0.751	
Jampani	17	117	Declared as Forest	39.564	
Jampani	17	118	Declared as Forest	0.042	
Jampani	17	119	Declared as Forest	14.636	
Jampani	14	65	Declared as Forest	0.158	
Jampani	14	89	Declared as Forest	0.907	
Jampani	14	102	Declared as Forest	0.709	
Jampani	2	104	Declared as Forest	0.395	
Jampani	2	107	Declared as Forest	0.242	
Jampani	7	140	Declared as Forest	0.086	
Jampani	15	95	Declared as Forest	0.172	
Jampani	14	101	Declared as Forest	0.163	
Jampani	4	111	Declared as Forest	1.144	
Grand Total -		-	-	(160.195 Acre) 64.826 Ha.	

FORMAT-II

A) For Revenue Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act.	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Jampani	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

FORMAT-III

B) For Reserved Forest Land (Forest Right Claims)

Mouza	Name of the Claimant under F.R. Act	Khata No.	Plot No.	Area	Whether approved in FRC	Whether approved in SDLC	Whether approved in Dist. Level Committee	Remarks
Jampani	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Forest Range Officer
Champua Range

Tahasildar
TAHASILDAR
BARBIL

Asst. Dist. Welfare Officer
Champua

Sub-Collector
Champua

ANNEXURE-21

CERTIFICATE OF VERIFICATION

1. Certified that more than 50% voters of the village have attended the Gram Sabha and signed the resolution. Out of **96 voters** of village Jamupani, 69 voters have signed on the resolution copy out of which 36 members are women.
2. Certified that serial nos of Electoral Roll have been mentioned against the signature/L.T.I. of the Gram Sabha Resolution.
3. Certificate regarding genuineness of signature/L.T.I. with reference to electoral roll was verified and found correct has been mentioned in each page of the Gram Sabha resolution.
4. Certified that the ST & OTFD (RFR) Act, 2006 and amendment Rule,2012 has been ensured in respect of concerned village and there is no claim either individual or community on the forest land proposed for diversion.

31.1.17
Sub-Collector
Champua

Tahasildar, Barbil
TAHASILDAR
BARBIL

ANNEXURE-72

OFFICL OF THE

BADAKALIMATI GRAM PANCHAYAT

AT- BADAKALIMATI,PO- SILJODA,VIA- JODA,DIST- KEONJHAR

Ref. No.1...675.....

Date. 30/09/2016

ସେବାରେ,

ସିଲ୍ଜୁଡ଼ି ଗୋଷ୍ଠୀଉନ୍ନୟନ ବିକାଶ ଅଧିକାରୀ, ଜୋଡ଼ା/
କେନ୍ଦୁଝର (ଗୋଷ୍ଠୀଉନ୍ନୟନ ଅଧିକାରୀ ଜୋଡ଼ାଙ୍କ ଜରିଆରେ)

ମହାଶୟ,

ପୋଡ଼ାଶିଳି ଚତୁଃସୀମାଧାରୀ : ଚକଗଣ୍ଡୁ ଏ/ଟ୍ରେ 30/09/2016
ସେଣ୍ଟ୍ରାଲାଷ୍ଟ୍ରି, ଜାଜପୁରୀ ଜିଲ୍ଲାରେ ଚତୁର୍ଥଶ୍ରେଣୀ ସରକାରୀ ଚାକିରୀରତ ଦଣ୍ଡୁଆ ଗୋଷ୍ଠୀଭୁକ୍ତ
ଜଣେ ମହିଳାଙ୍କୁ ବାହା ହୋଇଥିବା ଏବଂ ୨୦୧୨ ମସିହାରୁ ସେ ଏହି ଗ୍ରାମରେ ରହି
ଆସୁଛନ୍ତି ଏବଂ ସେମାନଙ୍କର ଏହି ଗ୍ରାମରେ ଚାଷଜମି ଓ ଘରବାଡ଼ି ଅଛି ବୋଲି
ଜଣାଇଛନ୍ତି। ଏହା ବ୍ୟତୀତ ସେ ଏହି ଗ୍ରାମରେ ଚାଷବାସ ଛଡ଼ା ଅନ୍ୟ କୌଣସି
ଜୀବିକାର ସାଧନ ନାହିଁ ବୋଲି ଜଣାଇଛନ୍ତି। ଏହି ଗ୍ରାମରେ ସେ ଅନ୍ୟ କୌଣସି
ଜମି ଜାଗା ଘରବାଡ଼ି ଆଦି ସମ୍ପତ୍ତି ନଥିବା ସେ ଜଣାଇଛନ୍ତି।

ଭବଦୀୟ

ପୋଡ଼ାଶିଳି ଗ୍ରାମବାସୀ

ନିବେଦନ-

ଉପରୋକ୍ତ ବିଷୟରେ ଆପଣଙ୍କ ସହାନୁଭୂତି ସହକାରେ ଦରଖାସ୍ତ ଦାଖଲ କରୁଛୁ।
ଏହାକୁ ଆପଣ ଅନୁକମ୍ପା ପୂର୍ବକ ଗ୍ରହଣ କରି ଆମକୁ ଉପକୃତ କରିବେ।

ଇତି

ଆପଣଙ୍କ ବିଶ୍ୱସ୍ତ

ANNEXURE 23

GENUINENESS CERTIFICATE

1. Certified that 51 Nos. of Voters have attended the Pallisabha/Grama Sabha held on dtd. 20.12.16 in village Tamupada as per the notice issued by the Sarapanch Bodakalimati vide letter no. 178 dt. 7.12.16

2. Certified that the proposal for conversion of forest land measuring 64.828 ha. in which includes 64.828 ha. of land and Settlement has been done in favour of the persons of above villages giving their consent for such diversion.

3. Certified that the project is under the category of [illegible] and hence [illegible] is not required.

Certified that the [illegible] of the above villagers [illegible] the villagers [illegible] present in the village [illegible] people in [illegible] the proposal [illegible] be diversion in this proposal.

Kabita Munda — Gram Rozgar Sevak, Bodakalimati, Gram Panchayat

Chandra Sekhar Dalai — Gram Panchayat

Forest Range Officer

Block Development Officer — Welfare Extension Officer (WEO)

ANNEXURE-24 ANNX-A24

Minutes of Palli Sabha

Village - Jamupani
Venue - Jamupani Play Ground
Time - 10.00A.M.
Date - 20.12.2016

As per the notice no.178 on dated:07.12.2016 of Bada Kalimati Sarpanch under Joda Block a Palli Sabha was held on dated 20.12.2016 at 10.00 A.M. under the Chairmanship of ward member Sri Tumu Gagarai . Out of 96 voters 69 voters were attended and participated in the meeting. Local Sarpanch and members of Forest committee of the village were present and participated in discussion. From the District Administration Welfare Extension Officer (WEO) Bansapal Sri Jivan Munda, Revenue Inspector (RI) Sri Tarani sen Patra (Joda)& Forester Sri Dala Gobinda Deo were present in Palli Sabha.

Grama Rojogar Sebak of Badakalimati Panchayat has continue the meeting and maintain the proceeding of the meeting. The resolutions are as follows:

1st Resolution: The President explained about objective of the meeting. The officer of Dubna/Sekharadihi Iron & Manganese Mines under OMC a undertaking of Government of Odisha has applied to convert 64.828 Hac. forest land (Hal & Sabik) to unforested land. The unbiased and actual opinion was called from the present villagers and forest right commit as per low and execution of prevailing forest conservation act 1980 ,Forest right act 2006 and amendment of law 2012, according to that the direct and indirect dependency i.e constriction of house , earning livelihoods, dependent for traditional cultural institution or collection of timber Forest product (NTFP).

2nd Resolution: During the point of dissection WEO Sri Jiban Sing Munda (Bansapal Block), and RI Sri Taranisen Patra(Joda) was explained that 15 members applied for Forest Right Pata as per the Forest Right Act 2006. Beside this opinion was given regarding there is no tribal or primitive tribal are residing or not depending for livelihoods before 13.12.2016. Even if 2 nos. of awareness program was conducted in

different times as per the Forest Right act 2006 and amendment of low 2012. A copy is attached along with minutes of the meeting.

3rd Resolution: Present RI Sri Tarani Sen Patra , Local Forester Sri Dala Gobinda Deo was informed in the meeting about proposed location in hector of land to the villagers. Dissection was made on the dependency of primitive of tribal, local tribal peoples, public and member of Forest Right committee as per Forest Right act 2006 and amendment of act 2012.

Attended villagers were unanimously agreed and raise their hand in presence of Forest committee, Govt: officials, local Sarapanch and ward member for diversion of proposed 64.828 hac Forest land of Sekharadihi Iron & Manganese Mines running through OMC. The President has taken decision to send the proposal to higher authority for approval. It was declared through loud speaker machine.

The President proposed to concern Mines Manager, Tahasildar Barbil, BDO Joda and forest department to execute above developmental activities.

The President close the meeting with a vote of thanks for smooth conducting of Palli Sabha to the attended villagers, GOVT officials and Forest committee workers.

The minutes of the meeting was written by GRS and prepared Palli Sabha copy to submit the Tahasildar Barbil and BDO Joda office for further course of action.

Sd/-
(WEO, Joda)

OMC | ODISHA NEW OPPORTUNITIES

ANNEXURE-XVIII (UT-B)

UNDERTAKINGS

[As per condition No. No. B (1, 3, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18) of the stage-I grant order No. 8-26/2019-FC dt 06.05.2021 issued by MoEF & CC, Govt. of India pertaining to Dubna-Sakradih Iron and Manganese ore mines for diversion of 1243.27 ha of forest area]

I Dr. Suman Krishna Sit, General Manager (Geology), Authorized Signatory of The Odisha Mining Corporation Limited do hereby undertake the following for furtherance of the Forest Diversion Proposal for grant of 1243.27 ha of forest land included within the Dubna-Sakradih Iron and Manganese Ore mines of OMC coming under Keonjhar Forest Division of Keonjhar district, Odisha:

Sl. No.	Condition No.	Undertakings by OMC
B. <u>Conditions which need to be complied on field after handing over of forest land to the user agency by the State Forest Department but the compliance in form of undertaking shall be submitted prior to Stage-II approval.</u>		
1	1	To pursue the State Government to maintain the legal status of diverted forest land unchanged.
2	3	To pay the additional amount of NPV,if so determined, as per the final decision of the Hon'ble Supreme Court of India.
3	4	To initiate tree felling in phased manner as per the requirement in the approved Mining Plan with prior permission of concerned DFO.
4	5	To explore the possibility of translocation of maximum number of trees identified to be felled and shall ensure that any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department.
5	6	To adhere to the reclamation schedule as per the MP approved by IBM and submit the information on reclamation to the APCCF (FD & NO) and Regional Officer, IRO.
6	7	To shall comply with the Hon'ble Supreme Court order on re-grassing, and re-grass the mining area and any other areas which may have been disturbed due to mining to restore them to a condition which is fit for growth of fodder, flora, fauna, etc. in a timely manner.
7	10	To provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas and ensure that no labour camp is established on the forest land.
8	12	The layout plan of the mining plan/ proposal shall not be changed by OMC without the prior approval of the Central Government and the forest land shall not be used for any purpose other than that specified in the proposal.
9	13	The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person by OMC without prior approval of the Central Government.

Sl. No.	Condition No.	Undertakings by OMC
10	14	No damage to the flora and fauna of the adjoining area shall be caused by OMC.
11	15	To submit the annual self-compliance report regularly in respect ofthe above stated conditions to the State Government, concerned Regional Office and to MoEF & CC, New Delhi by the end of March every year.
12	16	To abide by any other condition that the IRO, Bhubaneswar may stipulate with the approval of competent authority in the interest of conservation, protection and development of forests & wildlife.
13	17	To comply all the provisions of the all Acts, Rules, Regulations, Guidelines, Hon'ble Court Order (s) and NGT Order (s) pertainingto this project, if any, for the time being in force, as applicable to the project.
14	18	OMC shall not violate any of the above conditions otherwise shall be liable for action to be taken as prescribed in para 1.21of Chapter 1 of the Handbook of comprehens guidelines of Forest (Conservation) Act, 1980.

[Dr.Suman Krishna Sit]
General Manager (Geo)
Authorized signatory

Suman Krishna Sit
General Manager(Geo)
Power of Attorney Holder
Odisha Mining Corporation Ltd.
Bhubaneswar

ANNEXURE – XIX

भारत सरकार GOVERNMENT OF INDIA
खान मंत्रालय MINISTRY OF MINES
भारतीय खान ब्यूरो INDIAN BUREAU OF MINES
क्षेत्रीय खान नियंत्रक के कार्यालय
OFFICE OF THE REGIONAL CONTROLLER OF MINES

REGD. PARCEL
Phone: 0674-2352463
TeleFax: 0674-2352480
E mail:rn.bhubaneshwar@ibm.gov.in
Plot No 149, Pokharipul
BHUBANESWAR-751020

No. RMP/A/41-ORI/BHU/2019-20/2257 Date: 04.02.2020

To

The Managing Director & Nominated Owner,
M/s Odisha Mining Corporation Ltd.
OMC House, Bhubaneswar- 751001

Sub: Approval of Review of Mining Plan of Dubna-Sakradih Iron & Mn Mine along with Progressive Mine Closure Plan (PMCP), over an area of 1332.019 ha in Keonjhar district of Odisha State, submitted by M/s Odisha Mining Corporation Ltd under Rule 17 of Mineral Concession Rules, 2016.

Ref: - i) Your letter No. 20485/OMC/2019 dated 24.12.2019 received on 27.12.2019.
ii) This office letter of even no. dated 27.12.2019.
iii) This office letter of even no. dated 27.12.2019 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.
iv) This office letter of even no. dated 15.01.2020.
v) Your letter No. 1557/OMC/2020 dated 29.01.2020.

Sir,

In exercise of the power delegated to me vide Gazette Notification No. S.O. 1857(E) dated 18.05.2016, I hereby Approve the Review of Mining Plan including Progressive Mine Closure Plan of Dubna-Sakradih Iron & Mn Mine over an area of 1332.019 ha of M/s Odisha Mining Corporation Ltd in Keonjhar district of Odisha State submitted under Rule 17 of Mineral Concession Rules, 2016. This approval is subject to the following conditions:

I. The Review of Mining Plan is approved without prejudice to any other law applicable to the mine area from time to time whether made by the Central Government, State Government or any other authority and without prejudice to any order or direction from any court of competent jurisdiction.
II. The proposals shown on the plates and/or given in the document is based on the lease map /sketch submitted by the applicant/ lessee and is applicable from the date of approval.
III. It is clarified that the approval of aforesaid Review of Mining Plan does not in any way imply the approval of the Government in terms of any other provision of Mines & Minerals (Development & Regulation) Act, 1957, or the Mineral Concession Rules, 2016 and any other laws including Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 or the rules made there under, Mines Act, 1952 and Rule & Regulations made there under.
IV. Indian Bureau of Mines has not undertaken verification of the mining lease boundary on the ground and does not undertake any responsibility regarding correctness of the boundaries of the leasehold shown on the ground with reference to lease map & other plans furnished by the applicant / lessee.

V. At any stage, if it is observed that the information furnished, data incorporated in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.

VI. If this approval conflicts with any other law or court order/ Direction under any statute, it shall be revoked immediately.

VII. Validity of this document shall expire on 31.03.2025.

VIII. Next Financial Assurance shall be due for submission on 31.03.2025.

भवदीय/ yours faithfully,

6/12/2020

(HARKESH MEENA)
क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Encl: - One copy of Review of Mining Plan

Copy for kind information to:-

1. The Director of Mines, Directorate of Mines, Government of Odisha, Heads of the Department Building, Bhubaneswar– 751001, Odisha along with one copy of Review of Mining Plan by REGISTERED PARCEL.
2. Shri Leo Christy A & Shri G R Kulkarni, M/s V M Salgaocar and Brother Pvt Ltd, Salgaocar House, Off Dr. F.L. Gomes Road, Vascoda Gama, Goa, India-403802.

(HARKESH MEENA)
क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Rs. 1.72 Crores has been spent towards Direct and indirect employment to the local inhabitants.

In addition to above, every ton of ore produced from the mine, 30% of royalty will be contributed towards District Mineral Fund.

x) **Historical Monuments etc.**

There are no historical monuments or buildings situated within the lease area or in the 10Km buffer zone to the lease area.

8.3 **Progressive Reclamation Plan:**

To mitigate the impacts and ameliorate the condition, describe year wise steps proposed for phased restoration, reclamation of lands already/to be degraded in respect of following items separately for 5 years period.

8.3.1 **Mined-Out land: Describe the proposals to be implemented for reclamation and rehabilitation of mined-out land including the manner in which the actual site of the pit will be restored for future use. The proposals may be supported with yearly plans and sections depicting yearly progress in the activities for land restoration/ reclamation/rehabilitation, afforestation etc, called "Reclamation Plan".**

Land restoration and reclamation is very essential in any mining industry. Proper measures adopted during restoration will control most of the adverse environmental impacts of mining and also improve the aesthetic beauty of the area. Due to the mining activity there will be change in the ground profile as it requires formation of mining pits and surface dumps.

As the proposals are made up to the end of lease period till 27.12.2029, during ensuing plan period 11.50 million tons of waste rock shall be generated to produceboth iron and manganese ore, on the 4th and 5th year of plan period, part of the waste generated shall be back-filled in the demineralized portion of the pit. Subsequently during the next block of 5-year plan period from 2025-26 till end of lease period, entire waste generated from the mine shall be utilized for backfilling in the demineralized portion of the pit.

i) **Name of the Quarry: 2D**

Area unit: in Hectares

Table No. 94

Year	Mined-out Land at the beginning of the year	Additional area mined-out during the year	Total mined-out area at the end of the year	Area to be reclaimed	Remaining area at the end of the year	Method of reclamation
2020-21	-nil-	-nil-	-nil-	-nil-	-nil-	-nil-
2021-22	-nil-	-nil-	-nil-	-nil-	-nil-	-nil-
2022-23	-nil-	-nil-	4.2505	4.2505	-nil-	-nil-
2023-24	4.2505	-nil-	4.2505	2.6511	1.5994	Back-filling
2024-25	1.5994	-nil-	4.2505	1.5994	-nil-	-do-

ii) Name of the Quarry: 3D

Table No. 95

Year	Mined-out Land at the beginning of the year	Additional area mined-out during the year	Total mined-out area at the end of the year	Area to be reclaimed	Remaining area at the end of the year	Method of reclamation
2020-21	-nil-	-nil-	-nil-	-nil-	-	-
2021-22	-nil-	-nil-	-nil-	-nil-	-	-
2022-23	-nil-	-nil-	-nil-	-nil-	-	-
2023-24	-nil-	-nil-	-nil-	-nil-	-	-
2024-25	-nil-	-nil-	-nil-	-nil-	-	-

iii) Name of the Quarry: 8D

Table No. 96

Year	Mined-out Land at the beginning of the year	Additional area mined-out during the year	Total mined-out area at the end of the year	Area to be reclaimed	Remaining area at the end of the year	Method of reclamation
2020-21	-nil-	-nil-	-nil-	-nil-	-	-
2021-22	-nil-	-nil-	-nil-	-nil-	-	-
2022-23	-nil-	-nil-	-nil-	-nil-	-	-
2023-24	-nil-	-nil-	-nil-	-nil-	-	-
2024-25	-nil-	-nil-	-nil-	-nil-	-	-

Manganese Ore Production:

i) Name of the Quarry: 5-Top

Table No. 97

Year	Mined-out Land at the beginning of the year	Additional area mined-out during the year	Total mined-out area at the end of the year	Area to be reclaimed	Remaining area at the end of the year	Method of reclamation
2020-21	-nil-	-nil-	-nil-	-nil-		-
2021-22	-nil-	-nil-	-nil-	-nil-		-
2022-23	-nil-	-nil-	-nil-	-nil-		-
2023-24	-nil-	-nil-	-nil-	-nil-		-
2024-25	-nil-	-nil-	-nil-	-nil-		-

ii) Name of the Quarry: 6A & 6B

Table No. 98

Year	Mined-out Land at the beginning of the year	Additional area mined-out during the year	Total mined-out area at the end of the year	Area to be reclaimed	Remaining area at the end of the year	Method of reclamation
2020-21	-nil-	-nil-	-nil-	-nil-	-	-
2021-22	-nil-	-nil-	-nil-	-nil-	-	-
2022-23	-nil-	-nil-	-nil-	-nil-	-	-
2023-24	-nil-	-nil-	-nil-	-nil-	-	-
2024-25	-nil-	2.8482	2.8482	1.3640	1.4842	Backfilling

Summary for the entire Deposit (Proposed Quarries)

Table No. 99

Year	Mined-out Land at the beginning of the year	Additional area mined-out during the year	Total mined-out area at the end of the year	Area to be reclaimed	Remaining area at the end of the year	Method of reclamation
2020-21	-nil-	-nil-	-nil-	-nil-		-
2021-22	-nil-	-nil-	-nil-	-nil-		-
2022-23	-nil-	-nil-	-nil-	-nil-		-
2023-24	-nil-	-nil-	4.2505	2.6511	1.5994	Back-filling
2024-25	1.5994	2.8482	7.0987	5.6145	1.4842	Backfilling

Matured and inactive portions of the dump-slopes shall be rehabilitated with plantation;

Please refer Reclamation and Conceptual Plan enclosed as **Plate No. 10 & 11** for the sequence and location of pit reclamation.

Matured and inactive portions of the dump-slopes shall be rehabilitated with plantation;

Please refer Reclamation and Conceptual Plan enclosed as **Plate No. 10 & 11** for the sequence and location of pit reclamation.

a) **Program of afforestation, year-wise for the initial five years (and upto conceptual plan period for 'A' category mines indicating number of plants with name of species to be afforested under different areas in hectares.**

Plantation Program for ensuing mining plan period

Table No. 100

Year	Plantation in Ha	No. of saplings	Type of saplings
2020-2021	1.185	3,600	*Local species will be planted in consultation with Forest Dept*
2021-2022	1.460	3,650	
2022-2023	0.45	1,125	
2023-2024	1.50	3,000	
2024-2025	0.524	1,300	
Total	**5.398**	**12,735**	

8.3.2 Top Soil Management: The Top soil available at the site and its utilization may be described.

Mining lease area is more or less covered with laterite, lateritic-clay shale and BHJ with very meagre top soil. Topsoil if any encountered during the lateral development of mine pit shall be stored at the earmarked site within the lease area and will be utilized for the plantation purpose over the reclaimed part of the pit.

8.3.3 Tailing Dam Management: The Steps to be taken for protection and stability of tailing dam, stabilization of tailing material and its utilization, periodic desiltation measures to prevent water pollution from tailings etc, arrangement for surplus water overflow along with the detail design, structural stability studies, embankment seepage loss into the receiving environment and groundwater contamination if any may be described.

No tailing generation at the mine as the entire ore produced – iron will be taken up for crushing and screening to produce CLO and ore lines as desired by the long-term buyers. Entire Manganese ore produced will be manually sized and sorted.

8.3.4 Acid Mine Drainage if any and its Mitigative Measures:

Overburden and side burden consists of laterite, lateritic clay, shale, and Banded Hematite Jasper. It does not contain any leachable heavy metals or toxic elements and there shall be no acid mine drainage. Further no ore beneficiation is involved at mine site which generates tailings. Therefore, there shall be no impact on drainage water except the presence of suspended solids if any which is being taken care through the adequate engineering protective measures in place and proposed.

8.3.5 Surface subsidence mitigation measures through backfilling of mine voids or by any other means and its monitoring mechanism.
The information on protective measures for year-wise reclamation and rehabilitation works may be provided as per the following table;

By considering the geo-technical properties of formation encountered/exposed in the mine, though 80% of production/development is proposed through drilling and blasting we don't foresee any surface subsidence. However, steps were already initiated to maintain suitable bench and pit slope, before the stoppage of the mining activity in 2006 mine worked with maximum pit slope of 35° with lesser slope proposed/implemented in the soft clay benches, still the benches are intact. Before the on-set of monsoon, all along the toe of the bench contour trenches will be made to divert water to the mine pit.

Also from the 4th& 5th year of ensuing plan period and in the subsequent block, waste generated from the mine will be backfilled in the demineralized portion of the pit.

Year-wise Reclamation and Rehabilitation woks proposed during the Plan period;

SUMMARY OF YEAR-WISE PROPOSAL FOR ITEM NO. 8.3

Table No. 101

Items	Details	Year-wise Proposal				
		2020-21	2021-22	2022-23	2023-24	2024-25
Dump Management	Area to be afforested (ha)	Nil	1.460	0.45	1.50	0.524
	No. of saplings to be planted	Nil	3,650	1,125	3,000	1,300
	Cost including watch & care during the year	Nil	₹180,000	₹130,500	₹168,000	₹135,000
Management of worked out benches	Area available for rehabilitation (ha)	Nil	Nil	Nil	Nil	Nil
	No. of saplings planted in the year	Nil	Nil	Nil	Nil	Nil
	Any other method of rehabilitation	Nil	Nil	Nil	Nil	Nil
	Cost including watch & care during the year	Nil	Nil	Nil	Nil	Nil
Reclamation & Rehabilitation by backfilling	Void available for backfilling (L × B × D) pit wise in mts.	Nil	Nil	Nil	260×200×50	280×320×35
	Void filled by waste in M^3	Nil	Nil	Nil	1.194Mcu m	1.186 M cum
	Afforestation on the backfilled area (Ha.)	Nil	-	-	-	-
	Rehabilitation by making water reservoir	Nil	Nil	Nil	Nil	Nil
	Any other means (specify)	-	-	-	-	-
Rehabilitation of waste land within lease	Area available (ha)	1.185	Nil	Nil	Nil	Nil
	Area rehabilitated	1.185	Nil	Nil	Nil	Nil
	Method of rehabilitation/no. of saplings	Plantation/ 3,600	Nil	Nil	Nil	Nil
Others (specify)		Nil	Nil	Nil	Nil	Nil

Please Note: Rehabilitation of waste land is proposed in the first year of plant period, subsequently all the proposed plantation is for the dump rehabilitation.

ANNEXURE-XX

F.No.23-241/2018-IA-III (V)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division
******

Indira Paryavaran Bhavan
Vayu Wing, 3rd Floor, Aliganj,
JorBagh Road, New Delhi-110 003

Date: 27 May 2019

To,

M/s The Odisha Mining Corporation Ltd
(A Gold Category State PSU)
OMC House, Bhubaneswar-751001
Odisha

Subject: Dubna-Sakradihi Iron & Manganese Mine by M/s The Odisha Mining Corporation Ltd with production of 3.00 MTPA Iron ore and 0.05 MTPA Manganese ore and installation of crushing (100 TPH-1 No.) and screening unit (300 TPH-2 No. and 100 TPH-1 nos.) for processing iron ore in the mine lease area of 1332.019 ha at Villages Dubna, Jampani, Purunadihi, Handibhanga, Naibaga, Basantapur, Pedipokhari R.F. & Naibaga R.F., Tehsil-Barbil and Jhumpura, District Keonjhar, Odisha - Consideration of Terms of Reference.

Ref.: Proposal No. IA/OR/MIN/74300/2018

Sir,

The proposal of M/s The Odisha Mining Corporation Ltd is for Dubna and Sakradihi Iron & Manganese Ore Mines for total excavation of 7.0 Million Tonne per annum (MTPA) [i.e. 3.00 MTPA Iron ore, 0.05 MTPA Manganese ore, Waste (2.2 MT-iron ore); (1.1 MT-Mn ore) O.B, Inter Burden (Sub grade- 0.25 MT-Iron ore; 0.02 MT - Mn ore), Top Soil (0.1638 Mm^3) till conceptual stage] and installation of crushing (100 TPH-1 No.) and screening unit (300 TPH-2 No. and 100 TPH-1 nos.) for processing iron ore in the mine lease area of 1332.019 ha. The mine is located at Villages Dubna, Jampani, Purunadihi, Handibhanga, Naibaga, Basantapur, Pedipokhari R.F. & Naibaga R.F., Tehsil-Barbil and Jhumpura, District Keonjhar, Odisha. The mine lease area lies between the latitudes $21^0 48'37.35634"$ to $21^0 51'52.01868"$ N and longitudes $85^0 22'17.8389"$ to $85^0 24'26.47792"$ E and falls in the Survey of India Toposheet No: 73 G/5.

2. The project proponent (PP) mentioned that the mine was operated by violating the Environment (Protection) Act, 1986 as OMC started the work on site without prior EC under the EIA Notification, 2006. To deal with the violation category proposals, the Ministry has issued the Notification S.O. 804 (E) dated 14th March 2017. The PP submitted the project proposal vide proposal no: IA/OR/MIN/74300/2018 dated 12.04.2018 under violation category along with

Form-I and PFR. The project is covered under Category 'A' of the item 1(a) Mining of Mineral and 2(b) Mineral Beneficiation of the Schedule of the EIA Notification, 2006.

3. The PP submitted that the total mine lease area is 1332.019 ha, out of which, 1243.270 ha forest land and 88.279 ha Non-forest land. PP mentioned that the application for forest clearance for the area of 1243.27 ha has been submitted vide proposal no: FP/OR/MIN/30349/2017 dated 01.12.2017. PP further submitted that the Dubuna manganese mining lease executed on 08.09.1971 for a period of 20 years over 1135.419 ha which was valid till 07.09.1991 and Sakradihi iron ore mining lease executed on 28.12.1959 for a period of 30 years over 564.55 ha and valid till 27.12.1989. PP further submitted that they requested State Government, Orissa for amalgamation of these two mining lease over a reduced area of 196.60 ha in respect of Sakradihi iron ore and 1135.419 ha of Dubuna manganese mining lease. Department of Steel and Mines, Government of Odisha has amalgamated the lease vide letter no. IV(A) S-62/05-3607 dated 18.02.2006 over the area of 1332.019 ha (196.60 ha- Sakradihi Iron ore and 1135.419 ha-Dubuna manganese mining lease). PP further submitted that the Steel & Mines Department, Government of Odisha has extended the validity period of mining lease for Iron and manganese ore over an area of 1332.019 ha vide letter No. III(A)SM-15/2013/9411/SM, Bhubaneswar dated 05.12.2018. The order states that *"in terms of Rule 3(1) of the Mineral (Mining by Government Company) Rules, 2015, the period of amalgamated mining lease over 1332.019 ha is deemed to be granted for 50 years i.e. from 28.12.1959 to 27.12.2009 and in terms of Rule 3(2) the period of the amalgamated mining lease is further extended from 28.12.2009 to 27.12.2029 for the reason that OMC requires operation of its mines for supply of ore to the user agencies subject to lessee executing the supplementary lease deed for such lease extension period."*

4. The PP submitted that the mining will be carried out by open cast mining method by conventional shovel dumper combination. Deep hole drilling and blasting will be used to break ore and waste. PP further submitted that the crushing unit (1 nos.) of 100 TPH & screening Unit (2+1 nos.) of 300 & 100 TPH respectively (10% of ROM) will be installed for processing the Fe ore. Manual sizing and shorting will be applied for processing Mn ore. PP submitted that the 90% ROM (iron ore) produced from the quarry will be transported by 35 T dumpers. Mn ore from stackyard will be transported outbound from the ML by long term buyers. The average water requirement at Dubna Sakradihi Fe & Mn lease for domestic and industrial use is to the tune of 148 m^3/day and 69 m^3/day respectively. Furthermore, the peak water requirement at Dubna Sakradihi Fe & Mn lease for domestic and industrial use is to the tune of 159 m^3/day and 148 m^3/day, respectively. PP submitted that potable water requirement will be obtained through bore well and industrial water requirement will be obtained from Jalpa Nala.

5. The PP submitted that mine was operated by violating the Environment (Protection) Act, 1986 as OMC started the work on site without prior EC under EIA Notification, 2006. Further, PP submitted that following demand notice was raised by State Government and the corresponding payment made against the demand notice.

(I). Deputy Director of Mines (DDM), Joda vide letter no. 4082/Mines dated 02.09.2017 had raised a demand of Rs. 54,17,77,254/- for production of iron ore during 2000-01 to 2010-11 without EC pertaining to Sakradih Iron Ore Mines. Followed by, DDM revised the compensation to Rs. 26, 43, 93,571/- vide Demand Letter No. 6096/Mines dated 13.12.2017.

- Payment of compensation of Rs. 26, 43, 93,571/- was made vide bank transaction ID:CKE5244105 dated 27.12.2017.
- However, the DDM has communicated to PP vide letter No.1327/Mines dated 03.03.2018 and mentioned that "Though you have deposited the compensation amount as per the revised demand notice within 31/12/2017, you have failed to hand over the undisposed stock of minerals within the stipulated time i.e. 28/2/2018. Therefore, you will not be eligible for the reduction of compensation amount and liable to pay the compensation amount in full along with interest@14% from 31.12.2017.
- Therefore, the payment of remaining compensation along with interest was made (Rs. 277,383,683/- + Rs.7,234,774/- = Total: 28,46,18,457/-) vide transaction ID:CKF2244345 dated 09.03.2018.

(II). DDM, Joda had also raised a demand of Rs. 2,66,50,514/- vide letter no. 4076/Mines dated 02.09.2017 for production of manganese ore during 2000-01 to 2010-11 without EC pertaining to Dubna Manganese mines.

- Payment of compensation of Rs. 2,66,50,514/- for Dubna mines was made vide bank transaction ID: CKE5245829 dated 27.12.2017.

(III). DDM, Joda had also raised a demand of Rs. 124346720/- vide letter No. 5208/Mines dt. 23.10.2017 against the Ores/Minerals raised without/in excess of Mining Plan and CTO.

- Payment of compensation was made along with interest due to belated payment (Total: Rs. 14,32,74,676/-) vide bank transaction ID:CKH1402300 (Rs. 124346720/-) and ID:CKH1403269 (Rs.18927956/-) on 19.09.2018.

6. PP submitted that court case is pending against the project proposal i.e. the credible action initiated as cognizance of offence under Section 15 of the E(P)Act, 1986 against OMC on 23.04.2014 by S.D.M, Champua in the court of the JMFC, Barbil, Keonjhar, vide No. 2(C) C.C. no. 14/2014 for violating the E(P)Act, 1986. PP further submitted that the court case is under sub-judice.

7. PP submitted that the estimated project cost is Rs.91452 lakhs. Life of the mine under the present proposal is 5 years (Iron ore) and 14 years (Manganese ore) approximately.

8. The proposal was considered by the EAC (Violation sector) in its 13th meeting held during 18-20 September, 2018, wherein EAC deferred the proposal and requested certain requisite information. The PP submitted requisite information vide letter no. 18381 OMC/F&E/2018 dated 15.12.2018. The project proposal was reconsidered in the 17th EAC meeting (Violation sector) held during 29-31 January 2019 wherein the Committee after detailed deliberations on the proposal in terms of the provisions of the MoEF&CC Notification dated 14th March, 2017, confirmed the case to be of violation of the EIA Notification, 2006 and **recommended for issuing Standard Term of Reference along with the following specific Term of Reference and additional specific conditions as recommended by CSIR-NEERI on carrying capacity study as per Annexure I** for undertaking EIA and preparation of Environmental Management Plan (EMP)

9. The matter was examined in the Ministry and the undersigned is directed to say that the Ministry of Environment, Forest and Climate Change after accepting the recommendations of the EAC, hereby decided to accord the Terms of Reference for the above mentioned project. Accordingly, the Project Proponent is requested to prepare and submit the EIA/EMP report based on the TOR prescribed which are under:

A. SPECIFIC TOR

1) The State Government/SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC.
2) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.
3) Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.
4) Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

5) The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.
6) The PP is required to conduct public hearing as per EIA notification, 2006.
7) One season fresh base line data to be generated for EIA/EMP preparation.
8) To submit the lease sketch approved by DMG, at the time of presentation before EAC.
9) Fund allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 1st May, 2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.
10) DGMS permission for blasting at project site.
11) Detailed hydrological study to be carried out in core and buffer zone of the project as per the recent GEC guidelines 2015.
12) Forest Clearance is to be obtained.
13) Wildlife conservation plan is to be prepared in consultation with Chief Wild life Warden and submit.
14) PP has to address all the issues raised by the surrounding villagers (Jamupani village, Handibhanga and Dubuna village) regarding damage of their agriculture fields.
15) Compliance of earlier CTO issued by the state PCB.

B. STANDARD TOR FOR MINING PROJECT

1) The TOR will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors..
2) Department of Mining & Geology, State Government shall ensure that mining operation shall not commence till the entire compensation levied, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
3) Year-wise production details since 1993-94 should be given, clearly stating the highest production achieved in any one year prior to 1993-94. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to1994. The production details need to submit since inception of mine duly authenticated by Department of Mines & Geology, State Government.
4) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
5) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels,

waste generation and its management, mining technology etc. and should be in the name of the lessee.

6) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

7) Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.

8) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

9) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

10) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

11) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

12) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

13) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

14) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the

project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

15) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

16) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

17) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

18) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

19) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

20) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

21) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

22) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the

authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

23) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

24) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season); December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so complied presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

25) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

26) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

27) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

28) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

29) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

30) Based on actual monitored data, it may clearly be shown whether working will

intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

31) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.

32) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

33) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

34) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

35) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

36) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

37) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

38) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

39) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
40) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
41) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
42) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
43) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
44) A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.
45) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
46) The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.
47) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25.10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
48) Compliance of the Ministry's Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgment of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.

C. STANDARD TOR FOR BENEFICIATION PROJECTS

1) The alternate sites considered, the relative merits and demerits and the reasons for selecting the proposed site for the Beneficiation Plant should be indicated.
2) Details of the technology and process involved for beneficiation should be given.
3) Location of the proposed Plant w.r.t. the source of raw material and mode of transportations of the ore from mines to the beneficiation plant should be justified.

4) Treatment of run of mine (ROM) and or of the fines/waste dump should be spelt out.
5) Estimation of the fines going into the washings should be made and its management described.
6) Details of the equipment, settling pond etc. should be furnished.
7) Detailed material balance should be provided.
8) Sources of raw material and its transportation should be indicated. Steps proposed to be taken to protect the ore from getting air borne should be brought out.
9) Management and disposal of tailings and closure plan of the tailing pond, if any after the project is over, should be detailed in a quantified manner.
10) The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should also be indicated.
11) A copy of the document in support of the fact that the Proponent is the rightful lessee of the unit should be given.
12) All documents including EIA and public hearing should be compatible with one another in terms of the production levels, waste generation and its management and technology and should be in the name of the lessee.
13) All corner coordinates of the Unit, superimposed on a High Resolution Imagery/Toposheet should be provided. Such an Imagery of the proposed Unit should clearly show the land use and other ecological features of the study area (core and buffer zone).
14) It should be clearly indicated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
15) Issues relating to Safety should be detailed. The proposed safeguard measures in each case should also be provided. Disaster management plan shall be prepared and included in the EIA/EMP Report.
16) The study area will comprise of 10 km zone around the Plant.
17) Cumulative Impact study of both Beneficiation Plant with suggested mitigation measures as per the study should be described.
18) Location of Railway siding with its handling capacity and safety measures should be indicated.
19) Option to provide only silo for storage of minerals instead of open stacking to avoid fugitive dust should be explored and arrangements finalized justified.

20) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
21) Details of the land for any Over Burden Dumps outside the lease, such as extent of land area, distance from lease, its land use, R&R issues, if any, should be given.
22) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the Project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
23) Status of forestry clearance for the broken up area and virgin forestland involved inthe Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
24) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
25) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
26) A study shall be got done to ascertain the impact of the Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed mitigative measures required, should be worked out with cost implications and submitted.
27) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
28) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State

Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

29) Proximity to Areas declared as 'Critically Polluted' shall also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB/CPCB shall be secured and furnished to the effect that the proposed activities could be considered.

30) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the unit w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

31) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation& Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects, should be discussed in the report.

32) One season (non-monsoon) (i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the unit in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

33) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

34) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

35) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be secured and copy furnished.

36) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
37) Impact of the project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.
38) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
39) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the project. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to the pollution.
40) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered.
41) Details of the onsite shelter and facilities to be provided to the workers should be included in the EIA report.
42) Occupational Health Impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area should be detailed.
43) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
44) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
45) Public hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
46) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.
47) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

48) A brief background of the Project, its financial position, Group Companies and legal issues etc should be provided with past and current important litigations if any.

49) Benefits of the Project, if the project is implemented should be outlined. The benefits of the projects shall clearly indicate environmental, social, economic, employment potential, etc.

D: Recommendation of CSIR-NEERI Report on "Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State"

1) Department of Steel & Mines, Govt. of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.

2) The expansion or opening of new manganese ore mines may be considered only when the actual production of about 80% is achieved. Further, the mines that have not produced Mn ore for last two years and have no commitment in the current year as well; EC capacity in such cases may be reviewed. The Department of Steel & Mines, Govt. of Odisha shall submit the Annual Report on this issue to the MoEF&CC for further necessary action.

3) Analysis of baseline environmental quality data for the year 2014 and 2015 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable acts.

4) Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Koira sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM, pollution free road transport, enhancement of rail network etc.) in the respective regions.

5) Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface & ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt.

of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.

6) Construction of cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. The Department of Steel & Mines, Govt. of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested above.

7) In view of high dust pollution and noise generation due to road transport, it is proposed to regulate/guide the movement of iron and manganese ore material based on the EC capacity of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

Table : EC Capacity based Suggested Ore Transport Mode (SOTM)

Code	EC	Suggested Ore Transport Mode
SOTM 1	≥ 5 MTPA	100% by private railway siding or conveyor belt up to public railway siding or pipeline for captive mines and 70% for non-captive mines
SOTM 2	Between 3 and <5 MTPA	Minimum 70% by public railway siding, through conveyor belt and maximum 30% by road - direct to destination or other public railway siding or above option
SOTM 3	Between 1 and < 3 MTPA	Minimum 70% by public railway siding and maximum 30% by road - direct to destination or by other public railway siding or above options
SOTM 4	<1 MTPA	100 % by 10/17 Ton Trucks or above options

It is mentioned by State Govt. of Odisha that currently about 45% of the Iron ore is despatched using rail network and progressively it will be increased to about 60% by rail/slurry over a period of 5 years, taking into account time required to set up more railway sidings.

In view of present ore transport practices and practical limitations, all the existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years.

However, the State Govt. of Odisha shall ensure dust free roads in mining areas

wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha.

Transportation of iron & manganese ore through river (jetty) to nearest Sea port (Sea cargo option) may be explored or connecting Sea ports with Railway network from the mines to be improved further so that burden on existing road and rail network and also pollution thereof can be minimized.

Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to MoEF&CC.

Responsibility: Department of Steel & Mines, Govt. of Odisha; Time Period: 5 Years for developing railway/ conveyor belt facilities

8) Development of parking plazas for trucks with proper basic amenities/ facilities should be done inside mine. This should be done within one year for existing mines and new mines should have since beginning. Small capacity mines (in terms of lease area or production) not having enough space within the mine lease areas should develop parking plaza at a common place within the region with requisite facilities. Responsibility: Individual Mine Lease Holders; Time Period: 1 Year

9) Construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. Responsibility: Department of Steel & Mines with PWD / NHAI Time Period: 2 Years.

10) Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Re-suspension" may be considered. Responsibility: PWD / NHAI/ Mine Lease Holders; Time Period: 3 months for existing roads.

11) Expansion of existing mines and new mines should be considered after conducting recent EIA Study (as per the provisions of EIA Notification 2006, as amended time to time) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.

12) **Mine-wise Allocation of Annual Production:** In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

Table: Allocation of Production to Different Mines for 5 Years (as per approved Mining Plan)

Mine Lease	EC Capacity (MTPA)	Suggested Annual Production (MT)				
		2016-17	2017-18	2018-19	2019-20	2020-21
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Mine 1	X1					
Mine 2	X2					
Mine 3	X3					
Mine n	Xn					
Total	160 +	105	129	153	177	201
Next year allocation = Average of EC Capacity and Last year production						

13) **Expansion of Existing Mines having Validity up to 2020:** In view of implementation of MMDR Act 2015, wherein many non-captive mines are expected to be closed by March 2020, total iron ore production scenario has been. It is expected that the non-captive mines having validity till 2020 shall try to maximize their production (limited to EC capacity) in the remaining period. Further, depending upon availability of iron ore resources, these mines may also seek expansion of EC capacity. It may be noted here that total EC capacity of existing 25 working mines having validity upto 2020 is about 85 MTPA, whereas actual production from these mines has been only 44.677 MT (52.6%) during 2015-16 and 57.07 MT (67.1%) during 2016-17. Also, it is expected that these mines would not even be able to achieve ore production as per existing EC capacity till March 2020. Therefore, these existing mines should go for production to the fullest extent to meet the requisite demand from the State, However, where EC limit is exhausted, application for expansion may be considered. Further, the EC process (i.e. Grant of TOR, Baseline data collection, Mining plan/ scheme approval, Public hearing, preparation of EIA/EMP Report. Appraisal by the EAC and grant of EC) takes about one year time. Under such circumstances, it is suggested that further applications for grant of TOR or grant of EC for expansion of production capacity of the mine should be considered for those existing mines, which have exhausted their capacity subject to consideration of all environmental aspects. Responsibility: Department of Steel & Mines and MoEF&CC, New Delhi.

14) **Sustained Iron Ore Production beyond 2020:** Considering the implementation of MMDR Act 2015, total production of iron ore in Odisha State is anticipated to be about 111 MT during 2016-17 (actual production was – 102.663 MT), 136 MT during 2017-18, 146 MT during 2018-19 and 146 MT during 2019-20. Then there will be substantial drop in total production (to the tune of 73 MT during 2020-21 onwards) due to closure of mines, which are valid up to 2020. Therefore, in order to maintain operation/sustained growth of downstream industries, iron ore mining in the region needs to be continued at a sustainable rate. The State Govt. through Department of Steel and Mines should initiate appropriate action to ensure continued availability of iron ore from the region, as per suggested sustainable annual production

15) **Reserves Estimation**–Mining Plan and Exploration: Appropriate actions (geo-technical investigation for qualitative and quantitative resource estimation &

other preparations for auction of mines), may be initiated taken into account the existing working mines, and the mines which were operational at some point of time (but closed presently due to various reasons). The total iron ore reserves/ resources available within the total lease area of each mine should be estimated by State Govt./NMET/ GSI (or any other approved agency) with respect to: (i) Total lease area of mine (surface), (ii) Maximum depth to which resources could be available, (iii) Resources below the ground water table (if intersected), (iv) Reserves are to be estimated as per UNFC code with respect to quantity and quality (% Fe content), (v) Maximum mining rate and area for auction (after 2020) will be calculated based on total resources available and proposed life of mine leading to closure of mine in a stipulated time period.

Responsibility: Department of Steel & Mines, IBM and GSI; Time frame: 1 year for the mines to be auctioned for next 2 years. The above mentioned organizations shall ensure the compliance with respect to timelines for implementations.

16) Depending upon availability of extractable iron ore resources within a mine, mining below the ground water table may be permitted after conducting necessary geological and hydro-geological study by GSI and requisite approval from the CGWB/CGWA (Central Ground Water Board/Authority). This can be explored at least in few mines on trial/pilot basis. Further, within a mine, it will be desirable to operate one pit at a time, and next pit should be opened after extracting maximum possible resources from the first pit, so that the exhausted pit can be used for back filling/ storing of low grade iron ore. However, depending upon the quantity and/or quality of iron/ manganese ore, other mine pits in the same mine lease may also be opened for sustainable scientific mining, as per approved mining plan/scheme of mining by IBM. The Department of Steel & Mines, Govt. of Odisha should initiate the pilot project so that minerals are fully utilized.

17) **Commercial Utilization of Low Grade Ore:** R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept. of Steel & Mines, Individual Mine Lease Holders

18) The mining activity in Joda-Kolra sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Kolra region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and

Roxy railway sidings in Kotra region. Responsibility: Dept. of Steel & Mines, Govt. of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines, Govt. of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.

19) State Govt. of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Kotra region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.

20) Large and medium mine leases contribute to better implementation of reclamation and rehabilitation plans to sustain the ecology for scientific and sustainable mining. The small leases do not possess scientific capability of environmentally sustainable mining. Therefore, new mine leases having more than 50 ha area should be encouraged, as far as possible. This will ensure inter-generational resource availability to some extent. Responsibility: Dept. of Steel & Mines, Govt. of Odisha.

21) **Mining Operations/Process Related:** (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste. e.g. drills should either be operated with dust extractors or equipped with water injection system. (ii) After commencement of mining operation, a study should be conducted to assess and quantify emission load generation (in terms of air pollution, noise, waste water and solid waste) from each of the mining activity (including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders. (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders. (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

22) **Air Environment Related:** (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in

this regard. (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10, PM2.5, SO2, NOx and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity. (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PM10, PM2.5, SO2, NOx and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. Further, 11 continuous air quality monitoring systems may be installed in Joida and Kolra regions and one in Baripada/ Rairangpur region. (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral. (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate).Responsibility: Individual Mine Lease Holders and SPCB.

23) **Noise and Vibration Related:** (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented. (ii) Appropriate measures (detailed in Section 5.4) should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs. (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.

24) Water/Wastewater Related : (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro- geological studies by CGWB or NIH or institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately. (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and

perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis. (iii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis. (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region. (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis. The study can be conducted through NABL/ NABET approved water testing laboratory. However, the report should be vetted by SPCB. (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated in ETP so as to conform to the discharge standards applicable. (viii) Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony, wherever applicable. (ix) Mine lease holder should ensure that no silt originating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization. (x) Erosion from dumps site should be protected by providing geo-textile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls.(xi) Trenches / garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis. (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years. Responsibility: Individual Mine Lease Holders, SPCB and CGWB.

25) **Land/ Soil/ Overburden Related** (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately. (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be

stacked at carmarked dump site(s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc. (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil, OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data.Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals. (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating. (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.

26) **Ecology/Biodiversity (Flora-Fauna) Related:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any. (ii) The mines falling within 5-10 km of the Karo-Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man-Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Kolra is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities. (iii) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department. (iv) Afforestation is to be done by

using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner. (v) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded. (vi) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation. (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value. (viii) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details. (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level. (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

27) **Socio-Economic Related:** (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region. (ii) Land outees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation. (iii) The socio-economic development in the region should be focused and aligned with the guidelines/initiatives of Govt. of India/ NITI Aayog / Hon'ble Prime Minister's Vision centring around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for *"Samagra Vikas"* of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna

(PMKKKY), notified by Ministry of Mines, Govt. of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.

28) **Road Transport Related:** (i) All the mine lease holders should follow the suggested ore transport mode (SOTM), based on its EC capacity within next 5 years. (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine, as suggested in Chapter 10. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport. (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM10 should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept. of Steel & Mines

29) **Occupational Health Related:** (i) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects periodically. (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed. (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer)

30) **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-à-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. "Star Rating Format" formulated by the Ministry of Mines along with environmental sustainability report may be used.

31) **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

Table: Suggested Environmental Monitoring Requirements and Action Plans at

Regional Level

Sr. No.	Study Component/ Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
1.	Environmental Quality Monitoring with respect to Air, Water, Noise and Soil Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC. All the water bodies (rivers, nallas, ponds etc.) shall be monitored. National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-RO.	SPCB	Continuous Annually
	Installation of online ambient air quality monitor for PM10, PM2.5, SOx and NOx within the mine having more than 3 MTPA EC Capacity	Respective Mine Lease Holders	Continuous Annually
	Installation of online ambient air quality monitor for PM10, PM2.5, SOx and NOx in the Joda and Koira Region (total 11 locations.	SPCB	Continuous Annually
2.	Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department.	State Forest & Wildlife Dept.	Annually in mining zone and once in 3 years in the region
3.	Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration.	Respective District Administratio n	Annually
4.	A detailed hydro-geological study in each of the regions shall be conducted in an integrated manner in consultation with Regional Director, Central Ground Water Board. Accordingly, all project proponents	SPCB	Once in 2 years

	shall implement suitable conservation measures to augment ground water resources in the area.		
5.	The State Govt. shall ensure construction and maintenance of dust free common roads/ appropriate rail network for transport of ore from mines to the consumer end.	Dept. of Steel & Mines	12 months for road network and 5-7 years for rail network
6.	Construction and maintenance of dust free roads from respective mine to the main road	Respective Mine Lease Holders	Continuous 6 months
7.	Traffic/road inspection study addressing the condition of traffic/roads leading to different mines and connecting to different railway sidings shall be undertaken on annual basis. Further, detailed traffic study shall be undertaken on every 5 yearly basis to ensure adequacy of road/rail infrastructure in each of the regions. The study can be undertaken through national/ state level research/ academic institute (such as CSIR-CRRI, New Delhi).	Dept. of Steel & Mines	Continuous 6 months
8.	Assessment of land use/ land cover changes in each of the regions, with particular focus on mining areas, afforestation activities, variation in flow path of various water bodies etc. using remote sensing data	ORSAC	Annually
9.	R&D Studies for utilization of low-grade iron ore	Dept. of Steel & Mines through R&D / Academic Institutes	Upto 45% by 2020 and upto 40% by 2025

The data so generated for the region should be made available on the website of Department of Steel & Mines and also at MoEF&CC website, so that it can be effectively utilized by Individual Mine Lease Holders for preparing EIA/ EMP reports. This will meet the requirement for separate one season baseline environmental quality data collection by the individual proponents, if the mine proposed is in the same study region. Further, MoEF&CC (through EAC) can also utilize the data base available in evaluating the proposals for expansion of existing mines or new mines while granting ToR or EC to the mine, taking an holistic view of the region. State Govt. of Odisha should bring out an integrated environmental sustainability report for each of the regions (mainly for Joda and Kolo region) incorporating ESR of individual mines and data collected in the region through various agencies, once in 5 years, to plan level of scientific and sustainable mining for the next 5 years.

32) Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to

ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-à-vis environmentally sustainable mining and upliftment of people of the region, there is a need to create an agency, who will integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt. of Odisha or a cell within the overall control and supervision of Dept. of Steel & Mines, with members from IBM, GSI, OSPCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized appropriately for various developmental activities/needs of the region. Further, an environmental sustainability report incorporating environmental status of region coupled with social upliftment may be brought out by SPCB or any other authorized agency on annual basis. This report can be used for supporting the regional EIA study, and also need for environmental quality monitoring by individual mine seeking environmental clearance for new mine/ expansion of mine, including public hearing. Since, outcome of the above study reports shall be in the overall interest of all the stakeholders (including local population) of the region, further planning for the region shall warrant cooperation and assistance of all the stakeholders (mine operators, industries, transporters, State & Central Government Offices, MoEF&CC, CPCB, SPCB, Dept. of Steel & Mines, IBM, IMD, NGOs and local people) in sharing the relevant data/information/ reports/documents etc. to continuously improve upon the environmentally sustainable development plan for economic growth in mining sector as well as for improvement in quality of life of the people of the region.

10. Besides the above, the below mentioned general points are also to be followed: -

a) All documents to be properly referenced with index and continuous page numbering.
b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
d) Where the documents provided are in a language other than English, an English translation should be provided.
e) The Questionnaire for environmental appraisal of mining projects as

devised earlier by the Ministry shall also be filled and submitted.

f) While preparing the EIA report, the instructions for the Proponents and Instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA. II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

11. The prescribed TOR would be valid for a period three years for submission of the EIA/EMP report, as per the O.M. No. J-11013/41/2006-IA-II (I) (Part) dated 29.08.2017. **The instant TOR is valid up to 26.05.2022.**

12. After preparing the draft EIA (as per the generic structure prescribed in Appendix III of the EIA Notification, 2006) covering the above mentioned issues, the proponent will get the public hearing conducted and take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

13. This issues with the approval of Competent Authority.

Yours faithfully,

(Dr. R. B. Lal)
Additional Director

Copy to:

1. **The Secretary**, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. **The Secretary,** Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.
3. **The Secretary,** Department of Mines and Geology, Government of Odisha, Secretariat, Bhubaneswar.
4. **The Secretary,** Department of Forests, Government of Odisha, Secretariat, Bhubaneswar.

5. **The Chairman**, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
6. **The Additional Principal Chief Conservator of Forests (C),** Ministry of Environment, Forest and Climate Change, Regional Office (EZ), A/3, Chandersekharpur, Bhubaneswar – 751023.
7. **The Chief Wildlife Warden**, Prakruti Bhawan, 5th floor, BDA Apartment Nilakanthanagar, Nayapalli, Bhubaneswar-751012, Odisha
8. **The Member Secretary,** Odisha State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
9. **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
10. **The Member Secretary,** Central Ground Water Board Ministry of Agriculture and Irrigation, 12/1 Jam Nagar House, Shahjahan Road, New Delhi 110011.
11. **The District Collector,** District- **Keonjhar**, State of Odisha.
12. **Guard File.**
13. **Parivesh Website.**

(Dr. R. B. Lal)
Additional Director

OMC ODISHA
NEW OPPORTUNITIES

Letter No. 16586 OMC/F&E/2021
November 03, 2021

To

The Director (IA),
Ministry of Environment, Forest & Climate Change,
Government of India,
5th Floor, Vayu Wing, Indira ParyavaranBhawan
Jorbagh Road, Aliganj
New Delhi-110003

Sub.: Submission of Final EIA/EMP Report for grant of Environmental Clearance (EC) from MoEF&CC, New Delhi for 3.00 MTPA iron ore and 0.05 MTPA Mn ore production at Dubna-Sakradihi Iron & Manganese Ore Mine (Area:1332.019 Ha) of M/s. OMC Ltd..

Ref.: i) Online application vide Proposal No. IA/OR/MIN/740300/2018
ii) Terms of Reference (ToR) granted vide letter No. File No. 23-241/2018/IA-III dt. 25.05.2019

Sir

This has reference to the captioned subject and cited references. It is to inform that, OMC had applied for grant of Terms of Reference (ToR) for for 3.00 MTPA iron ore and 0.05 MTPA Mn ore production at Dubna-Sakradihi Iron & Manganese Ore Mine vide proposal cited under reference (i).

As per the ToR granted by the Ministry vide letter under reference (ii), the EIA/EMP Report has been prepared and finalised by QCI-NABET accredited Consultant, M/s. MECON, Ranchi, A Govt. of India Enterprise, including the compliance of ToR conditions, public hearing proceedings, and all other requisite enclosure.

As advised in the MoEF&CC Office Memorandum No. J-11013/49/2014-IA.I dated June 06, 2014, OMC has uploaded all the required information/documents in the prescribed online form at MoEF&CC Web portal and the hard copy of the above documents alongwith acknowledgement slip is enclosed herewith for your kind consideration.

OMC sincerely request the Ministry to consider our application to be included in the upcoming Expert Appraisal Committee meeting (Non Coal Mining) for grant of Environmental Clearance pertaining to Dubna-Sakradihi Iron & Manganese Ore Mining Project at an earliest.

Yours faithfully,

Encl.: As above

(Dr.Suman Krishna Sit)
General Manager (Geo)
Authorised Signatory

Odisha Mining Corporation Ltd.
(A Gold Category State PSU)
Registered Office : OMC House, Bhubaneswar - 751001, India
Tel : 0674-2377400/2377401, Fax : 0674-2396889, 2391629, www.omcltd.in
CIN : U13100OR1956SGC000313

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(IA DIVISION, NON-COAL MINING SECTOR)
***

AGENDA FOR 48th MEETING OF THE EXPERT APPRAISAL COMMITTEE (NON-COAL MINING SECTOR), SCHEDULED TO BE HELD DURING 28th, 29th and 30th MARCH, 2022

It is informed that in view of the outbreak of Corona Virus (COVID-19), it has been now decided to conduct the EAC meeting through Video Conference during **28th, 29thand 30th MARCH, 2022(VC Slot 10:30AM to 1:00PM &2:00PM to 5:30PM).**

Instructions: Project Proponents are requested to strictly follow the following instructions:

1. It is requested that the project proponent or his/her authorized representative should participate in EAC meeting through Video Conferencing only (preferably not more than two representatives) who can make a presentation on their behalf on the salient features of the project, the related environmental issues, proposed Environmental Management Plan, commitment made during public hearing, CER, occupational health plan, plantation plan, method of mining , beneficiation activities, transportation plan, R&R issues and also respond to the queries/suggestions of the Committee.

2. NIC, MoEF&CC will moderate the Video Conferencing meeting. The Guidelines related to connecting VC is annexed herewith. PP will be ready before 10 minutes of the slot allowed to them. If any problem faced please contact Mr. Kamal, Moderator, NIC (**Mobile No. 8800225087, email- support-ipb@nic.in**).

3. As there it a time restriction in Video Conferencing, therefore, PP is requested to submit the **requisite documents along with presentation through email to all the Committee Members and Officials of the Ministry latest by 15.03.2022**.Maximum 20 slides for ToR presentation and 30 slides for EC Presentation.

4. The presentation should reflect-

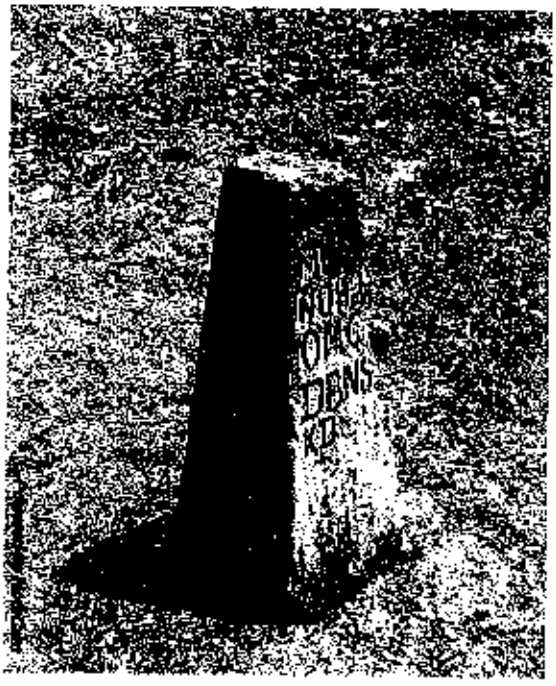
   i. Point wise ToR Compliance;
   ii. Contain information regarding total excavation from mines;

2.4	Proposal for Environmental Clearance of Daroli Limestone Mine 2 with expansion in production capacity from 1.56 MTPA to 3.90 MTPA (Total Excavation 3.90 MTPA) with the mine lease area of 213.33 Ha (M.L. No. 64/79(old), (23/2001(Renewal) located at Village Manderiya, Bichiwara and Jaspura, Tehsil Vallabhnagar, District Udaipur, State Rajasthan of M/s Udaipur Cement Works Limited. - **Environmental Clearance** **File No. J-11015/32/2021-IA-II (M)** **Proposal No. IA/RJ/MIN/260440/2021** **Time: 02:00 PM to 02:45 PM**
2.5	Proposal for Terms of Reference (ToR) for expansion of Daroli Limestone Mine-1 from 1.64 MTPA to total Excavation 4.53 MTPA and increase in crusher capacity from 700 TPH to 2770 TPH by installing additional crusher (2070 TPH) within the mine lease area 703.3051 ha (M.L No. 186/08 (Renewal & 02/88 (Old)) located at Villages- Daroli, Manderia, Bichhiwara, Mandesar&MandesarKaGuda, Tehsil -Vallabhnagar, District Udaipur, Rajasthan by Udaipur Cement Works Limited. - **Environmental Clearance** **File No. J-11015/33/2021-IA-II(M)** **Proposal No. IA/RJ/MIN/260182/2021** **Time: 02:45 PM to 03:30 PM**
2.6	Proposal for Terms of Reference for Sand Mining in Riverbed of Wardha River with production capacity of 1.14 MTPA (0.70 Mm3) in ML Area of 327.84 ha located in village Shivanichor-(ChandrapurTaluka), Hadsati, Nandgaon, Visapur (Ballarpur Taluka), Dhidsi, Kadholi BK, Charli, Kolgaon (RajuraTaluka) of Chandrapur District, Maharashtra by Western Coalfields Limited(Chandrapur Area) - **Terms of Reference** **File No. IA-J-11015/92/2021-IA-II(NCM)** **Proposal No. IA/MH/MIN/237600/2021** **Time: 03:30 PM to 04:00 PM**
2.7	Proposal for Environmental Clearance of M/s Odisha Mining Corporation Limited for Dubna - Sakradihi Iron & Manganese mine with production of 3.0 MTPA of Iron Ore and 0.05 of Manganese ore and installation of crushing (100 TPH-1 No) and Screening unit (300 TPH-2 No and 100 TPH-1 nos) in the mine lease area of 1332.019 ha, located at Dubna, Jampani, Purunadihi, Handhibhanga, Naibaga, Basantapur, Pedipokhari R.F & Naibaga R.F., TehsilBarbil and Jhumpura, District Keonjhar, Odisha - **Environmental Clearance** **File No. 23-241/2018- IA.III (V)** **Proposal No. IA/OR/MIN/74300/2018** **Time: 04:00 PM to 05:15 PM**
2.8	Any other item with the permission of the Chair

ML BOUNDARY PILLARS









SAFETY ZONE PILLARS







DIVERTED FOREST PILLARS

(DLC FOREST)





(REVENUE FOREST)





(RESERVED FOREST)



CO-ORDINATES OF THE RCC PILLAR ON THE MINING LEASE BOUNDARY OF DUBNA-SAKRADIH MINING LEASE OVER 1332.019 HA OF OMC LTD.

ML Boundary pillar No.	Longitude	Latitude
A	85°22'19.50276"	21°50'02.23008"
A1	85°22'19.69464"	21°50'07.08612"
A2	85°22'19.80048"	21°50'09.90384"
A3	85°22'19.80876"	21°50'10.85676"
A4	85°22'20.07336"	21°50'18.41496"
A5	85°22'20.33796"	21°50'26.33532"
A6	85°22'20.58096"	21°50'33.50940"
A7	85°22'20.67852"	21°50'36.52188"
B	85°22'20.62056"	21°50'38.07276"
B1	85°22'21.95436"	21°50'38.06520"
B2	85°22'26.39784"	21°50'38.03928"
B3	85°22'28.45452"	21°50'37.99428"
B4	85°22'31.00836"	21°50'37.95000"
B5	85°22'40.88712"	21°50'37.77900"
C	85°22'45.97500"	21°50'37.69080"
C1	85°22'45.21396"	21°50'42.88128"
C2	85°22'44.01552"	21°50'50.96616"
C3	85°22'43.88844"	21°50'52.01664"
C4	85°22'41.27448"	21°51'09.75564"
C5	85°22'39.70704"	21°51'20.44980"
C6	85°22'39.11268"	21°51'24.50196"
C7	85°22'38.29512"	21°51'30.08016"
C8	85°22'35.98464"	21°51'45.83880"
D	85°22'35.41728"	21°51'49.70772"
D1	85°22'46.13772"	21°51'49.63716"
D2	85°22'49.73340"	21°51'49.62060"
D3	85°22'53.91480"	21°51'49.59108"
D4	85°23'05.64792"	21°51'49.51692"
D5	85°23'13.16292"	21°51'49.46940"
D6	85°23'16.46772"	21°51'49.44816"
D7	85°23'20.39820"	21°51'49.42332"
D8	85°23'23.70984"	21°51'49.40208"
D9	85°23'30.10632"	21°51'49.36140"
D10	85°23'34.15308"	21°51'49.33548"
D11	85°23'41.93448"	21°51'49.28580"
D12	85°23'50.20512"	21°51'49.23288"
D13	85°23'54.66516"	21°51'49.20408"
D14	85°23'59.91792"	21°51'49.16232"
D15	85°24'04.08672"	21°51'49.12848"
D16	85°24'11.41740"	21°51'49.06764"
D17	85°24'16.01604"	21°51'49.02804"
E	85°24'20.68632"	21°51'48.98772"

ML Boundary pillar No.	Longitude	Latitude
E19	85°23'43.29276"	21°50'24.33624"
E20	85°23'41.40492"	21°50'20.02884"
F	85°23'40.64748"	21°50'18.30012"
F1	85°23'50.88984"	21°50'10.45644"
F2	85°23'52.78524"	21°50'09.02004"
F3	85°24'01.22148"	21°50'03.06312"
F4	85°24'10.01412"	21°49'56.79552"
F5	85°24'17.54136"	21°49'51.45456"
G	85°24'26.47620"	21°49'45.11460"
G1	85°24'25.44048"	21°49'44.29560"
G2	85°24'23.72364"	21°49'42.93696"
G3	85°24'13.83228"	21°49'35.18508"
G4	85°24'06.15852"	21°49'29.28216"
G5	85°23'55.80240"	21°49'21.31536"
G6	85°23'47.73084"	21°49'15.10572"
G7	85°23'37.13568"	21°49'06.95424"
G8	85°23'33.49536"	21°49'04.15380"
G9	85°23'31.18740"	21°49'02.37792"
G10	85°23'21.38316"	21°48'54.83448"
G11	85°23'17.33424"	21°48'51.71904"
G12	85°23'07.24884"	21°48'43.95852"
G13	85°23'04.58592"	21°48'41.90976"
H	85°22'59.39292"	21°48'37.35468"
I	85°22'54.51960"	21°49'22.25424"
I4	85°22'28.09092"	21°49'22.94976"
I2	85°22'35.44716"	21°49'22.76616"
I3	85°22'33.85740"	21°49'22.78812"
I1	85°22'42.98376"	21°49'22.55808"
H1	85°22'58.89576"	21°48'42.97644"
H2	85°22'58.60416"	21°48'45.69552"
H3	85°22'57.39096"	21°48'56.55600"
H4	85°22'57.02232"	21°48'59.85468"
H5	85°22'56.47764"	21°49'04.73052"
H6	85°22'55.16868"	21°49'16.44492"
I5	85°22'23.37636"	21°49'23.07360"
I6	85°22'21.20412"	21°49'23.13084"
I7	85°22'20.22528"	21°49'23.15640"
I8	85°22'19.54236"	21°49'23.17440"
J	85°22'17.84244"	21°49'23.21904"
J1	85°22'17.92200"	21°49'25.09140"
J2	85°22'18.15204"	21°49'30.49536"
J3	85°22'18.38676"	21°49'36.00372"

ML Boundary pillar No.	Longitude	Latitude
E1	85°24'17.56332"	21°51'42.14988"
E2	85°24'15.12648"	21°51'36.81432"
E3	85°24'12.71952"	21°51'31.54464"
E4	85°24'11.28312"	21°51'28.34640"
E5	85°24'08.92008"	21°51'22.88664"
E6	85°24'07.66620"	21°51'19.99008"
E7	85°24'06.50448"	21°51'17.30592"
E8	85°24'05.73840"	21°51'15.54804"
E9	85°24'03.76488"	21°51'11.04588"
E10	85°24'00.67320"	21°51'03.99204"
E11	85°23'57.09048"	21°50'55.81788"
E12	85°23'56.06016"	21°50'53.46780"
E13	85°23'50.52048"	21°50'40.82784"
E14	85°23'49.56504"	21°50'38.64804"
E15	85°23'48.52752"	21°50'36.28104"
E16	85°23'46.71816"	21°50'32.15184"
E17	85°23'45.71952"	21°50'29.87376"
E18	85°23'45.09492"	21°50'28.44816"

ML Boundary pillar No.	Longitude	Latitude
J4	85°22'18.61824"	21°49'41.44260"
J5	85°22'18.76764"	21°49'44.95260"
J6	85°22'18.80904"	21°49'45.92712"
J7	85°22'18.86448"	21°49'47.22816"
J8	85°22'19.17084"	21°49'54.42708"
J9	85°22'19.24248"	21°49'56.11404"
J10	85°22'19.36416"	21°49'58.96848"
F6	85°24'25.26012"	21°49'45.97752"

(Dr.Suman Krishna Sit)
General Manager (Geology)
Authorized signatory

CO-ORDINATES OF THE RCC PILLAR OF THE SAFETY ZONE AREA OVER 13.9946 HA (7.5 MTR STRIP ALONG THE INNER SIDE OF ML BOUNDARY) OF DUBNA-SAKRADIH MINING LEASE OF OMC LTD.

ML Boundary pillar No.	Longitude	Latitude
A	85°22'19.50276"	21°50'02.23008"
A1	85°22'19.69464"	21°50'07.08612"
A2	85°22'19.80048"	21°50'09.90384"
A3	85°22'19.80876"	21°50'10.85676"
A4	85°22'20.07336"	21°50'18.41496"
A5	85°22'20.33796"	21°50'26.33532"
A6	85°22'20.58096"	21°50'33.50940"
A7	85°22'20.67852"	21°50'36.52188"
B	85°22'20.62056"	21°50'38.07276"
B1	85°22'21.95436"	21°50'38.06520"
B2	85°22'26.39784"	21°50'38.03928"
B3	85°22'28.45452"	21°50'37.99428"
B4	85°22'31.00836"	21°50'37.95000"
B5	85°22'40.88712"	21°50'37.77900"
C	85°22'45.97500"	21°50'37.69080"
C1	85°22'45.21396"	21°50'42.88128"
C2	85°22'44.01552"	21°50'50.96616"
C3	85°22'43.88844"	21°50'52.01664"
C4	85°22'41.27448"	21°51'09.75564"
C5	85°22'39.70704"	21°51'20.44980"
C6	85°22'39.11268"	21°51'24.50196"
C7	85°22'38.29512"	21°51'30.08016"
C8	85°22'35.98464"	21°51'45.83880"
D	85°22'35.41728"	21°51'49.70772"
D1	85°22'46.13772"	21°51'49.63716"
D2	85°22'49.73340"	21°51'49.62060"
D3	85°22'53.91480"	21°51'49.59108"
D4	85°23'05.64792"	21°51'49.51692"
D5	85°23'13.16292"	21°51'49.46940"
D6	85°23'16.46772"	21°51'49.44816"
D7	85°23'20.39820"	21°51'49.42332"
D8	85°23'23.70984"	21°51'49.40208"
D9	85°23'30.10632"	21°51'49.36140"
D10	85°23'34.15308"	21°51'49.33548"
D11	85°23'41.93448"	21°51'49.28580"
D12	85°23'50.20512"	21°51'49.23288"
D13	85°23'54.66516"	21°51'49.20408"
D14	85°23'59.91792"	21°51'49.16232"
D15	85°24'04.08672"	21°51'49.12848"
D16	85°24'11.41740"	21°51'49.06764"
D17	85°24'16.01604"	21°51'49.02804"
E	85°24'20.68632"	21°51'48.98772"

ML Boundary pillar No.	Longitude	Latitude
E19	85°23'43.29276"	21°50'24.33624"
E20	85°23'41.40492"	21°50'20.02884"
F	85°23'40.64748"	21°50'18.30012"
F1	85°23'50.88984"	21°50'10.45644"
F2	85°23'52.78524"	21°50'09.02004"
F3	85°24'01.22148"	21°50'03.06312"
F4	85°24'10.01412"	21°49'56.79552"
F5	85°24'17.54136"	21°49'51.45456"
G	85°24'26.47620"	21°49'45.11460"
G1	85°24'25.44048"	21°49'44.29560"
G2	85°24'23.72364"	21°49'42.93696"
G3	85°24'13.83228"	21°49'35.18508"
G4	85°24'06.15852"	21°49'29.28216"
G5	85°23'55.80240"	21°49'21.31536"
G6	85°23'47.73084"	21°49'15.10572"
G7	85°23'37.13568"	21°49'06.95424"
G8	85°23'33.49536"	21°49'04.15380"
G9	85°23'31.18740"	21°49'02.37792"
G10	85°23'21.38316"	21°48'54.83448"
G11	85°23'17.33424"	21°48'51.71904"
G12	85°23'07.24884"	21°48'43.95852"
G13	85°23'04.58592"	21°48'41.90976"
H	85°22'59.39292"	21°48'37.35468"
I	85°22'54.51960"	21°49'22.25424"
I4	85°22'28.09092"	21°49'22.94976"
I2	85°22'35.44716"	21°49'22.76616"
I3	85°22'33.85740"	21°49'22.78812"
I1	85°22'42.98376"	21°49'22.55808"
H1	85°22'58.89576"	21°48'42.97644"
H2	85°22'58.60416"	21°48'45.69552"
H3	85°22'57.39096"	21°48'56.55600"
H4	85°22'57.02232"	21°48'59.85468"
H5	85°22'56.47764"	21°49'04.73052"
H6	85°22'55.16868"	21°49'16.44492"
I5	85°22'23.37636"	21°49'23.07360"
I6	85°22'21.20412"	21°49'23.13084"
I7	85°22'20.22528"	21°49'23.15640"
I8	85°22'19.54236"	21°49'23.17440"
J	85°22'17.84244"	21°49'23.21904"
J1	85°22'17.92200"	21°49'25.09140"
J2	85°22'18.15204"	21°49'30.49536"
J3	85°22'18.38676"	21°49'36.00372"

ML Boundary pillar No.	Longitude	Latitude
E1	85°24'17.56332"	21°51'42.14988"
E2	85°24'15.12648"	21°51'36.81432"
E3	85°24'12.71952"	21°51'31.54464"
E4	85°24'11.28312"	21°51'28.34640"
E5	85°24'08.92008"	21°51'22.88664"
E6	85°24'07.66620"	21°51'19.99008"
E7	85°24'06.50448"	21°51'17.30592"
E8	85°24'05.73840"	21°51'15.54804"
E9	85°24'03.76488"	21°51'11.04588"
E10	85°24'00.67320"	21°51'03.99204"
E11	85°23'57.09048"	21°50'55.81788"
E12	85°23'56.06016"	21°50'53.46780"
E13	85°23'50.52048"	21°50'40.82784"
E14	85°23'49.56504"	21°50'38.64804"
E15	85°23'48.52752"	21°50'36.28104"
E16	85°23'46.71816"	21°50'32.15184"
E17	85°23'45.71952"	21°50'29.87376"
E18	85°23'45.09492"	21°50'28.44816"

ML Boundary pillar No.	Longitude	Latitude
J4	85°22'18.61824"	21°49'41.44260"
J5	85°22'18.76764"	21°49'44.95260"
J6	85°22'18.80904"	21°49'45.92712"
J7	85°22'18.86448"	21°49'47.22816"
J8	85°22'19.17084"	21°49'54.42708"
J9	85°22'19.24248"	21°49'56.11404"
J10	85°22'19.36416"	21°49'58.96848"
F6	85°24'25.26012"	21°49'45.97752"

(Dr.Suman Krishna Sit)
General Manager (Geology)
Authorized signatory

CO-ORDINATES OF THE RCC PILLAR ON THE MINING LEASE BOUNDARY OF DUBNA-SAKRADIH MINING LEASE OVER 1332.019 HA OF OMC LTD.

ML Boundary pillar No.	Longitude	Latitude	ML Boundary pillar No.	Longitude	Latitude
A	85°22'19.50276"	21°50'02.23008"	E19	85°23'43.29276"	21°50'24.33624"
A1	85°22'19.69464"	21°50'07.08612"	E20	85°23'41.40492"	21°50'20.02884"
A2	85°22'19.80048"	21°50'09.90384"	F	85°23'40.64748"	21°50'18.30012"
A3	85°22'19.80876"	21°50'10.85676"	F1	85°23'50.88984"	21°50'10.45644"
A4	85°22'20.07336"	21°50'18.41496"	F2	85°23'52.78524"	21°50'09.02004"
A5	85°22'20.33796"	21°50'26.33532"	F3	85°24'01.22148"	21°50'03.06312"
A6	85°22'20.58096"	21°50'33.50940"	F4	85°24'10.01412"	21°49'56.79552"
A7	85°22'20.67852"	21°50'36.52188"	F5	85°24'17.54136"	21°49'51.45456"
B	85°22'20.62056"	21°50'38.07276"	G	85°24'26.47620"	21°49'45.11460"
B1	85°22'21.95436"	21°50'38.06520"	G1	85°24'25.44048"	21°49'44.29560"
B2	85°22'26.39784"	21°50'38.03928"	G2	85°24'23.72364"	21°49'42.93696"
B3	85°22'28.45452"	21°50'37.99428"	G3	85°24'13.83228"	21°49'35.18508"
B4	85°22'31.00836"	21°50'37.95000"	G4	85°24'06.15852"	21°49'29.28216"
B5	85°22'40.88712"	21°50'37.77900"	G5	85°23'55.80240"	21°49'21.31536"
C	85°22'45.97500"	21°50'37.69080"	G6	85°23'47.73084"	21°49'15.10572"
C1	85°22'45.21396"	21°50'42.88128"	G7	85°23'37.13568"	21°49'06.95424"
C2	85°22'44.01552"	21°50'50.96616"	G8	85°23'33.49536"	21°49'04.15380"
C3	85°22'43.88844"	21°50'52.01664"	G9	85°23'31.18740"	21°49'02.37792"
C4	85°22'41.27448"	21°51'09.75564"	G10	85°23'21.38316"	21°48'54.83448"
C5	85°22'39.70704"	21°51'20.44980"	G11	85°23'17.33424"	21°48'51.71904"
C6	85°22'39.11268"	21°51'24.50196"	G12	85°23'07.24884"	21°48'43.95852"
C7	85°22'38.29512"	21°51'30.08016"	G13	85°23'04.58592"	21°48'41.90976"
C8	85°22'35.98464"	21°51'45.83880"	H	85°22'59.39292"	21°48'37.35468"
D	85°22'35.41728"	21°51'49.70772"	I	85°22'54.51960"	21°49'22.25424"
D1	85°22'46.13772"	21°51'49.63716"	I4	85°22'28.09092"	21°49'22.94976"
D2	85°22'49.73340"	21°51'49.62060"	I2	85°22'35.44716"	21°49'22.76616"
D3	85°22'53.91480"	21°51'49.59108"	I3	85°22'33.85740"	21°49'22.78812"
D4	85°23'05.64792"	21°51'49.51692"	I1	85°22'42.98376"	21°49'22.55808"
D5	85°23'13.16292"	21°51'49.46940"	H1	85°22'58.89576"	21°48'42.97644"
D6	85°23'16.46772"	21°51'49.44816"	H2	85°22'58.60416"	21°48'45.69552"
D7	85°23'20.39820"	21°51'49.42332"	H3	85°22'57.39096"	21°48'56.55600"
D8	85°23'23.70984"	21°51'49.40208"	H4	85°22'57.02232"	21°48'59.85468"
D9	85°23'30.10632"	21°51'49.36140"	H5	85°22'56.47764"	21°49'04.73052"
D10	85°23'34.15308"	21°51'49.33548"	H6	85°22'55.16868"	21°49'16.44492"
D11	85°23'41.93448"	21°51'49.28580"	I5	85°22'23.37636"	21°49'23.07360"
D12	85°23'50.20512"	21°51'49.23288"	I6	85°22'21.20412"	21°49'23.13084"
D13	85°23'54.66516"	21°51'49.20408"	I7	85°22'20.22528"	21°49'23.15640"
D14	85°23'59.91792"	21°51'49.16232"	I8	85°22'19.54236"	21°49'23.17440"
D15	85°24'04.08672"	21°51'49.12848"	J	85°22'17.84244"	21°49'23.21904"
D16	85°24'11.41740"	21°51'49.06764"	J1	85°22'17.92200"	21°49'25.09140"
D17	85°24'16.01604"	21°51'49.02804"	J2	85°22'18.15204"	21°49'30.49536"
E	85°24'20.68632"	21°51'48.98772"	J3	85°22'18.38676"	21°49'36.00372"

Suman Kristha
General Manager(Geo)
Power of Attorney Holder
Odisha Mining Corporation Ltd

ML Boundary pillar No.	Longitude	Latitude
E1	85°24'17.56332"	21°51'42.14988"
E2	85°24'15.12648"	21°51'36.81432"
E3	85°24'12.71952"	21°51'31.54464"
E4	85°24'11.28312"	21°51'28.34640"
E5	85°24'08.92008"	21°51'22.88664"
E6	85°24'07.66620"	21°51'19.99008"
E7	85°24'06.50448"	21°51'17.30592"
E8	85°24'05.73840"	21°51'15.54804"
E9	85°24'03.76488"	21°51'11.04588"
E10	85°24'00.67320"	21°51'03.99204"
E11	85°23'57.09048"	21°50'55.81788"
E12	85°23'56.06016"	21°50'53.46780"
E13	85°23'50.52048"	21°50'40.82784"
E14	85°23'49.56504"	21°50'38.64804"
E15	85°23'48.52752"	21°50'36.28104"
E16	85°23'46.71816"	21°50'32.15184"
E17	85°23'45.71952"	21°50'29.87376"
E18	85°23'45.09492"	21°50'28.44816"

ML Boundary pillar No.	Longitude	Latitude
J4	85°22'18.61824"	21°49'41.44260"
J5	85°22'18.76764"	21°49'44.95260"
J6	85°22'18.80904"	21°49'45.92712"
J7	85°22'18.86448"	21°49'47.22816"
J8	85°22'19.17084"	21°49'54.42708"
J9	85°22'19.24248"	21°49'56.11404"
J10	85°22'19.36416"	21°49'58.96848"
F6	85°24'25.26012"	21°49'45.97752"

(Dr.Suman Krishna Sit)
General Manager (Geology)
Authorized signatory

Suman Krishna Sit
General Manager(Geo)
Power of Attorney Holder
Vlisha Mining Corporation Ltd.
Bhubaneswar

CO-ORDINATES OF THE CORNER POINTS OF THE 1.5 TIMES THE SAFETY ZONE AREA OVER 31.981 HA LOCATED IN BELDA RF UNDER KEONJHAR FOREST DIVISION PERTAINING TO DUBNA-SAKRADIH MINING LEASE OF OMC LTD.

PATCH-I					
PILLAR NO.		LONGITUDE	LATITUDE	BEARING	DISTANCE IN MTR.
FROM	TO				
1	2	85°38'42.000"	21°42'10.800"	36°35'20"	215.50
2	3	85°38'45.600"	21°42'18.000"	115°58'19"	404.30
3	4	85°39'00.000"	21°42'10.800"	105°51'47"	158.50
4	5	85°39'03.600"	21°42'10.800"	73°06'05"	351.75
5	6	85°39'14.400"	21°42'14.400"	349°50'41"	204.15
6	7	85°39'14.400"	21°42'21.600"	29°49'12"	100.10
7	8	85°39'18.000"	21°42'25.200"	104°23'43"	209.50
8	9	85°39'21.600"	21°42'21.600"	79°43'31"	134.70
9	10	85°39'28.800"	21°42'21.600"	40°51'19"	77.65
10	11	85°39'28.800"	21°42'25.200"	141°46'08"	175.10
11	12	85°39'32.400"	21°42'21.600"	182°29'58"	154.70
12	13	85°39'32.400"	21°42'14.400"	269°34'33"	223.70
13	14	85°39'25.200"	21°42'14.400"	232°40'18"	339.50
14	15	85°39'18.000"	21°42'07.200"	257°54'57"	191.60
15	16	85°39'10.800"	21°42'07.200"	279°06'19"	252.10
16	17	85°39'00.000"	21°42'07.200"	285°09'54"	163.90
17	18	85°38'56.400"	21°42'10.800"	289°59'53"	249.70
18	19	85°38'45.600"	21°42'10.800"	258°56'04"	53.70
19	1	85°38'45.600"	21°42'10.800"	274°33'23"	107.40
PATCH-II					
1	2	85°38'42.000"	21°42'00.000"	86°16'00"	206.50
2	3	85°38'49.200"	21°42'00.000"	86°24'54"	271.99
3	4	85°39'00.000"	21°42'00.000"	161°37'55"	67.20
4	5	85°39'00.000"	21°41'56.400"	260°04'44"	230.02
5	6	85°38'52.800"	21°41'56.400"	265°35'37"	223.93
6	1	85°38'45.600"	21°41'56.400"	331°31'20"	102.526

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CO-ORDINATES OF THE RCC PILLAR OF THE SAFETY ZONE AREA OVER 13.9946 HA (7.5 MTR STRIP ALONG THE INNER SIDE OF ML BOUNDARY) OF DUBNA-SAKRADIH MINING LEASE OF OMC LTD.

Boundary Pillar No.	SZ Pillar No.	Longitude	Latitude
A	1	E85° 22' 19.765"	21° 50' 2.224" N
A-1	2	E85° 22' 19.958"	21° 50' 7.075" N
A-2	3	E85° 22' 20.058"	21° 50' 9.899" N
A-3	4	E85° 22' 20.070"	21° 50' 10.850" N
A-4	5	E85° 22' 20.336"	21° 50' 18.406" N
A-5	6	E85° 22' 20.599"	21° 50' 26.324" N
A-6	7	E85° 22' 20.907"	21° 50' 35.563" N
A-7	8	E85° 22' 20.939"	21° 50' 36.511" N
B	9	E85° 22' 20.977"	21° 50' 37.873" N
B-1	10	E85° 22' 21.955"	21° 50' 37.859" N
B-2	11	E85° 22' 26.396"	21° 50' 37.793" N
B-3	12	E85° 22' 28.447"	21° 50' 37.749" N
B-4	13	E85° 22' 31.004"	21° 50' 37.710" N
B-5	14	E85° 22' 40.880"	21° 50' 37.536" N
C	15	E85° 22' 46.276"	21° 50' 37.443" N
C-1	16	E85° 22' 45.468"	21° 50' 42.938" N
C-2	17	E85° 22' 44.273"	21° 50' 50.998" N
C-3	18	E85° 22' 44.149"	21° 50' 52.049" N
C-4	19	E85° 22' 41.534"	21° 51' 9.789" N
C-5	20	E85° 22' 39.965"	21° 51' 20.483" N
C-6	21	E85° 22' 39.374"	21° 51' 24.536" N
C-7	22	E85° 22' 38.554"	21° 51' 30.115" N
C-8	23	E85° 22' 36.417"	21° 51' 44.683" N
D	24	E85° 22' 35.717"	21° 51' 49.462" N
D1	25	E85° 22' 46.137"	21° 51' 49.392" N
D2	26	E85° 22' 49.732"	21° 51' 49.375" N
D3	27	E85° 22' 53.883"	21° 51' 49.347" N
D4	28	E85° 23' 5.663"	21° 51' 49.284" N
D5	29	E85° 23' 13.161"	21° 51' 49.225" N
D6	30	E85° 23' 16.466"	21° 51' 49.204" N
D7	31	E85° 23' 20.396"	21° 51' 49.180" N
D8	32	E85° 23' 23.707"	21° 51' 49.159" N
D9	33	E85° 23' 30.105"	21° 51' 49.117" N
D10	34	E85° 23' 34.151"	21° 51' 49.091" N
D11	35	E85° 23' 41.933"	21° 51' 49.042" N
D12	36	E85° 23' 50.203"	21° 51' 48.989" N
D13	37	E85° 23' 54.664"	21° 51' 48.961" N
D14	38	E85° 23' 59.917"	21° 51' 48.919" N
D15	39	E85° 24' 4.084"	21° 51' 48.886" N
D16	40	E85° 24' 11.414"	21° 51' 48.825" N
D17	41	E85° 24' 16.013"	21° 51' 48.784" N
E	42	E85° 24' 20.290"	21° 51' 48.749" N
E1	43	E85° 24' 17.322"	21° 51' 42.245" N
E2	44	E85° 24' 14.885"	21° 51' 36.910" N
E-3	45	E85° 24' 12.479"	21° 51' 31.639" N
E-4	46	E85° 24' 10.512"	21° 51' 27.214" N
E5	47	E85° 24' 8.678"	21° 51' 22.981" N
E-6	48	E85° 24' 7.425"	21° 51' 20.081" N
E 7	49	E85° 24' 7.002"	21° 51' 19.080" N
E-8	50	E85° 24' 5.484"	21° 51' 15.635" N
E-9	51	E85° 24' 3.846"	21° 51' 11.874" N
E-10	52	E85° 24' 0.431"	21° 51' 4.084" N
E-11	53	E85° 23' 56.856"	21° 50' 55.914" N
E 12	54	E85° 23' 55.819"	21° 50' 53.560" N
E-13	55	E85° 23' 50.281"	21° 50' 40.924" N
E-14	56	E85° 23' 49.320"	21° 50' 38.739" N
E-15	57	E85° 23' 48.273"	21° 50' 36.358" N
E-16	58	E85° 23' 46.476"	21° 50' 32.243" N
E-17	59	E85° 23' 45.492"	21° 50' 29.966" N
E-18	60	E85° 23' 44.854"	21° 50' 28.542" N
E-19	61	E85° 23' 43.058"	21° 50' 24.444" N
E-20	62	E85° 23' 41.167"	21° 50' 20.123" N
F	63	E85° 23' 40.333"	21° 50' 18.223" N
F-1	64	E85° 23' 50.708"	21° 50' 10.276" N
F-2	65	E85° 23' 52.630"	21° 50' 8.827" N
F-3	66	E85° 24' 2.651"	21° 50' 1.490" N
F-4	67	E85° 24' 11.729"	21° 49' 54.955" N
F-5	68	E85° 24' 17.292"	21° 49' 51.162" N
F-6	69	E85° 24' 25.100"	21° 49' 45.762" N
G	70	E85° 24' 26.054"	21° 49' 45.102" N
G-1	71	E85° 24' 25.260"	21° 49' 44.489" N
G-2	72	E85° 24' 23.564"	21° 49' 43.115" N
G-3	73	E85° 24' 13.665"	21° 49' 35.369" N
G-4	74	E85° 24' 5.993"	21° 49' 29.474" N
G-5	75	E85° 23' 55.651"	21° 49' 21.498" N
G-6	76	E85° 23' 47.546"	21° 49' 15.299" N
G-7	77	E85° 23' 36.969"	21° 49' 7.140" N
G-8	78	E85° 23' 33.330"	21° 49' 4.358" N
G-9	79	E85° 23' 31.022"	21° 49' 2.567" N
G-10	80	E85° 23' 21.217"	21° 48' 55.023" N
G-11	81	E85° 23' 17.151"	21° 48' 51.915" N
G-12	82	E85° 23' 7.088"	21° 48' 44.155" N
G-13	83	E85° 23' 4.384"	21° 48' 42.146" N
H-1	84	E85° 22' 59.154"	21° 48' 43.001" N
H-2	85	E85° 22' 58.867"	21° 48' 45.725" N
H-3	86	E85° 22' 57.651"	21° 48' 56.581" N
H-4	87	E85° 22' 57.287"	21° 48' 59.866" N
H-5	88	E85° 22' 56.738"	21° 49' 4.757" N
H-6	89	E85° 22' 55.426"	21° 49' 16.471" N
H	90	E85° 22' 59.606"	21° 48' 37.927" N
I	91	E85° 22' 54.756"	21° 49' 22.490" N
I-1	92	E85° 22' 42.991"	21° 49' 22.803" N
I-2	93	E85° 22' 35.453"	21° 49' 22.997" N
I-3	94	E85° 22' 33.864"	21° 49' 23.032" N
I-4	95	E85° 22' 28.098"	21° 49' 23.193" N
I-5	96	E85° 22' 23.382"	21° 49' 23.316" N
I-6	97	E85° 22' 21.212"	21° 49' 23.376" N
I-7	98	E85° 22' 20.237"	21° 49' 23.399" N
I-8	99	E85° 22' 19.563"	21° 49' 23.411" N
J	100	E85° 22' 18.111"	21° 49' 23.462" N
J-1	101	E85° 22' 18.183"	21° 49' 25.080" N
J-2	102	E85° 22' 18.410"	21° 49' 30.485" N
J-3	103	E85° 22' 18.649"	21° 49' 35.998" N
J-4	104	E85° 22' 18.876"	21° 49' 41.432" N
J-5	105	E85° 22' 19.029"	21° 49' 44.946" N
J-6	106	E85° 22' 19.070"	21° 49' 45.920" N
J-7	107	E85° 22' 19.122"	21° 49' 47.220" N
J-8	108	E85° 22' 19.429"	21° 49' 54.417" N
J-9	109	E85° 22' 19.504"	21° 49' 56.111" N
J-10	110	E85° 22' 19.628"	21° 49' 58.960" N

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CO-ORDINATES OF DIVERSION AREA					
RESERVED FOREST					
SL.NO	POINT ID	EASTING	NORTHING	LONGITUDE	LATITUDE
1	RF-1	332795.409	2413572.106	85°22'56.42112"	21°49'05.20176"
2	RF-2	332858.186	2413591.181	85°22'58.60020"	21°49'05.84328"
3	RF-3	332880.409	2413614.897	85°22'59.36520"	21°49'06.62196"
4	RF-4	332921.649	2413658.750	85°23'00.78504"	21°49'08.06160"
5	RF-5	332845.071	2413827.744	85°22'58.05696"	21°49'13.53000"
6	RF-6	332878.338	2413869.627	85°22'59.19996"	21°49'14.90304"
7	RF-7	332908.857	2413916.432	85°23'00.24540"	21°49'16.43520"
8	RF-8	332924.098	2413939.736	85°23'00.76776"	21°49'17.19804"
9	RF-9	332952.597	2414019.788	85°23'01.73076"	21°49'19.81020"
10	RF-10	333007.474	2414135.540	85°23'03.59916"	21°49'23.59236"
11	RF-11	332993.996	2414215.401	85°23'03.10092"	21°49'26.18436"
12	RF-12	332981.694	2414318.720	85°23'02.63472"	21°49'29.53920"
13	RF-13	332969.565	2414587.518	85°23'02.11416"	21°49'38.27424"
14	RF-14	332965.139	2414616.853	85°23'01.94928"	21°49'39.22644"
15	RF-15	332938.433	2414795.644	85°23'00.95424"	21°49'45.03036"
16	RF-16	332924.849	2414839.457	85°23'00.46500"	21°49'46.45020"
17	RF-17	332901.437	2415017.794	85°22'59.58480"	21°49'52.24008"
18	RF-18	332901.324	2415158.998	85°22'59.52936"	21°49'56.83116"
19	RF-19	332887.227	2415228.438	85°22'59.01276"	21°49'59.08368"
20	RF-20	333077.066	2415415.558	85°23'05.55504"	21°50'05.23212"
21	RF-21	333163.754	2415500.913	85°23'08.54268"	21°50'08.03688"
22	RF-22	333180.535	2415505.714	85°23'09.12516"	21°50'08.19852"
23	RF-24	333587.507	2415801.056	85°23'23.18964"	21°50'17.93940"
24	RF-25	333727.254	2415928.060	85°23'28.01004"	21°50'22.11612"
25	RF-26	333877.860	2416008.602	85°23'33.22536"	21°50'24.78588"
26	RF-27	333879.004	2416009.119	85°23'33.26496"	21°50'24.80316"
27	RF-28	333917.698	2416029.215	85°23'34.60524"	21°50'25.46952"
28	RF-29	333999.418	2416058.694	85°23'37.44024"	21°50'26.45556"
29	RF-30	334228.457	2416137.110	85°23'45.38796"	21°50'29.08284"
30	RF-31	334355.532	2416439.599	85°23'49.70364"	21°50'38.96052"
31	RF-32	334270.115	2416452.481	85°23'46.72428"	21°50'39.35040"
32	RF-33	334259.917	2416452.634	85°23'46.36896"	21°50'39.35184"
33	RF-34	334110.125	2416470.222	85°23'41.14608"	21°50'39.87276"
34	RF-35	334119.078	2416559.193	85°23'41.42580"	21°50'42.76860"
35	RF-36	334277.726	2416549.946	85°23'46.95396"	21°50'42.52164"
36	RF-37	334274.822	2416517.434	85°23'46.86468"	21°50'41.46360"
37	RF-38	334382.592	2416503.471	85°23'50.62272"	21°50'41.04636"
38	RF-39	334658.974	2417159.706	85°24'00.01044"	21°51'02.47536"
39	RF-40	334581.467	2417255.417	85°23'57.27624"	21°51'05.56092"
40	RF-41	334565.161	2417274.723	85°23'56.70132"	21°51'06.18300"
41	RF-42	334565.301	2417275.585	85°23'56.70600"	21°51'06.21108"
42	RF-43	334564.191	2417275.654	85°23'56.66748"	21°51'06.21324"
43	RF-45	334516.756	2417339.041	85°23'54.99240"	21°51'08.25804"
44	RF-46	334496.956	2417376.508	85°23'54.28932"	21°51'09.46944"
45	RF-47	334434.216	2417566.919	85°23'52.03500"	21°51'15.63876"
46	RF-48	334411.231	2417632.784	85°23'51.21060"	21°51'17.77248"
47	RF-50	334369.741	2417722.056	85°23'49.73316"	21°51'20.66076"

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48	RF-51	334361.648	2417771.252	85°23'49.43364"	21°51'22.25736"
49	RF-52	334335.464	2417819.122	85°23'48.50412"	21°51'23.80500"
50	RF-54	334292.364	2417943.380	85°23'46.95792"	21°51'27.83016"
51	RF-55	334271.490	2417977.376	85°23'46.21884"	21°51'28.92852"
52	RF-56	334226.887	2418017.831	85°23'44.65068"	21°51'30.22884"
53	RF-57	334182.581	2418063.999	85°23'43.09080"	21°51'31.71456"
54	RF-58	334174.114	2418069.693	85°23'42.79380"	21°51'31.89708"
55	RF-59	334069.686	2418142.683	85°23'39.13008"	21°51'34.23456"
56	RF-60	334045.277	2418155.575	85°23'38.27544"	21°51'34.64532"
57	RF-61	334011.747	2418167.397	85°23'37.10328"	21°51'35.01828"
58	RF-62	333958.983	2418173.502	85°23'35.26332"	21°51'35.19900"
59	RF-63	333895.624	2418189.334	85°23'33.05076"	21°51'35.69220"
60	RF-64	333820.331	2418203.036	85°23'30.42348"	21°51'36.11196"
61	RF-65	333776.893	2418207.949	85°23'28.90860"	21°51'36.25704"
62	RF-66	333740.943	2418216.345	85°23'27.65364"	21°51'36.51768"
63	RF-67	333677.697	2418231.176	85°23'25.44540"	21°51'36.97848"
64	RF-68	333638.233	2418232.346	85°23'24.07056"	21°51'37.00296"
65	RF-69	333511.253	2418235.708	85°23'19.64688"	21°51'37.06920"
66	RF-70	333456.460	2418233.231	85°23'17.73924"	21°51'36.96984"
67	RF-71	333341.642	2418215.618	85°23'13.74684"	21°51'36.35820"
68	RF-72	333322.589	2418205.562	85°23'13.08696"	21°51'36.02484"
69	RF-73	333260.440	2418194.988	85°23'10.92624"	21°51'35.65980"
70	RF-74	333236.782	2418193.341	85°23'10.10256"	21°51'35.59824"
71	RF-75	333141.096	2418186.826	85°23'06.77256"	21°51'35.35380"
72	RF-77	333061.946	2418166.447	85°23'04.02324"	21°51'34.66404"
73	RF-78	332955.994	2418155.242	85°23'00.33720"	21°51'34.26372"
74	RF-80	332868.575	2418198.026	85°22'57.27684"	21°51'35.62488"
75	RF-81	332766.564	2418201.914	85°22'53.72256"	21°51'35.71632"
76	RF-82	332728.835	2418195.133	85°22'52.41108"	21°51'35.48304"
77	RF-83	332695.590	2418190.769	85°22'51.25476"	21°51'35.32968"
78	RF-84	332621.780	2418245.274	85°22'48.66384"	21°51'37.07640"
79	RF-85	332527.220	2418277.681	85°22'45.35868"	21°51'38.09772"
80	RF-88	332318.502	2418057.543	85°22'38.17020"	21°51'30.86928"
81	RF-89	335129.285	2414553.704	85°24'17.33004"	21°49'37.90668"
82	RF-90	335048.939	2414563.502	85°24'14.52852"	21°49'38.19828"
83	RF-91	334992.483	2414548.672	85°24'12.56796"	21°49'37.69716"
84	RF-92	334941.220	2414535.687	85°24'10.78776"	21°49'37.25760"
85	RF-93	334642.523	2414521.248	85°24'00.39204"	21°49'36.68736"
86	RF-94	334587.388	2414528.313	85°23'58.46964"	21°49'36.89832"
87	RF-95	334563.238	2414529.867	85°23'57.62832"	21°49'36.94080"
88	RF-96	334495.678	2414534.223	85°23'55.27428"	21°49'37.05960"
89	RF-97	334465.632	2414580.285	85°23'54.21120"	21°49'38.54712"
90	RF-98	334458.089	2414602.373	85°23'53.94048"	21°49'39.26280"
91	RF-99	334405.188	2414761.188	85°23'52.04112"	21°49'44.40828"
92	RF-100	334402.912	2414900.117	85°23'51.91152"	21°49'48.92448"
93	RF-101	334402.648	2414986.211	85°23'51.87120"	21°49'51.72348"
94	RF-103	334479.526	2415248.118	85°23'54.45312"	21°50'00.26448"
95	RF-104	334530.315	2415245.846	85°23'56.22252"	21°50'00.20796"
96	RF-105	334594.449	2415227.917	85°23'58.46244"	21°49'59.64672"
97	RF-106	334699.956	2415204.878	85°24'02.14488"	21°49'58.93320"

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98	RF-107	334797.528	2415224.962	85°24'05.53536"	21°49'59.61900"
99	RF-108	334800.890	2415225.356	85°24'05.65200"	21°49'59.63304"
100	RF-109	334608.018	2414876.079	85°23'59.06220"	21°49'48.21204"
101	RF-110	334607.512	2414948.963	85°23'59.01828"	21°49'50.58156"
102	RF-111	334608.196	2415017.974	85°23'59.01720"	21°49'52.82544"
103	RF-112	334648.956	2415019.557	85°24'00.43596"	21°49'52.89060"
104	RF-113	334696.622	2415009.948	85°24'02.09916"	21°49'52.59432"
105	RF-114	334691.666	2414944.921	85°24'01.95012"	21°49'50.47860"
106	RF-115	334687.252	2414881.125	85°24'01.81944"	21°49'48.40284"
107	RF-116	334914.582	2414852.205	85°24'09.74592"	21°49'47.53956"
108	RF-117	334920.913	2414908.442	85°24'09.94608"	21°49'49.36980"
109	RF-118	334920.984	2415011.457	85°24'09.91152"	21°49'52.71924"
110	RF-119	334939.960	2415010.742	85°24'10.57248"	21°49'52.70232"
111	RF-120	334945.651	2414906.401	85°24'10.80828"	21°49'49.31184"
112	RF-121	334942.146	2414910.807	85°24'10.68480"	21°49'49.45404"
113	RF-122	334943.949	2414854.286	85°24'10.76796"	21°49'47.61696"
114	RF-123	335013.661	2415059.405	85°24'13.12128"	21°49'54.30936"
115	RF-124	334997.172	2415063.727	85°24'12.54564"	21°49'54.44436"
116	RF-125	334993.677	2415074.301	85°24'12.42000"	21°49'54.78708"
117	RR-23	333317.555	2415543.102	85°23'13.88328"	21°50'09.46104"

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SABK FOREST (AS ON 25.10.1980)				
POINT ID	EASTING	NORTHING	LONGITUDE	LATITUDE
S-1	332311.677	2418481.164	85°22'37.77672"	21°51'44.63964"
S-2	332319.351	2418486.431	85°22'38.04204"	21°51'44.81352"
S-3	332328.585	2418491.730	85°22'38.36172"	21°51'44.98884"
S-4	332362.297	2418508.945	85°22'39.52956"	21°51'45.56016"
S-5	332364.655	2418509.561	85°22'39.61164"	21°51'45.58104"
S-6	332369.569	2418511.334	85°22'39.78228"	21°51'45.64008"
S-7	332377.331	2418515.643	85°22'40.05084"	21°51'45.78300"
S-8	332402.759	2418527.431	85°22'40.93212"	21°51'46.17504"
S-9	332421.234	2418514.971	85°22'41.58012"	21°51'45.77616"
S-10	332418.169	2418514.366	85°22'41.47356"	21°51'45.75528"
S-11	332399.485	2418504.734	85°22'40.82664"	21°51'45.43596"
S-12	333783.024	2418532.722	85°23'29.00400"	21°51'46.81836"
S-13	333788.165	2418540.615	85°23'29.18004"	21°51'47.07648"
S-14	333823.281	2418579.283	85°23'30.38928"	21°51'48.34584"
S-15	333822.778	2418572.826	85°23'30.37416"	21°51'48.13560"
S-16	333820.009	2418561.069	85°23'30.28200"	21°51'47.75256"
S-17	333810.702	2418551.345	85°23'29.96124"	21°51'47.43324"
S-18	333807.814	2418551.415	85°23'29.86080"	21°51'47.43432"
S-19	333790.031	2418534.250	85°23'29.24736"	21°51'46.87020"
S-20	334308.236	2418551.166	85°23'47.29020"	21°51'47.59632"
S-21	334353.679	2418554.315	85°23'48.87168"	21°51'47.71404"
S-22	334392.318	2418546.457	85°23'50.22060"	21°51'47.47140"
S-23	334393.788	2418538.099	85°23'50.27460"	21°51'47.20032"
S-24	334369.780	2418540.231	85°23'49.43760"	21°51'47.26152"
S-25	334356.935	2418542.043	85°23'48.98976"	21°51'47.31588"
S-26	334308.989	2418541.421	85°23'47.32008"	21°51'47.27952"
S-27	332578.279	2418631.908	85°22'47.00712"	21°51'49.63176"
S-28	332577.959	2418630.000	85°22'46.99668"	21°51'49.56984"
S-29	332577.532	2418629.330	85°22'46.98192"	21°51'49.54788"
S-30	332576.709	2418628.798	85°22'46.95348"	21°51'49.53024"
S-31	332566.163	2418626.041	85°22'46.58736"	21°51'49.43700"
S-32	332543.911	2418618.711	85°22'45.81480"	21°51'49.19112"
S-33	332532.313	2418615.479	85°22'45.41232"	21°51'49.08204"
S-34	332531.768	2418615.213	85°22'45.39324"	21°51'49.07304"
S-35	332531.552	2418614.811	85°22'45.38604"	21°51'49.06008"
S-36	332530.993	2418612.393	85°22'45.36732"	21°51'48.98124"
S-37	332528.311	2418598.059	85°22'45.27912"	21°51'48.51432"
S-38	332458.676	2418595.945	85°22'42.85452"	21°51'48.42180"
S-39	332457.850	2418604.903	85°22'42.82248"	21°51'48.71268"
S-40	332444.629	2418604.266	85°22'42.36240"	21°51'48.68748"
S-41	332431.666	2418573.329	85°22'41.92212"	21°51'47.67696"
S-42	332460.750	2418573.133	85°22'42.93516"	21°51'47.68056"
S-43	332486.587	2418571.221	85°22'43.83588"	21°51'47.62728"
S-44	332486.322	2418567.050	85°22'43.82796"	21°51'47.49156"
S-45	332500.979	2418567.396	85°22'44.33844"	21°51'47.50776"
S-46	332519.871	2418568.879	85°22'44.99580"	21°51'47.56248"
S-47	332538.625	2418572.164	85°22'45.64776"	21°51'47.67588"
S-48	332551.518	2418573.291	85°22'46.09668"	21°51'47.71692"

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S-49	332567.065	2418576.611	85°22'46.63668"	21°51'47.83032"
S-50	332580.794	2418580.771	85°22'47.11332"	21°51'47.97000"
S-51	332582.911	2418581.855	85°22'47.18676"	21°51'48.00600"
S-52	332593.777	2418589.792	85°22'47.56224"	21°51'48.26772"
S-53	332586.184	2418597.272	85°22'47.29512"	21°51'48.50856"
S-54	332595.284	2418606.873	85°22'47.60868"	21°51'48.82356"
S-55	332607.264	2418619.514	85°22'48.02124"	21°51'49.23864"
S-56	332618.359	2418631.284	85°22'48.40320"	21°51'49.62528"

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REVENUE FOREST POINTS				
POINT ID	EASTING	NORTHING	LONGITUDE	LATITUDE
1	332294.057	2418474.097	85°22'37.16580"	21°51'44.40384"
2	332281.627	2418470.452	85°22'36.73416"	21°51'44.28108"
3	332276.621	2418468.373	85°22'36.56064"	21°51'44.21160"
4	332267.266	2418465.695	85°22'36.23592"	21°51'44.12124"
5	332258.043	2418538.830	85°22'35.88780"	21°51'46.49580"
6	332258.890	2418538.363	85°22'35.91732"	21°51'46.48104"
7	332260.050	2418538.324	85°22'35.95764"	21°51'46.47996"
8	332260.642	2418538.612	85°22'35.97816"	21°51'46.48968"
9	332262.423	2418541.755	85°22'36.03900"	21°51'46.59264"
10	332264.414	2418540.270	85°22'36.10884"	21°51'46.54476"
11	332277.992	2418535.855	85°22'36.58368"	21°51'46.40616"
12	332276.293	2418515.142	85°22'36.53184"	21°51'45.73188"
13	332272.730	2418486.799	85°22'36.41844"	21°51'44.80920"
14	332281.161	2418489.817	85°22'36.71076"	21°51'44.91036"
15	332299.600	2418495.328	85°22'37.35084"	21°51'45.09576"
16	332325.885	2418508.835	85°22'38.26164"	21°51'45.54396"
17	332347.665	2418516.586	85°22'39.01728"	21°51'45.80352"
18	332354.319	2418519.315	85°22'39.24804"	21°51'45.89460"
19	332383.330	2418529.548	85°22'40.25460"	21°51'46.23696"
20	332393.420	2418533.845	85°22'40.60452"	21°51'46.38024"
21	332420.056	2418541.796	85°22'41.52936"	21°51'46.64808"
22	332450.840	2418554.711	85°22'42.59676"	21°51'47.07828"
23	332458.023	2418557.341	85°22'42.84588"	21°51'47.16648"
24	332462.773	2418559.397	85°22'43.01076"	21°51'47.23488"
25	332479.917	2418559.963	85°22'43.60764"	21°51'47.25900"
26	332496.097	2418561.177	85°22'44.17068"	21°51'47.30400"
27	332570.060	2418571.176	85°22'46.74324"	21°51'47.65464"
28	332603.421	2418575.501	85°22'47.90352"	21°51'47.80656"
29	332605.905	2418576.548	85°22'47.98956"	21°51'47.84148"
30	332613.603	2418582.739	85°22'48.25560"	21°51'48.04524"
31	332624.778	2418595.111	85°22'48.64008"	21°51'48.45132"
32	332631.204	2418600.533	85°22'48.86184"	21°51'48.62988"
33	332638.344	2418605.931	85°22'49.10880"	21°51'48.80772"
34	332647.501	2418612.005	85°22'49.42524"	21°51'49.00860"
35	332649.154	2418613.787	85°22'49.48212"	21°51'49.06692"
36	332655.595	2418630.704	85°22'49.70028"	21°51'49.61916"
37	332704.801	2418629.826	85°22'51.41460"	21°51'49.60764"
38	332707.093	2418612.917	85°22'51.50064"	21°51'49.05864"
39	332712.396	2418591.775	85°22'51.69288"	21°51'48.37284"
40	332720.783	2418577.914	85°22'51.99024"	21°51'47.92500"
41	332715.420	2418569.996	85°22'51.80628"	21°51'47.66580"
42	332706.529	2418558.991	85°22'51.50064"	21°51'47.30508"
43	332668.486	2418522.827	85°22'50.18880"	21°51'46.11636"
44	332659.114	2418515.103	85°22'49.86552"	21°51'45.86184"
45	332658.067	2418514.492	85°22'49.82916"	21°51'45.84168"
46	332656.224	2418514.504	85°22'49.76508"	21°51'45.84132"
47	332646.071	2418513.195	85°22'49.41192"	21°51'45.79560"
48	332478.501	2418478.171	85°22'43.58820"	21°51'44.59932"

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49	332477.719	2418478.175	85°22'43.56120"	21°51'44.59932"
50	332476.256	2418479.272	85°22'43.50972"	21°51'44.63424"
51	332468.368	2418483.914	85°22'43.23324"	21°51'44.78256"
52	332434.331	2418508.059	85°22'42.03876"	21°51'45.55584"
53	332424.697	2418519.489	85°22'41.69928"	21°51'45.92412"
54	332432.515	2418514.872	85°22'41.97324"	21°51'45.77688"
55	332467.742	2418490.997	85°22'43.20876"	21°51'45.01260"
56	332479.362	2418486.026	85°22'43.61556"	21°51'44.85492"
57	332494.367	2418488.232	85°22'44.13720"	21°51'44.93196"
58	332565.000	2418503.102	85°22'46.59168"	21°51'45.43956"
59	332575.630	2418505.370	85°22'46.96140"	21°51'45.51696"
60	332620.380	2418539.776	85°22'48.50724"	21°51'46.65096"
61	332609.142	2418562.554	85°22'48.10764"	21°51'47.38752"
62	332600.362	2418556.907	85°22'47.80380"	21°51'47.20104"
63	332579.515	2418554.295	85°22'47.07876"	21°51'47.10888"
64	332565.731	2418553.064	85°22'46.59888"	21°51'47.06424"
65	332562.243	2418552.056	85°22'46.47792"	21°51'47.03004"
66	332549.384	2418549.917	85°22'46.03080"	21°51'46.95624"
67	332547.224	2418548.943	85°22'45.95592"	21°51'46.92384"
68	332536.263	2418547.062	85°22'45.57468"	21°51'46.85904"
69	332532.694	2418545.351	85°22'45.45120"	21°51'46.80216"
70	332522.398	2418544.431	85°22'45.09300"	21°51'46.76868"
71	332480.795	2418537.579	85°22'43.64652"	21°51'46.53144"
72	332475.505	2418537.450	85°22'43.46220"	21°51'46.52568"
73	332459.209	2418533.536	85°22'42.89592"	21°51'46.39284"
74	332452.569	2418530.489	85°22'42.66588"	21°51'46.29132"
75	332434.656	2418523.773	85°22'42.04452"	21°51'46.06704"
76	332470.119	2418329.251	85°22'43.35096"	21°51'39.75480"
77	332456.693	2418373.926	85°22'42.86712"	21°51'41.20272"
78	332455.357	2418463.464	85°22'42.78756"	21°51'44.11332"
79	332457.775	2418470.690	85°22'42.86928"	21°51'44.34912"
80	332487.083	2418384.391	85°22'43.92156"	21°51'41.55336"
81	332494.530	2418359.474	85°22'44.19012"	21°51'40.74588"
82	332485.765	2418353.653	85°22'43.88700"	21°51'40.55364"
83	332484.427	2418349.678	85°22'43.84200"	21°51'40.42368"
84	332487.116	2418337.803	85°22'43.93992"	21°51'40.03884"
85	332483.997	2418334.702	85°22'43.83228"	21°51'39.93696"
86	332475.039	2418332.211	85°22'43.52124"	21°51'39.85272"
87	332303.273	2418180.409	85°22'37.59456"	21°51'34.85844"
88	332311.820	2418205.431	85°22'37.88328"	21°51'35.67492"
89	332320.236	2418202.793	85°22'38.17740"	21°51'35.59212"
90	332332.066	2418222.145	85°22'38.58204"	21°51'36.22536"
91	332341.932	2418231.798	85°22'38.92224"	21°51'36.54252"
92	332345.016	2418221.449	85°22'39.03348"	21°51'36.20700"
93	332357.106	2418227.813	85°22'39.45216"	21°51'36.41832"
94	332361.708	2418228.550	85°22'39.61236"	21°51'36.44352"
95	332352.014	2418214.071	85°22'39.27972"	21°51'35.96976"
96	332327.172	2418166.933	85°22'38.43192"	21°51'34.42860"
97	332310.008	2418127.043	85°22'37.84872"	21°51'33.12576"
98	333891.292	2418609.285	85°23'32.74692"	21°51'49.34412"

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99	333944.751	2418587.096	85°23'34.61712"	21°51'48.64104"
100	333948.584	2418585.014	85°23'34.75140"	21°51'48.57444"
101	333968.304	2418578.446	85°23'35.44044"	21°51'48.36780"
102	333986.325	2418574.442	85°23'36.06972"	21°51'48.24360"
103	334004.837	2418567.997	85°23'36.71664"	21°51'48.04056"
104	334005.926	2418570.101	85°23'36.75408"	21°51'48.10932"
105	334013.959	2418571.649	85°23'37.03308"	21°51'48.16224"
106	334002.481	2418575.600	85°23'36.63204"	21°51'48.28680"
107	333987.501	2418579.256	85°23'36.10896"	21°51'48.40056"
108	333948.103	2418591.073	85°23'34.73232"	21°51'48.77136"
109	333905.579	2418609.036	85°23'33.24480"	21°51'49.34088"
110	334153.125	2418489.402	85°23'41.91036"	21°51'45.53532"
111	334163.859	2418501.151	85°23'42.27972"	21°51'45.92124"
112	334169.011	2418499.307	85°23'42.46008"	21°51'45.86292"
113	334160.094	2418476.226	85°23'42.15768"	21°51'45.10944"
114	334155.603	2418473.088	85°23'42.00252"	21°51'45.00576"
115	334195.167	2418446.355	85°23'43.38996"	21°51'44.15004"
116	334221.076	2418425.240	85°23'44.30004"	21°51'43.47252"
117	334232.886	2418451.609	85°23'44.70216"	21°51'44.33364"
118	334244.016	2418444.861	85°23'45.09204"	21°51'44.11800"
119	334250.864	2418439.427	85°23'45.33252"	21°51'43.94376"
120	334245.508	2418425.257	85°23'45.15108"	21°51'43.48116"
121	334243.061	2418402.406	85°23'45.07440"	21°51'42.73740"
122	334216.157	2418400.980	85°23'44.13768"	21°51'42.68196"
123	334213.323	2418398.459	85°23'44.03976"	21°51'42.59916"
124	334206.268	2418400.190	85°23'43.79352"	21°51'42.65316"
125	334152.577	2418404.478	85°23'41.92188"	21°51'42.77412"
126	334350.471	2418471.532	85°23'48.79032"	21°51'45.02124"
127	334322.395	2418463.596	85°23'47.81508"	21°51'44.75376"
128	334318.648	2418463.700	85°23'47.68476"	21°51'44.75592"
129	334315.537	2418466.901	85°23'47.57496"	21°51'44.85888"
130	334309.676	2418532.536	85°23'47.34708"	21°51'46.99080"
131	334270.051	2418531.397	85°23'45.96756"	21°51'46.94040"
132	334268.392	2418540.081	85°23'45.90636"	21°51'47.22228"
133	334405.795	2418537.034	85°23'50.69328"	21°51'47.16972"
134	334420.623	2418529.425	85°23'51.21240"	21°51'46.92744"
135	334447.685	2418543.963	85°23'52.14984"	21°51'47.40912"
136	334454.417	2418545.785	85°23'52.38348"	21°51'47.47068"
137	334475.507	2418553.697	85°23'53.11536"	21°51'47.73492"
138	334502.873	2418562.303	85°23'54.06540"	21°51'48.02400"
139	334590.772	2418597.096	85°23'57.11424"	21°51'49.18500"
140	334731.179	2418594.438	85°24'02.00556"	21°51'49.14612"
141	334686.286	2418558.228	85°24'00.45504"	21°51'47.95380"
142	334579.957	2418553.810	85°23'56.75316"	21°51'47.77416"
143	334516.489	2418554.594	85°23'54.54240"	21°51'47.77812"
144	334446.224	2418498.248	85°23'52.11564"	21°51'45.92232"
145	334888.667	2418591.425	85°24'07.49196"	21°51'49.10148"
146	334895.334	2418588.243	85°24'07.72524"	21°51'49.00032"
147	334903.618	2418580.729	85°24'08.01648"	21°51'48.75876"
148	334918.404	2418562.069	85°24'08.53812"	21°51'48.15720"

Sn

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149	334958.872	2418504.133	85°24'09.96876"	21°51'46.28700"
150	334972.639	2418407.169	85°24'10.48320"	21°51'43.13916"
151	334972.641	2418397.200	85°24'10.48680"	21°51'42.81516"
152	334961.869	2418402.628	85°24'10.10988"	21°51'42.98796"
153	334954.838	2418399.256	85°24'09.86616"	21°51'42.87600"
154	334946.908	2418392.579	85°24'09.59220"	21°51'42.65604"
155	334945.862	2418390.105	85°24'09.55692"	21°51'42.57540"
156	334942.700	2418368.995	85°24'09.45432"	21°51'41.88816"
157	334941.424	2418348.650	85°24'09.41724"	21°51'41.22612"
158	334940.524	2418334.309	85°24'09.39096"	21°51'40.75956"
159	334938.911	2418323.560	85°24'09.33876"	21°51'40.40964"
160	334945.646	2418316.244	85°24'09.57600"	21°51'40.17384"
161	334947.722	2418293.097	85°24'09.65664"	21°51'39.42216"
162	334950.113	2418279.270	85°24'09.74484"	21°51'38.97324"
163	334951.785	2418259.912	85°24'09.81000"	21°51'38.34468"
164	334967.752	2418259.367	85°24'10.36656"	21°51'38.33208"
165	334970.695	2418190.130	85°24'10.49400"	21°51'36.08208"
166	335056.556	2418188.619	85°24'13.48488"	21°51'36.06192"
167	335063.706	2418199.462	85°24'13.73004"	21°51'36.41688"
168	335074.664	2418213.004	85°24'14.10696"	21°51'36.86076"
169	335097.338	2418237.216	85°24'14.88780"	21°51'37.65564"
170	335103.316	2418246.255	85°24'15.09264"	21°51'37.95156"
171	335117.660	2418242.654	85°24'15.59376"	21°51'37.83924"
172	335127.082	2418264.131	85°24'15.91416"	21°51'38.54088"
173	335132.820	2418295.907	85°24'16.10244"	21°51'39.57588"
174	335137.514	2418315.848	85°24'16.25868"	21°51'40.22568"
175	335136.934	2418316.840	85°24'16.23816"	21°51'40.25772"
176	335090.142	2418338.593	85°24'14.60052"	21°51'40.94928"
177	335085.647	2418341.912	85°24'14.44284"	21°51'41.05584"
178	335089.971	2418340.976	85°24'14.59368"	21°51'41.02668"
179	335117.600	2418338.247	85°24'15.55704"	21°51'40.94748"
180	335123.747	2418336.722	85°24'15.77160"	21°51'40.89996"
181	335129.082	2418334.457	85°24'15.95844"	21°51'40.82796"
182	335142.855	2418326.944	85°24'16.44084"	21°51'40.58820"
183	335147.495	2418321.132	85°24'16.60464"	21°51'40.40100"
184	335150.009	2418316.391	85°24'16.69392"	21°51'40.24764"
185	335020.292	2418019.824	85°24'12.28284"	21°51'30.56184"
186	334997.716	2417979.174	85°24'11.51136"	21°51'29.23272"
187	334972.380	2417989.096	85°24'10.62540"	21°51'29.54664"
188	334980.218	2418008.528	85°24'10.89144"	21°51'30.18096"
189	334968.326	2418016.057	85°24'10.47456"	21°51'30.42180"
190	334971.128	2418024.923	85°24'10.56888"	21°51'30.71088"
191	334949.891	2418042.591	85°24'09.82296"	21°51'31.27824"
192	334969.248	2418084.758	85°24'10.48176"	21°51'32.65560"
193	334984.262	2418079.915	85°24'11.00628"	21°51'32.50332"
194	334988.523	2418090.823	85°24'11.15100"	21°51'32.85936"
195	334993.045	2418107.171	85°24'11.30256"	21°51'33.39252"
196	335012.167	2418103.580	85°24'11.96964"	21°51'33.28236"
197	335018.468	2418102.511	85°24'12.18960"	21°51'33.24960"
198	335048.985	2418086.035	85°24'13.25844"	21°51'32.72400"

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199	334899.633	2418091.722	85°24'08.05464"	21°51'32.85864"
200	334891.427	2418034.929	85°24'07.78932"	21°51'31.00932"
201	334883.828	2418020.451	85°24'07.52976"	21°51'30.53628"
202	334882.251	2418009.295	85°24'07.47900"	21°51'30.17304"
203	334876.405	2417979.195	85°24'07.28640"	21°51'29.19240"
204	334838.202	2418000.085	85°24'05.94828"	21°51'29.85876"
205	334829.828	2418006.771	85°24'05.65416"	21°51'30.07296"
206	334827.991	2418009.636	85°24'05.58900"	21°51'30.16548"
207	334831.050	2418022.859	85°24'05.69088"	21°51'30.59676"
208	334835.463	2418048.774	85°24'05.83524"	21°51'31.44060"
209	334835.166	2418056.213	85°24'05.82228"	21°51'31.68252"
210	334831.204	2418076.988	85°24'05.67648"	21°51'32.35644"
211	334854.882	2418104.549	85°24'06.49116"	21°51'33.26076"
212	334860.347	2418113.323	85°24'06.67836"	21°51'33.54768"
213	334883.570	2418098.804	85°24'07.49268"	21°51'33.08364"
214	334945.674	2417843.407	85°24'09.74808"	21°51'24.80076"
215	334935.026	2417843.618	85°24'09.37692"	21°51'24.80436"
216	334926.741	2417811.858	85°24'09.10008"	21°51'23.76864"
217	334921.202	2417795.694	85°24'08.91288"	21°51'23.24124"
218	334918.016	2417786.398	85°24'08.80524"	21°51'22.93812"
219	334910.702	2417762.514	85°24'08.55936"	21°51'22.15908"
220	334909.236	2417759.354	85°24'08.50932"	21°51'22.05576"
221	334833.557	2417777.400	85°24'05.86692"	21°51'22.61700"
222	334794.464	2417788.289	85°24'04.50144"	21°51'22.95792"
223	334807.139	2417812.541	85°24'04.93416"	21°51'23.75064"
224	334801.935	2417813.675	85°24'04.75236"	21°51'23.78556"
225	334804.799	2417820.270	85°24'04.84992"	21°51'24.00120"
226	334805.539	2417822.818	85°24'04.87476"	21°51'24.08436"
227	334814.357	2417841.884	85°24'05.17500"	21°51'24.70716"
228	334774.230	2417843.490	85°24'03.77676"	21°51'24.74568"
229	334755.721	2417847.579	85°24'03.13056"	21°51'24.87240"
230	334736.911	2417847.975	85°24'02.47536"	21°51'24.87888"
231	334722.746	2417802.677	85°24'01.99836"	21°51'23.40144"
232	334686.661	2417732.413	85°24'00.76716"	21°51'21.10464"
233	334680.099	2417712.235	85°24'00.54576"	21°51'20.44656"
234	334677.182	2417700.207	85°24'00.44856"	21°51'20.05452"
235	334662.175	2417661.315	85°23'59.94024"	21°51'18.78480"
236	334619.446	2417572.880	85°23'58.48404"	21°51'15.89508"
237	334616.372	2417564.991	85°23'58.37964"	21°51'15.63768"
238	334602.918	2417522.798	85°23'57.92640"	21°51'14.26140"
239	334592.601	2417501.762	85°23'57.57468"	21°51'13.57416"
240	334579.335	2417478.479	85°23'57.12108"	21°51'12.81240"
241	334570.133	2417468.410	85°23'56.80428"	21°51'12.48192"
242	334572.278	2417461.949	85°23'56.88132"	21°51'12.27276"
243	334572.023	2417420.826	85°23'56.88744"	21°51'10.93572"
244	334574.029	2417402.606	85°23'56.96412"	21°51'10.34388"
245	334578.032	2417378.705	85°23'57.11208"	21°51'09.56808"
246	334574.550	2417348.590	85°23'57.00156"	21°51'08.58780"
247	334570.970	2417297.244	85°23'56.89572"	21°51'06.91740"
248	334653.187	2417236.579	85°23'59.78076"	21°51'04.97268"

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249	334669.316	2417334.912	85°24'00.30708"	21°51'08.17524"
250	334677.133	2417369.530	85°24'00.56664"	21°51'09.30348"
251	334685.101	2417396.738	85°24'00.83448"	21°51'10.19052"
252	334690.903	2417410.943	85°24'01.03140"	21°51'10.65456"
253	334720.742	2417400.758	85°24'02.07432"	21°51'10.33344"
254	334741.750	2417392.504	85°24'02.80872"	21°51'10.07208"
255	334737.545	2417434.095	85°24'02.64744"	21°51'11.42280"
256	334741.681	2417434.296	85°24'02.79144"	21°51'11.43072"
257	334739.657	2417449.801	85°24'02.71512"	21°51'11.93436"
258	334746.600	2417460.527	85°24'02.95308"	21°51'12.28536"
259	334753.612	2417466.599	85°24'03.19500"	21°51'12.48516"
260	334765.127	2417480.854	85°24'03.59100"	21°51'12.95244"
261	334783.328	2417509.460	85°24'04.21452"	21°51'13.88880"
262	334801.840	2417536.606	85°24'04.84956"	21°51'14.77764"
263	334843.084	2417612.946	85°24'06.25824"	21°51'17.27352"
264	334819.074	2417619.000	85°24'05.41980"	21°51'17.46216"
265	334814.703	2417646.323	85°24'05.25780"	21°51'18.34920"
266	334812.979	2417656.745	85°24'05.19408"	21°51'18.68724"
267	334815.274	2417659.160	85°24'05.27292"	21°51'18.76644"
268	334822.173	2417670.505	85°24'05.50908"	21°51'19.13796"
269	334861.322	2417640.356	85°24'06.88356"	21°51'18.17064"
270	334800.211	2417495.332	85°24'04.80780"	21°51'13.43520"
271	334795.973	2417496.089	85°24'04.65984"	21°51'13.45824"
272	334790.357	2417498.853	85°24'04.46328"	21°51'13.54608"
273	334793.371	2417508.861	85°24'04.56444"	21°51'13.87260"
274	334811.337	2417538.857	85°24'05.17932"	21°51'14.85396"
275	334820.688	2417551.641	85°24'05.50044"	21°51'15.27264"
276	334830.811	2417572.397	85°24'05.84568"	21°51'15.95088"
277	334836.309	2417581.311	85°24'06.03396"	21°51'16.24248"
278	333689.388	2414970.585	85°23'27.03984"	21°49'50.97360"
279	333708.679	2414987.457	85°23'27.70548"	21°49'51.52872"
280	333731.772	2415005.358	85°23'28.50288"	21°49'52.11840"
281	333773.543	2414983.853	85°23'29.96520"	21°49'51.43368"
282	333781.841	2414984.081	85°23'30.25428"	21°49'51.44376"
283	333779.744	2414909.411	85°23'30.20820"	21°49'49.01520"
284	333783.609	2414909.638	85°23'30.34284"	21°49'49.02420"
285	333785.357	2414897.094	85°23'30.40836"	21°49'48.61668"
286	333759.042	2414883.004	85°23'29.49720"	21°49'48.14976"
287	333747.499	2414899.125	85°23'29.08932"	21°49'48.66996"
288	333741.543	2414906.552	85°23'28.87908"	21°49'48.90936"
289	333726.187	2414924.591	85°23'28.33800"	21°49'49.49076"
290	333731.396	2414942.798	85°23'28.51260"	21°49'50.08440"
291	333735.500	2414963.822	85°23'28.64796"	21°49'50.76948"
292	333727.874	2414961.031	85°23'28.38336"	21°49'50.67588"
293	333724.110	2414960.353	85°23'28.25268"	21°49'50.65284"
294	333703.147	2414950.723	85°23'27.52620"	21°49'50.33244"
295	334082.492	2414872.204	85°23'40.76412"	21°49'47.90856"
296	334120.325	2414858.586	85°23'42.08640"	21°49'47.47836"
297	334130.107	2414856.791	85°23'42.42768"	21°49'47.42328"
298	334129.217	2414848.495	85°23'42.39960"	21°49'47.15328"

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299	334099.341	2414851.172	85°23'41.35848"	21°49'47.23032"
300	334071.312	2414854.864	85°23'40.38108"	21°49'47.34084"
301	334074.507	2414864.570	85°23'40.48872"	21°49'47.65764"
302	334078.226	2414872.272	85°23'40.61544"	21°49'47.90928"
303	333974.512	2414727.802	85°23'37.05648"	21°49'43.17708"
304	333984.545	2414727.360	85°23'37.40604"	21°49'43.16592"
305	334004.305	2414729.085	85°23'38.09328"	21°49'43.22892"
306	334025.116	2414727.740	85°23'38.81868"	21°49'43.19220"
307	334023.017	2414711.643	85°23'38.75136"	21°49'42.66804"
308	334018.299	2414713.760	85°23'38.58612"	21°49'42.73536"
309	334012.175	2414714.292	85°23'38.37264"	21°49'42.75048"
310	334008.498	2414715.702	85°23'38.24412"	21°49'42.79512"
311	334006.256	2414719.419	85°23'38.16492"	21°49'42.91500"
312	333994.914	2414717.201	85°23'37.77072"	21°49'42.83904"
313	333980.349	2414707.862	85°23'37.26672"	21°49'42.53052"
314	333977.742	2414713.854	85°23'37.17384"	21°49'42.72456"
315	334246.183	2415036.398	85°23'46.40460"	21°49'53.30208"
316	334197.398	2415036.909	85°23'44.70540"	21°49'53.30208"
317	334181.914	2415036.176	85°23'44.16648"	21°49'53.27328"
318	334182.634	2415050.870	85°23'44.18628"	21°49'53.75100"
319	334219.848	2415050.126	85°23'45.48228"	21°49'53.73948"
320	334247.691	2415051.708	85°23'46.45140"	21°49'53.80032"
321	334208.098	2414920.665	85°23'45.12012"	21°49'49.52640"
322	334202.974	2414880.042	85°23'44.95668"	21°49'48.20412"
323	334176.844	2414888.974	85°23'44.04336"	21°49'48.48564"
324	334178.815	2414929.670	85°23'44.09736"	21°49'49.80936"
325	334185.142	2414927.914	85°23'44.31804"	21°49'49.75428"
326	334298.310	2414862.985	85°23'48.28236"	21°49'47.68176"
327	334282.271	2414866.417	85°23'47.72256"	21°49'47.78796"
328	334258.555	2414872.613	85°23'46.89456"	21°49'47.98128"
329	334269.466	2414892.029	85°23'47.26752"	21°49'48.61632"
330	334302.419	2414886.048	85°23'48.41700"	21°49'48.43308"
331	334300.460	2414871.418	85°23'48.35436"	21°49'47.95644"
332	334232.122	2414802.049	85°23'45.99960"	21°49'45.67800"
333	334233.501	2414811.334	85°23'46.04460"	21°49'45.98040"
334	334235.697	2414819.127	85°23'46.11804"	21°49'46.23456"
335	334246.244	2414853.996	85°23'46.47264"	21°49'47.37180"
336	334294.400	2414844.415	85°23'48.15312"	21°49'47.07660"
337	334294.123	2414833.326	85°23'48.14736"	21°49'46.71588"
338	334289.601	2414818.107	85°23'47.99544"	21°49'46.21980"
339	334285.497	2414800.552	85°23'47.85900"	21°49'45.64740"
340	333779.484	2414610.341	85°23'30.30792"	21°49'39.29196"
341	333717.856	2414559.067	85°23'28.18068"	21°49'37.60392"
342	333740.485	2414531.315	85°23'28.97880"	21°49'36.70932"
343	333836.854	2414606.854	85°23'32.30700"	21°49'39.19800"
344	333895.896	2414642.031	85°23'34.35000"	21°49'40.36152"
345	333895.177	2414633.176	85°23'34.32840"	21°49'40.07352"
346	333918.162	2414608.191	85°23'35.13768"	21°49'39.26892"
347	333916.081	2414590.936	85°23'35.07144"	21°49'38.70732"
348	333946.000	2414564.584	85°23'36.12300"	21°49'37.86060"

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349	333956.873	2414554.526	85°23'36.50496"	21°49'37.53732"
350	333956.642	2414545.994	85°23'36.50028"	21°49'37.25976"
351	333931.779	2414522.780	85°23'35.64276"	21°49'36.49656"
352	333967.402	2414512.068	85°23'36.88728"	21°49'36.16068"
353	333997.406	2414512.588	85°23'37.93164"	21°49'36.18768"
354	334040.392	2414518.648	85°23'39.42636"	21°49'36.39936"
355	334052.605	2414533.384	85°23'39.84612"	21°49'36.88248"
356	334080.569	2414546.667	85°23'40.81524"	21°49'37.32384"
357	334078.175	2414406.155	85°23'40.78284"	21°49'32.75472"
358	333849.276	2414409.913	85°23'32.81100"	21°49'32.79900"
359	333681.943	2414408.303	85°23'26.98512"	21°49'32.68992"
360	333686.545	2414415.250	85°23'27.14280"	21°49'32.91744"
361	333709.484	2414435.118	85°23'27.93408"	21°49'33.57120"
362	333691.840	2414457.933	85°23'27.31164"	21°49'34.30704"
363	333666.289	2414437.535	85°23'26.42928"	21°49'33.63528"
364	333669.214	2414434.124	85°23'26.53224"	21°49'33.52512"
365	333658.662	2414411.030	85°23'26.17332"	21°49'32.77092"
366	333644.579	2414403.472	85°23'25.68588"	21°49'32.52036"
367	333623.226	2414391.246	85°23'24.94680"	21°49'32.11536"
368	333608.348	2414409.230	85°23'24.42192"	21°49'32.69532"
369	333572.877	2414394.356	85°23'23.19252"	21°49'32.19960"
370	333575.946	2414588.813	85°23'23.22852"	21°49'38.52264"
371	333654.455	2414694.448	85°23'25.92384"	21°49'41.98404"
372	333745.117	2414667.946	85°23'29.09040"	21°49'41.15316"
373	333736.725	2414610.063	85°23'28.81932"	21°49'39.26820"
374	333449.471	2413198.140	85°23'19.33080"	21°48'53.26596"
375	333451.598	2413396.927	85°23'19.33260"	21°48'59.72976"
376	333692.124	2413393.557	85°23'27.70836"	21°48'59.70168"
377	332860.771	2412866.929	85°22'58.95444"	21°48'42.29712"
378	332888.725	2412849.646	85°22'59.93400"	21°48'41.74488"
379	332906.801	2412835.929	85°23'00.56868"	21°48'41.30496"
380	332918.153	2412829.151	85°23'00.96612"	21°48'41.08860"
381	332926.556	2412833.799	85°23'01.25700"	21°48'41.24232"
382	332907.848	2412793.279	85°23'00.62052"	21°48'39.91860"
383	332899.890	2412797.152	85°23'00.34188"	21°48'40.04172"
384	332865.004	2412808.656	85°22'59.12328"	21°48'40.40388"
385	332867.633	2412772.468	85°22'59.22804"	21°48'39.22848"
386	332919.798	2412764.997	85°23'01.04676"	21°48'39.00312"
387	332917.942	2412757.434	85°23'00.98520"	21°48'38.75688"
388	332912.370	2412752.290	85°23'00.79296"	21°48'38.58768"
389	332896.282	2412754.124	85°23'00.23208"	21°48'38.64168"
390	332883.633	2412756.110	85°22'59.79108"	21°48'38.70180"
391	332868.684	2412757.998	85°22'59.26980"	21°48'38.75832"
392	332365.797	2418233.669	85°22'39.75276"	21°51'36.61164"
393	332407.611	2418275.139	85°22'41.19384"	21°51'37.97424"
394	332426.098	2418292.986	85°22'41.83104"	21°51'38.56068"
395	332514.159	2418372.511	85°22'44.86908"	21°51'41.17644"
396	332533.339	2418387.515	85°22'45.53148"	21°51'41.67072"
397	332548.795	2418399.606	85°22'46.06536"	21°51'42.06924"
398	332575.587	2418425.926	85°22'46.98876"	21°51'42.93396"

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399	332626.605	2418469.938	85°22'48.74952"	21°51'44.38260"
400	332710.443	2418537.726	85°22'51.64464"	21°51'46.61496"
401	332726.715	2418549.897	85°22'52.20696"	21°51'47.01636"
402	332734.973	2418548.259	85°22'52.49532"	21°51'46.96596"
403	332737.598	2418547.493	85°22'52.58712"	21°51'46.94184"
404	332784.924	2418519.542	85°22'54.24564"	21°51'46.04940"
405	332811.747	2418516.837	85°22'55.18092"	21°51'45.97056"
406	332813.483	2418516.127	85°22'55.24140"	21°51'45.94788"
407	332824.590	2418515.692	85°22'55.62840"	21°51'45.93780"
408	332845.035	2418520.960	85°22'56.33868"	21°51'46.11600"
409	332859.787	2418517.367	85°22'56.85384"	21°51'46.00404"
410	332914.447	2418506.128	85°22'58.76184"	21°51'45.65736"
411	332938.117	2418499.501	85°22'59.58840"	21°51'45.45000"
412	332946.067	2418614.428	85°22'59.82348"	21°51'49.18932"
413	332974.419	2418616.876	85°23'00.80988"	21°51'49.27860"
414	332982.009	2418613.393	85°23'01.07556"	21°51'49.16808"
415	333012.087	2418605.223	85°23'02.12604"	21°51'48.91248"
416	333044.253	2418612.162	85°23'03.24384"	21°51'49.14936"
417	333051.038	2418614.516	85°23'03.47928"	21°51'49.22820"
418	333061.835	2418616.537	85°23'03.85476"	21°51'49.29732"
419	333070.383	2418619.286	85°23'04.15140"	21°51'49.38984"
420	333083.351	2418620.601	85°23'04.60248"	21°51'49.43700"
421	333083.343	2418623.273	85°23'04.60140"	21°51'49.52376"
422	333396.331	2418617.843	85°23'15.50472"	21°51'49.45392"
423	333397.041	2418611.877	85°23'15.53136"	21°51'49.26024"
424	333395.243	2418603.250	85°23'15.47196"	21°51'48.97908"
425	333392.231	2418595.666	85°23'15.37008"	21°51'48.73176"
426	333430.119	2418581.363	85°23'16.69488"	21°51'48.27960"
427	333443.302	2418578.265	85°23'17.15496"	21°51'48.18312"
428	333438.712	2418572.759	85°23'16.99728"	21°51'48.00276"
429	333475.550	2418553.317	85°23'18.28752"	21°51'47.38320"
430	333477.665	2418553.502	85°23'18.36096"	21°51'47.39004"
431	333524.993	2418533.601	85°23'20.01660"	21°51'46.75896"
432	333528.299	2418531.366	85°23'20.13252"	21°51'46.68732"
433	333538.980	2418521.898	85°23'20.50800"	21°51'46.38312"
434	333550.297	2418514.857	85°23'20.90472"	21°51'46.15812"
435	333577.378	2418503.405	85°23'21.85224"	21°51'45.79524"
436	333594.544	2418497.467	85°23'22.45236"	21°51'45.60804"
437	333596.856	2418494.255	85°23'22.53408"	21°51'45.50436"
438	333606.823	2418493.739	85°23'22.88112"	21°51'45.49068"
439	333608.167	2418492.877	85°23'22.92828"	21°51'45.46332"
440	333610.210	2418488.675	85°23'23.00100"	21°51'45.32724"
441	333610.097	2418482.914	85°23'22.99920"	21°51'45.14004"
442	333612.431	2418475.028	85°23'23.08344"	21°51'44.88444"
443	333623.320	2418474.996	85°23'23.46252"	21°51'44.88696"
444	333626.292	2418486.508	85°23'23.56188"	21°51'45.26244"
445	333626.413	2418491.820	85°23'23.56440"	21°51'45.43524"
446	333624.089	2418497.229	85°23'23.48124"	21°51'45.61020"
447	333632.060	2418498.634	85°23'23.75844"	21°51'45.65844"
448	333658.332	2418496.539	85°23'24.67428"	21°51'45.59940"

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449	333660.778	2418495.783	85°23'24.75960"	21°51'45.57564"
450	333664.131	2418495.981	85°23'24.87624"	21°51'45.58320"
451	333666.100	2418496.534	85°23'24.94464"	21°51'45.60192"
452	333672.603	2418496.212	85°23'25.17144"	21°51'45.59364"
453	333686.238	2418493.928	85°23'25.64700"	21°51'45.52416"
454	333697.769	2418495.450	85°23'26.04804"	21°51'45.57744"
455	333707.484	2418493.800	85°23'26.38716"	21°51'45.52704"
456	333713.096	2418491.654	85°23'26.58336"	21°51'45.45936"
457	333745.410	2418473.311	85°23'27.71556"	21°51'44.87400"
458	333762.084	2418502.788	85°23'28.28544"	21°51'45.83772"
459	333776.896	2418484.396	85°23'28.80816"	21°51'45.24480"
460	333785.716	2418479.456	85°23'29.11704"	21°51'45.08748"
461	333806.604	2418470.237	85°23'29.84820"	21°51'44.79480"
462	333821.686	2418462.067	85°23'30.37632"	21°51'44.53416"
463	333855.736	2418448.041	85°23'31.56720"	21°51'44.08992"
464	333857.406	2418450.969	85°23'31.62444"	21°51'44.18568"
465	333861.591	2418449.756	85°23'31.77060"	21°51'44.14752"
466	333876.361	2418490.186	85°23'32.27028"	21°51'45.46692"
467	333880.271	2418488.613	85°23'32.40708"	21°51'45.41724"
468	333882.289	2418505.098	85°23'32.47152"	21°51'45.95400"
469	333860.419	2418511.846	85°23'31.70724"	21°51'46.16568"
470	333858.900	2418512.851	85°23'31.65396"	21°51'46.19808"
471	333839.753	2418519.975	85°23'30.98436"	21°51'46.42308"
472	333850.984	2418544.721	85°23'31.36668"	21°51'47.23128"
473	333820.902	2418550.285	85°23'30.31692"	21°51'47.40228"
474	333848.986	2418591.344	85°23'31.27992"	21°51'48.74652"
475	333864.136	2418609.757	85°23'31.80120"	21°51'49.35024"
476	334000.492	2418556.614	85°23'36.56976"	21°51'47.66904"
477	333994.965	2418532.685	85°23'36.38580"	21°51'46.88892"
478	334019.001	2418528.094	85°23'37.22460"	21°51'46.74780"
479	334028.214	2418525.265	85°23'37.54644"	21°51'46.65888"
480	334043.983	2418522.571	85°23'38.09688"	21°51'46.57680"
481	334149.937	2418498.552	85°23'41.79588"	21°51'45.83196"
482	334152.052	2418496.803	85°23'41.87004"	21°51'45.77580"
483	334153.167	2418494.228	85°23'41.91000"	21°51'45.69228"
484	334260.382	2418431.876	85°23'45.66696"	21°51'43.70148"
485	334261.768	2418440.931	85°23'45.71196"	21°51'43.99632"
486	334260.793	2418487.056	85°23'45.66120"	21°51'45.49572"
487	334263.729	2418516.985	85°23'45.75228"	21°51'46.46988"
488	334263.702	2418532.832	85°23'45.74580"	21°51'46.98504"
489	334269.568	2418533.110	85°23'45.94992"	21°51'46.99584"
490	334292.163	2418532.033	85°23'46.73724"	21°51'46.96848"
491	334303.488	2418427.527	85°23'47.16960"	21°51'43.57476"
492	334302.154	2418407.824	85°23'47.13036"	21°51'42.93360"
493	334302.295	2418393.629	85°23'47.14044"	21°51'42.47244"
494	334304.178	2418376.156	85°23'47.21244"	21°51'41.90472"
495	334306.069	2418342.744	85°23'47.29056"	21°51'40.81932"
496	334332.758	2418344.340	85°23'48.21936"	21°51'40.88016"
497	334347.891	2418346.626	85°23'48.74568"	21°51'40.95972"
498	334349.270	2418360.287	85°23'48.78852"	21°51'41.40432"

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499	334351.230	2418420.128	85°23'48.83532"	21°51'43.35048"
500	334959.077	2418063.233	85°24'10.13544"	21°51'31.95252"
501	334926.931	2418080.253	85°24'09.00936"	21°51'32.49504"
502	334918.830	2418083.325	85°24'08.72640"	21°51'32.59224"
503	334893.800	2417968.834	85°24'07.89588"	21°51'28.86120"
504	334927.628	2417946.369	85°24'09.08208"	21°51'28.14228"
505	334949.898	2417922.597	85°24'09.86652"	21°51'27.37692"
506	334968.620	2417898.490	85°24'10.52712"	21°51'26.59968"
507	334951.651	2417857.755	85°24'09.95076"	21°51'25.26948"
508	334952.324	2417862.218	85°24'09.97272"	21°51'25.41456"
509	334897.292	2417868.282	85°24'08.05392"	21°51'25.59348"
510	334763.916	2417885.154	85°24'03.40236"	21°51'26.09676"
511	334757.624	2417859.503	85°24'03.19284"	21°51'25.26084"
512	334634.676	2417659.518	85°23'58.98300"	21°51'18.71712"
513	334611.062	2417663.943	85°23'58.15896"	21°51'18.85320"
514	334560.839	2417677.530	85°23'56.40504"	21°51'19.27800"
515	334554.311	2417662.222	85°23'56.18328"	21°51'18.77796"
516	334545.533	2417638.735	85°23'55.88592"	21°51'18.01152"
517	334536.642	2417619.373	85°23'55.58316"	21°51'17.37900"
518	334533.129	2417597.958	85°23'55.46868"	21°51'16.68132"
519	334513.585	2417560.659	85°23'54.80160"	21°51'15.46200"
520	334500.611	2417566.226	85°23'54.34764"	21°51'15.63876"
521	334445.546	2417578.708	85°23'52.42524"	21°51'16.02576"
522	334446.380	2417573.331	85°23'52.45620"	21°51'15.85152"
523	334474.527	2417562.377	85°23'53.44080"	21°51'15.50484"
524	334479.996	2417561.087	85°23'53.63160"	21°51'15.46452"
525	334498.761	2417557.669	85°23'54.28644"	21°51'15.35976"
526	334537.547	2417538.494	85°23'55.64400"	21°51'14.74956"
527	334548.355	2417534.557	85°23'56.02200"	21°51'14.62536"
528	334581.163	2417506.968	85°23'57.17472"	21°51'13.73940"
529	334687.424	2417227.366	85°24'00.97668"	21°51'04.68468"
530	334181.617	2416026.942	85°23'43.79676"	21°50'25.48500"
531	334142.309	2416027.419	85°23'42.42768"	21°50'25.48716"
532	334131.249	2416009.350	85°23'42.04896"	21°50'24.89604"
533	334026.522	2416005.312	85°23'38.40360"	21°50'24.72936"
534	334031.570	2416030.767	85°23'38.57028"	21°50'25.55844"
535	334001.937	2416034.795	85°23'37.53672"	21°50'25.67940"
536	333919.647	2416028.786	85°23'34.67328"	21°50'25.45620"
537	333918.931	2416008.813	85°23'34.65564"	21°50'24.80676"
538	333884.387	2415993.583	85°23'33.45828"	21°50'24.29988"
539	333900.055	2415939.481	85°23'34.02348"	21°50'22.54596"
540	333905.520	2415927.637	85°23'34.21788"	21°50'22.16292"
541	333909.472	2415921.842	85°23'34.35792"	21°50'21.97572"
542	333913.406	2415910.213	85°23'34.49904"	21°50'21.59916"
543	333915.812	2415897.571	85°23'34.58724"	21°50'21.18876"
544	333916.129	2415893.739	85°23'34.59984"	21°50'21.06420"
545	333924.405	2415873.909	85°23'34.89504"	21°50'20.42232"
546	333929.143	2415860.492	85°23'35.06496"	21°50'19.98780"
547	333960.923	2415843.732	85°23'36.17772"	21°50'19.45356"
548	334004.693	2415816.547	85°23'37.71204"	21°50'18.58488"

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549	334020.410	2415807.434	85°23'38.26248"	21°50'18.29364"
550	334027.522	2415802.346	85°23'38.51196"	21°50'18.13092"
551	334033.459	2415795.275	85°23'38.72148"	21°50'17.90304"
552	334039.662	2415783.133	85°23'38.94180"	21°50'17.51028"
553	334040.765	2415779.686	85°23'38.98140"	21°50'17.39868"
554	334041.068	2415771.413	85°23'38.99508"	21°50'17.12976"
555	334013.998	2415774.068	85°23'38.05152"	21°50'17.20680"
556	334012.257	2415668.338	85°23'38.02920"	21°50'13.76880"
557	334016.558	2415666.546	85°23'38.17968"	21°50'13.71192"
558	334040.387	2415665.923	85°23'39.00948"	21°50'13.69968"
559	334039.795	2415643.599	85°23'38.99724"	21°50'12.97356"
560	334040.552	2415634.683	85°23'39.02676"	21°50'12.68412"
561	334042.459	2415625.479	85°23'39.09660"	21°50'12.38532"
562	334042.019	2415620.973	85°23'39.08292"	21°50'12.23880"
563	334033.543	2415597.191	85°23'38.79636"	21°50'11.46264"
564	334042.006	2415595.085	85°23'39.09192"	21°50'11.39712"
565	334058.731	2415547.161	85°23'39.69168"	21°50'09.84480"
566	334062.223	2415539.035	85°23'39.81624"	21°50'09.58164"
567	334091.250	2415456.335	85°23'40.85700"	21°50'06.90288"
568	334129.484	2415305.800	85°23'42.24300"	21°50'02.02164"
569	334190.609	2415306.237	85°23'44.37132"	21°50'02.05656"
570	334189.642	2415541.923	85°23'44.25216"	21°50'09.71880"
571	334203.899	2415607.547	85°23'44.72484"	21°50'11.85720"
572	334328.751	2415605.853	85°23'49.07328"	21°50'11.84424"
573	334498.002	2415406.337	85°23'55.03920"	21°50'05.41500"
574	334494.146	2415434.543	85°23'54.89484"	21°50'06.33048"
575	334529.425	2415440.529	85°23'56.12136"	21°50'06.53712"
576	334532.554	2415427.231	85°23'56.23512"	21°50'06.10584"
577	334534.431	2415413.200	85°23'56.30532"	21°50'05.65044"
578	334593.538	2415390.520	85°23'58.37172"	21°50'04.93296"
579	334583.402	2415387.185	85°23'58.02000"	21°50'04.82100"
580	334575.941	2415404.617	85°23'57.75396"	21°50'05.38548"
581	334645.089	2415347.617	85°24'00.18252"	21°50'03.55560"
582	334619.908	2415345.110	85°23'59.30664"	21°50'03.46560"
583	334625.063	2415304.192	85°23'59.50104"	21°50'02.13684"
584	334607.703	2415302.965	85°23'58.89696"	21°50'02.09112"
585	334615.873	2415286.235	85°23'59.18748"	21°50'01.55004"
586	334634.176	2415244.583	85°23'59.83980"	21°50'00.20184"
587	334650.686	2415245.825	85°24'00.41436"	21°50'00.24792"
588	334662.015	2415248.048	85°24'00.80784"	21°50'00.32388"
589	334677.853	2415250.418	85°24'01.35864"	21°50'00.40632"
590	334716.778	2415253.427	85°24'02.71296"	21°50'00.51720"
591	334759.318	2415258.242	85°24'04.19256"	21°50'00.68820"
592	334172.232	2413781.173	85°23'44.28456"	21°49'12.46692"
593	334181.335	2414211.968	85°23'44.44512"	21°49'26.47596"
594	334058.381	2414805.630	85°23'39.94872"	21°49'45.73560"
595	334061.881	2414828.298	85°23'40.06212"	21°49'46.47396"
596	334084.704	2414905.474	85°23'40.82892"	21°49'48.99072"
597	333982.046	2414906.445	85°23'37.25376"	21°49'48.98748"
598	333983.768	2415056.337	85°23'37.25952"	21°49'53.86152"

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599	333922.886	2415068.824	85°23'35.13480"	21°49'54.24672"
600	333927.140	2415104.398	85°23'35.27016"	21°49'55.40484"
601	333984.011	2415091.671	85°23'37.25520"	21°49'55.01028"
602	333984.716	2415109.099	85°23'37.27320"	21°49'55.57728"
603	334095.695	2415106.130	85°23'41.13888"	21°49'55.51824"
604	334099.627	2415117.839	85°23'41.27136"	21°49'55.90020"
605	334102.289	2415141.439	85°23'41.35560"	21°49'56.66844"
606	334057.234	2415198.980	85°23'39.76584"	21°49'58.52388"
607	334080.699	2415209.355	85°23'40.57908"	21°49'58.86948"
608	334091.312	2415212.985	85°23'40.94736"	21°49'58.99080"
609	334156.245	2415239.953	85°23'43.19880"	21°49'59.88972"
610	334170.283	2415235.126	85°23'43.68948"	21°49'59.73744"
611	334188.588	2415228.390	85°23'44.32920"	21°49'59.52468"
612	334212.958	2415215.242	85°23'45.18276"	21°49'59.10564"
613	334213.580	2415205.800	85°23'45.20760"	21°49'58.79892"
614	334247.273	2415202.957	85°23'46.38192"	21°49'58.71756"
615	334230.603	2415154.965	85°23'45.81888"	21°49'57.15192"
616	334221.506	2415130.956	85°23'45.51072"	21°49'56.36820"
617	334206.930	2415102.027	85°23'45.01392"	21°49'55.42248"
618	334251.747	2415093.350	85°23'46.57740"	21°49'55.15572"
619	334271.236	2415032.793	85°23'47.27832"	21°49'53.19336"
620	334256.020	2415005.949	85°23'46.75812"	21°49'52.31532"
621	334389.120	2415003.376	85°23'51.39384"	21°49'52.27680"
622	334389.516	2414902.116	85°23'51.44424"	21°49'48.98496"
623	334347.251	2414903.754	85°23'49.97184"	21°49'49.02384"
624	334325.275	2414907.185	85°23'49.20540"	21°49'49.12788"
625	334311.260	2414907.426	85°23'48.71724"	21°49'49.13112"
626	334295.899	2414852.888	85°23'48.20208"	21°49'47.35272"
627	334341.705	2414854.883	85°23'49.79652"	21°49'47.43300"
628	334341.617	2414793.076	85°23'49.81596"	21°49'45.42348"
629	334360.107	2414767.630	85°23'50.46900"	21°49'44.60232"
630	334359.558	2414757.231	85°23'50.45352"	21°49'44.26428"
631	334351.352	2414733.133	85°23'50.17632"	21°49'43.47804"
632	334351.434	2414708.657	85°23'50.18820"	21°49'42.68208"
633	334347.515	2414699.642	85°23'50.05500"	21°49'42.38760"
634	334339.914	2414685.811	85°23'49.79544"	21°49'41.93544"
635	334314.427	2414672.596	85°23'48.91272"	21°49'41.49732"
636	334336.451	2414651.622	85°23'49.68708"	21°49'40.82268"
637	334283.743	2414622.771	85°23'47.86224"	21°49'39.86688"
638	334244.585	2414606.542	85°23'46.50468"	21°49'39.32580"
639	334234.139	2414634.057	85°23'46.13100"	21°49'40.21716"
640	334223.728	2414639.036	85°23'45.76668"	21°49'40.37520"
641	334196.083	2414646.496	85°23'44.80116"	21°49'40.60848"
642	334192.449	2414647.705	85°23'44.67444"	21°49'40.64664"
643	334175.845	2414631.456	85°23'44.10204"	21°49'40.11276"
644	334178.046	2414628.539	85°23'44.17980"	21°49'40.01880"
645	334150.047	2414626.519	85°23'43.20564"	21°49'39.94356"
646	334142.784	2414634.880	85°23'42.94968"	21°49'40.21284"
647	334125.716	2414630.012	85°23'42.35712"	21°49'40.04868"
648	334132.764	2414606.872	85°23'42.61092"	21°49'39.29880"

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649	334093.647	2414572.869	85°23'41.26092"	21°49'38.17992"
650	334098.980	2414555.700	85°23'41.45280"	21°49'37.62372"
651	333796.087	2414911.568	85°23'30.77664"	21°49'49.09116"
652	333823.418	2414857.765	85°23'31.74792"	21°49'47.35092"
653	333796.713	2414839.985	85°23'30.82452"	21°49'46.76412"
654	333780.659	2414831.712	85°23'30.26832"	21°49'46.48944"
655	333778.883	2414810.258	85°23'30.21432"	21°49'45.79140"
656	333806.876	2414985.789	85°23'31.12548"	21°49'51.50784"
657	333886.790	2414982.513	85°23'33.90936"	21°49'51.42828"
658	333890.146	2415009.443	85°23'34.01628"	21°49'52.30524"
659	333907.216	2415011.708	85°23'34.60992"	21°49'52.38444"
660	333913.755	2415166.239	85°23'34.78164"	21°49'57.41076"
661	333914.413	2415224.341	85°23'34.78344"	21°49'59.30004"
662	333895.155	2415222.744	85°23'34.11312"	21°49'59.24172"
663	333808.253	2415220.332	85°23'31.08804"	21°49'59.13372"
664	333804.659	2415160.426	85°23'30.98472"	21°49'57.18504"
665	333770.722	2415162.180	85°23'29.80212"	21°49'57.23040"
666	333745.791	2415179.671	85°23'28.92768"	21°49'57.79056"
667	333735.337	2415152.120	85°23'28.57380"	21°49'56.89128"
668	333718.145	2415138.654	85°23'27.97980"	21°49'56.44776"
669	333706.287	2415114.285	85°23'27.57588"	21°49'55.65144"
670	333702.730	2415094.858	85°23'27.45924"	21°49'55.01856"
671	333686.488	2415029.780	85°23'26.91708"	21°49'52.89708"
672	333633.314	2414379.255	85°23'25.30212"	21°49'31.72908"
673	333642.366	2414381.202	85°23'25.61676"	21°49'31.79532"
674	333668.555	2414333.437	85°23'26.54592"	21°49'30.25128"
675	333679.055	2414302.391	85°23'26.92284"	21°49'29.24580"
676	333656.470	2414287.572	85°23'26.14200"	21°49'28.75620"
677	333686.318	2414222.008	85°23'27.20508"	21°49'26.63472"
678	333661.894	2414207.366	85°23'26.35980"	21°49'26.15016"
679	333630.754	2414269.041	85°23'25.25316"	21°49'28.14492"
680	333598.471	2414247.438	85°23'24.13716"	21°49'27.43176"
681	333588.618	2414255.759	85°23'23.79084"	21°49'27.69888"
682	333572.225	2414246.145	85°23'23.22348"	21°49'27.38064"
683	333556.298	2414234.741	85°23'22.67304"	21°49'27.00444"
684	333520.024	2414213.960	85°23'21.41772"	21°49'26.31648"
685	333476.752	2414272.350	85°23'19.88952"	21°49'28.20036"
686	333466.567	2414270.949	85°23'19.53564"	21°49'28.15104"
687	333461.362	2414291.989	85°23'19.34664"	21°49'28.83360"
688	333445.086	2414286.201	85°23'18.78216"	21°49'28.63956"
689	333437.594	2414313.023	85°23'18.51144"	21°49'29.50932"
690	333506.541	2414342.530	85°23'20.90148"	21°49'30.49212"
691	333513.345	2414347.785	85°23'21.13620"	21°49'30.66528"
692	333544.764	2414373.492	85°23'22.22088"	21°49'31.51164"
693	333127.137	2412937.991	85°23'08.20284"	21°48'44.69832"
694	333094.924	2412972.989	85°23'07.06848"	21°48'45.82512"
695	333133.026	2413065.388	85°23'08.36124"	21°48'48.84228"
696	333125.792	2413080.063	85°23'08.10420"	21°48'49.31676"
697	333056.633	2413127.718	85°23'05.67888"	21°48'50.84280"
698	333029.870	2413153.017	85°23'04.73784"	21°48'51.65604"

Sumant Kr...
General Manager(Re...
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...ining Corporation ...
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699	332988.345	2413173.059	85°23'03.28452"	21°48'52.29360"
700	332980.855	2413158.815	85°23'03.02892"	21°48'51.82776"
701	332966.645	2413156.458	85°23'02.53500"	21°48'51.74640"
702	332961.668	2413139.662	85°23'02.36796"	21°48'51.19884"
703	332943.676	2413135.999	85°23'01.74300"	21°48'51.07356"
704	332943.557	2413231.121	85°23'01.70412"	21°48'54.16596"
705	332933.085	2413156.012	85°23'01.36680"	21°48'51.72048"
706	332934.641	2413099.591	85°23'01.44168"	21°48'49.88664"
707	332882.565	2413072.602	85°22'59.63844"	21°48'48.99132"
708	332845.625	2413041.785	85°22'58.36332"	21°48'47.97684"
709	332288.901	2418294.276	85°22'37.05240"	21°51'38.55564"
710	332290.798	2418306.798	85°22'37.11360"	21°51'38.96352"
711	332303.678	2418310.271	85°22'37.56108"	21°51'39.08052"
712	332323.284	2418314.622	85°22'38.24220"	21°51'39.22884"
713	332342.357	2418320.513	85°22'38.90460"	21°51'39.42684"
714	332341.768	2418314.363	85°22'38.88624"	21°51'39.22668"
715	332327.713	2418292.890	85°22'38.40456"	21°51'38.52396"
716	332312.336	2418278.945	85°22'37.87428"	21°51'38.06532"
717	332306.241	2418284.887	85°22'37.65972"	21°51'38.25612"
718	332299.612	2418292.306	85°22'37.42608"	21°51'38.49516"
719	332292.368	2418291.975	85°22'37.17372"	21°51'38.48184"
720	332289.775	2418291.383	85°22'37.08372"	21°51'38.46168"
721	332415.825	2418311.539	85°22'41.46636"	21°51'39.16044"
722	332436.083	2418330.903	85°22'42.16512"	21°51'39.79692"
723	332461.850	2418358.749	85°22'43.05216"	21°51'40.71096"
724	332437.727	2418505.729	85°22'42.15792"	21°51'45.48132"
725	332552.742	2418520.647	85°22'46.15860"	21°51'46.00584"
726	332734.302	2418555.571	85°22'52.46940"	21°51'47.20356"
727	333442.985	2418601.021	85°23'17.13552"	21°51'48.92292"
728	333454.012	2418616.491	85°23'17.51424"	21°51'49.42980"
729	333466.889	2418616.628	85°23'17.96244"	21°51'49.43844"
730	333461.666	2418596.803	85°23'17.78784"	21°51'48.79224"
731	333456.130	2418567.828	85°23'17.60568"	21°51'47.84832"
732	333539.435	2418553.824	85°23'20.51232"	21°51'47.42136"
733	333549.975	2418550.582	85°23'20.88060"	21°51'47.31948"
734	333553.774	2418535.528	85°23'21.01848"	21°51'46.83132"
735	333574.351	2418534.990	85°23'21.73524"	21°51'46.82088"
736	333575.571	2418548.722	85°23'21.77268"	21°51'47.26800"
737	333595.428	2418543.447	85°23'22.46640"	21°51'47.10312"
738	333617.026	2418570.287	85°23'23.20872"	21°51'47.98296"
739	333623.149	2418572.495	85°23'23.42112"	21°51'48.05676"
740	333631.601	2418580.598	85°23'23.71272"	21°51'48.32316"
741	333635.583	2418589.071	85°23'23.84808"	21°51'48.60000"
742	333639.609	2418601.563	85°23'23.98380"	21°51'49.00752"
743	333640.262	2418613.650	85°23'24.00216"	21°51'49.40064"
744	333650.811	2418613.466	85°23'24.36972"	21°51'49.39848"
745	333648.494	2418594.683	85°23'24.29592"	21°51'48.78684"
746	333645.636	2418586.689	85°23'24.19908"	21°51'48.52620"
747	333640.816	2418578.334	85°23'24.03420"	21°51'48.25260"
748	333636.167	2418572.951	85°23'23.87436"	21°51'48.07620"

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749	333632.712	2418562.321	85°23'23.75808"	21°51'47.72952"
750	333625.754	2418561.049	85°23'23.51616"	21°51'47.68560"
751	333614.725	2418534.992	85°23'23.14140"	21°51'46.83492"
752	333611.685	2418530.405	85°23'23.03736"	21°51'46.68444"
753	333601.327	2418505.718	85°23'22.68528"	21°51'45.87840"
754	333598.755	2418501.666	85°23'22.59744"	21°51'45.74592"
755	334032.714	2418576.558	85°23'37.68468"	21°51'48.32820"
756	334042.965	2418606.661	85°23'38.03064"	21°51'49.31028"
757	334164.362	2418552.754	85°23'42.27864"	21°51'47.59884"
758	334139.783	2418559.451	85°23'41.42004"	21°51'47.80836"
759	334178.633	2418563.446	85°23'42.77184"	21°51'47.95164"
760	334176.481	2418549.068	85°23'42.70200"	21°51'47.48328"
761	334171.193	2418530.645	85°23'42.52452"	21°51'46.88244"
762	334166.505	2418516.829	85°23'42.36612"	21°51'46.43172"
763	334131.565	2418567.029	85°23'41.13096"	21°51'48.05208"
764	334131.607	2418599.850	85°23'41.12052"	21°51'49.11912"
765	334150.990	2418596.569	85°23'41.79696"	21°51'49.01904"
766	334186.572	2418596.667	85°23'43.03608"	21°51'49.03416"
767	334186.212	2418569.050	85°23'43.03356"	21°51'48.13632"
768	334268.997	2418546.131	85°23'45.92544"	21°51'47.41920"
769	334288.215	2418602.434	85°23'46.57416"	21°51'49.25628"
770	334303.141	2418602.177	85°23'47.09436"	21°51'49.25304"
771	334305.803	2418582.650	85°23'47.19408"	21°51'48.61908"
772	334390.679	2418562.497	85°23'50.15760"	21°51'47.99232"
773	334387.513	2418580.704	85°23'50.04060"	21°51'48.58344"
774	334385.565	2418600.757	85°23'49.96572"	21°51'49.23468"
775	334902.971	2418591.147	85°24'07.99020"	21°51'49.09716"
776	334935.552	2418555.478	85°24'09.13788"	21°51'47.94840"
777	334959.455	2418524.028	85°24'09.98172"	21°51'46.93428"
778	334959.784	2418551.162	85°24'09.98352"	21°51'47.81628"
779	334959.154	2418590.057	85°24'09.94752"	21°51'49.08060"
780	334130.291	2416007.223	85°23'42.01656"	21°50'24.82656"
781	334127.772	2415995.661	85°23'41.93304"	21°50'24.45000"
782	334127.337	2415986.565	85°23'41.92116"	21°50'24.15408"
783	334135.431	2415985.052	85°23'42.20376"	21°50'24.10764"
784	334134.831	2415978.853	85°23'42.18504"	21°50'23.90568"
785	334122.348	2415969.962	85°23'41.75340"	21°50'23.61264"
786	334119.541	2415967.179	85°23'41.65656"	21°50'23.52120"
787	334092.191	2415947.248	85°23'40.71156"	21°50'22.86384"
788	334079.415	2415944.247	85°23'40.26768"	21°50'22.76196"
789	334058.748	2415942.157	85°23'39.54876"	21°50'22.68708"
790	334060.645	2415932.716	85°23'39.61824"	21°50'22.38072"
791	334040.003	2415934.069	85°23'38.89896"	21°50'22.41744"
792	334038.701	2415934.604	85°23'38.85324"	21°50'22.43472"
793	334032.860	2415935.280	85°23'38.64984"	21°50'22.45452"
794	334018.428	2415935.615	85°23'38.14692"	21°50'22.46064"
795	333998.809	2416034.760	85°23'37.42764"	21°50'25.67724"
796	333965.839	2415960.991	85°23'36.30660"	21°50'23.26776"
797	333972.474	2415947.029	85°23'36.54240"	21°50'22.81596"
798	333977.864	2415932.989	85°23'36.73536"	21°50'22.36128"

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799	333960.982	2415926.571	85°23'36.14964"	21°50'22.14708"
800	333944.282	2415915.655	85°23'35.57220"	21°50'21.78636"
801	334069.391	2415779.634	85°23'39.97824"	21°50'17.40660"
802	334065.789	2415765.808	85°23'39.85800"	21°50'16.95588"
803	334054.301	2415768.761	85°23'39.45696"	21°50'17.04804"
804	334264.347	2415659.820	85°23'46.81104"	21°50'13.57728"
805	334262.636	2415618.357	85°23'46.76640"	21°50'12.22872"
806	334213.615	2415626.982	85°23'45.05604"	21°50'12.49224"
807	334207.071	2415618.828	85°23'44.83140"	21°50'12.22512"
808	334204.615	2415616.907	85°23'44.74644"	21°50'12.16176"
809	334185.318	2415451.204	85°23'44.13444"	21°50'06.76788"
810	334171.487	2415452.269	85°23'43.65240"	21°50'06.79776"
811	334164.067	2415453.575	85°23'43.39356"	21°50'06.83772"
812	334127.684	2415456.093	85°23'42.12564"	21°50'06.90720"
813	334126.993	2415461.663	85°23'42.09972"	21°50'07.08828"
814	334126.339	2415462.875	85°23'42.07632"	21°50'07.12716"
815	334123.310	2415498.777	85°23'41.95788"	21°50'08.29356"
816	334118.837	2415537.193	85°23'41.78832"	21°50'09.54096"
817	334116.914	2415542.313	85°23'41.71956"	21°50'09.70692"
818	334060.769	2415591.727	85°23'39.74640"	21°50'11.29416"
819	334240.227	2414981.097	85°23'46.21704"	21°49'51.50208"
820	334240.731	2414978.776	85°23'46.23540"	21°49'51.42684"
821	334228.724	2414965.705	85°23'45.82212"	21°49'50.99772"
822	334206.570	2414976.225	85°23'45.04668"	21°49'51.33252"
823	334185.288	2414984.396	85°23'44.30292"	21°49'51.59064"
824	334184.184	2414957.049	85°23'44.27448"	21°49'50.70144"
825	334249.578	2414954.841	85°23'46.55220"	21°49'50.65176"
826	334277.225	2414941.144	85°23'47.51988"	21°49'50.21580"
827	334288.913	2414941.339	85°23'47.92668"	21°49'50.22588"
828	334292.960	2414945.170	85°23'48.06636"	21°49'50.35188"
829	334317.083	2414956.176	85°23'48.90228"	21°49'50.71800"
830	334320.714	2414956.295	85°23'49.02864"	21°49'50.72304"
831	334322.539	2414932.192	85°23'49.10100"	21°49'49.94004"
832	334325.208	2414914.956	85°23'49.20036"	21°49'49.38060"
833	334100.598	2414619.259	85°23'41.48628"	21°49'39.69084"
834	334083.091	2414608.667	85°23'40.88040"	21°49'39.34056"
835	334056.826	2414764.422	85°23'39.90948"	21°49'44.39532"
836	334065.239	2414764.913	85°23'40.20216"	21°49'44.41440"
837	334055.610	2414757.097	85°23'39.86952"	21°49'44.15700"
838	334013.085	2414758.321	85°23'38.38848"	21°49'44.18220"
839	333993.688	2414748.320	85°23'37.71672"	21°49'43.85064"
840	333932.655	2414719.166	85°23'35.60208"	21°49'42.88188"
841	333902.076	2414693.063	85°23'34.54656"	21°49'42.02292"
842	333898.255	2414688.832	85°23'34.41516"	21°49'41.88396"
843	333882.688	2414695.438	85°23'33.87084"	21°49'42.09348"
844	333875.862	2414689.116	85°23'33.63540"	21°49'41.88576"
845	333865.643	2414678.205	85°23'33.28332"	21°49'41.52756"
846	333825.824	2414646.363	85°23'31.90848"	21°49'40.47888"
847	333674.195	2414399.425	85°23'26.71836"	21°49'32.39868"
848	333696.148	2414360.411	85°23'27.49704"	21°49'31.13796"

Sumar[illegible]t
General Manager(Geo)
Power of Attorney Holder
Odisha Mining Corporation Ltd.
Bhubaneswar

849	333667.712	2414335.565	85°23'26.51604"	21°49'30.32040"
850	334584.421	2414201.111	85°23'58.48476"	21°49'26.25924"
851	334693.991	2414201.519	85°24'02.29968"	21°49'26.30964"
852	334990.191	2414440.480	85°24'12.52728"	21°49'34.17852"
853	333723.035	2414868.782	85°23'28.24836"	21°49'47.67528"
854	333709.607	2414852.030	85°23'27.78684"	21°49'47.12592"
855	333713.995	2414843.927	85°23'27.94272"	21°49'46.86420"
856	333727.368	2414845.974	85°23'28.40748"	21°49'46.93512"
857	333730.655	2414821.483	85°23'28.53096"	21°49'46.13988"
858	333713.021	2414810.830	85°23'27.92076"	21°49'45.78780"
859	333695.310	2414800.245	85°23'27.30804"	21°49'45.43752"
860	333680.607	2414848.736	85°23'26.77812"	21°49'47.00892"
861	333677.608	2414876.963	85°23'26.66364"	21°49'47.92584"
862	333677.493	2414950.565	85°23'26.63268"	21°49'50.31876"
863	333680.298	2414983.259	85°23'26.71872"	21°49'51.38256"
864	333650.970	2415026.048	85°23'25.68192"	21°49'52.76388"
865	333643.837	2415034.699	85°23'25.43028"	21°49'53.04252"
866	333581.028	2415122.488	85°23'23.21124"	21°49'55.87536"

Suman Krishna
General Manager(Geo)
Power of Attorney Holder
Odisha Mining Corporation Ltd
Bhubaneswar

GOVERNMENT OF ODISHA

ANNEXURE-XXII
Series

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

NOTIFICATION

No.FE-DIV-FLD-0031-2021-6912 /FE&CC Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village–**Madangaguda** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 86.687 ha (214.21 acres), shall be Protected Forest with effect from the date of issue of the Notification and shall be known as "**Madangaguda Protected Forest**".

Forest Block:

Name of the Protected Forest	:	Madangaguda Protected Forest
Area in Ha	:	86.687 ha
Area in Acres	:	214.21 acres
Name of the Village	:	Madangaguda
Name of the Police Station	:	Thuamul Rampur
Name of the Tahasil	:	Thuamul Rampur
Name of the Sub-Division	:	Bhawanipatna
Name of the District	:	Kalahandi

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total area in Ac.	Boundary description			
					North	South	East	West
Madangaguda	61/1	1/548	Patita	1.76	Plot No. 1 (P)	Plot No. 2/549	Plot No. 16/551	Plot No. 1 (P)
		2/549		6.30	Plot No.	Plot No.	Plot No.	Plot No. 2

					1/548	3/550	16/551	(P)
		3/550		2.12	Plot No. 2/549	Plot No. 3 (P)	Plot No. 16/551	Plot No. 3 (P)
		16/551		29.78	Chaudaguda village	Plot No. 16 (P)	Plot No. 75/552	Plot No. 1/548, 2/549 & 3/550
		75/552		33.97	Chaudaguda village	Plot No. 75 (P)	Plot No. 78/553	Plot No. 16/551
		78/553		34.33	Chaudaguda and Bariguda village	Plot No. 98 (P)	Plot No. 98/554	Plot No. 75/552 & 78 (P)
		98/554		36.01	Bariguda village	Plot No. 103/558	Plot No. 99/555 & 99 (P)	Plot No. 78/553 & 96 (P)
		99/555		20.64	Bariguda & Kukurbhursi village	Plot No. 99 (P)	Plot No. 100/556 & 100 (P)	Plot No. 98/554
		100/ 556		13.03	Kukurbhursi village	Plot No. 100 (P)	Plot No. 100 (P)	Plot No. 99/555
		102/ 557		6.13	Plot No. 102 (P)	Plot No. 102 (P)	Plot No. 102 (P)	Plot No. 103/558
		103/ 558		30.14	Plot No. 98/554	Plot No. 103 (P)	Plot No. 102/557 & 103 (P)	Plot No.103 (P)
Total				**214.21 Ac or 86.687 ha**				

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e:mail: deputydirectorpp@rediffmail.com

Memo No. 6913 / FE&CC Date 11.04.2022

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6914 / FE&CC Date 11.04.2022

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6915 / FE&CC Date 11.04.2022

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/ Tahasildar-Thuamul Rampur, Dist.-Kalahandi for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6916 / FE&CC Date 11.04.2022

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division/ Divisional Forest Officer, Kalahandi (South) Division for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6917 / FE&CC Date 11.04.2022

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6918 / FE&CC Date 11.04.2022

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022

OSD-cum-Special Secretary to Government

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

NOTIFICATION

No.FE-DIV-FLD-0031-2021- 6919 /FE&CC Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village--**Bhataguda** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 34.767 ha (85.91 acres), shall be Protected Forest with effect from the date of issue of the Notification and shall be known as "**Bhataguda Protected Forest**".

Forest Block:

Name of the Protected Forest	:	Bhataguda Protected Forest
Area in Ha	:	34.767 ha
Area in Acres	:	85.91 acres
Name of the Village	:	Bhataguda
Name of the Police Station	:	Thuamul Rampur
Name of the Tahasil	:	Thuamul Rampur
Name of the Sub-Division	:	Bhawanipatna
Name of the District	:	Kalahandi

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total area in Ac.	Boundary description			
					North	South	East	West
Bhataguda	12/1	28	Patita	22.50	Plot No. 44, 45	Plot No. 27	Plot No. 121/151	Plot No. 29

		29		22.50	Plot No. 30, 44	Plot No. 26	Plot No. 28	Plot No. 30
		119/ 150		5.48	Plot No. 119 (P)	Plot No. 122/ 152	Plot No. 122/ 152 & 119 (P)	Plot No. 119 (P)
		121/ 151		16.43	Plot No. 104	Plot No. 123	Plot No. 121 (P)	Plot No. 27, 28
		122/ 152		19.00	Plot No. 77, 119/150 & 122 (P)	Plot No. 122 (P)	Khakes	Plot No. 121/ 151
			Total	**85.91 Ac or 34.767 ha**				

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e:mail: deputydirectorpp@rediffmail.com

Memo No. 6920 / FE&CC Date 11.04.22

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6921 / FE&CC Date 11.04.22

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6922 / FE&CC Date 11.04.22

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/ Tahasildar-Thuamul Rampur, Dist.-Kalahandi for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6923 / FE&CC Date 11.04.22

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division / Divisional Forest Officer, Kalahandi (South) Division for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6924 / FE&CC Date 11.04.22

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6925 / FE&CC Date 11.04.22

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for Information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022

OSD-cum-Special Secretary to Government

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

NOTIFICATION

No.FE-DIV-FLD-0031-2021- 6926 /FE&CC, Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village - **Nunresh** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 108.792 ha (268.83 acres), shall be Protected Forest with effect from the date of issue of the Notification and shall be known as "**Nunresh Protected Forest**".

Forest Block:

Name of the Protected Forest	:	Nunresh Protected Forest		
		Patch-I	Patch-II	Total
Area in Acres	:	193.18	75.65	268.83 Ac
Area in Ha	:	78.177	30.615	108.792 ha
Name of the Village	:	Nunresh		
Name of the Police Station	:	Thuamul Rampur		
Name of the Tahasil	:	Thuamul Rampur		
Name of the Sub-Division	:	Bhawanipatna		
Name of the District	:	Kalahandi		

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total area in Ac.	Boundary description				Patch
					North	South	East	West	
Nunresh	22/2	58/ 266	Dangar	8.68	Plot No. 60/267	Plot No. 77/272	Plot No. 68/269 & 75/271	Plot No. 58 (P)	Patch - I

60/ 267	0.55	Plot No. 60 (P)	Plot No. 58/266	Plot No. 68/269	Plot No. 60 (P)
66/268	21.36	Plot No. 66 (P)	Plot No. 65 & 67	Bhataguda	Plot No. 66 (P)
67	15.00	Plot No. 68/268	Plot No. 68/269	Bhataguda	Plot No. 65
68/269	28.31	Plot No. 68 (P), 65 & 67	Plot No. 69, 74/270 & 75/271	Bhataguda	Plot No. 68 (P), 60/267 & 58/266
69	16.50	Bhataguda & Plot No. 68/269	Plot No. 73	Plot No. 70	Plot No. 74/270
73	12.50	Plot No. 69	Plot No. 86, 87 & 126	Plot No. 72	Plot No. 74/270
74/270	12.69	Plot No. 68/269	Plot No. 86 & 74 (P)	Plot No. 69 & 73	Plot No. 75/271
75/271	12.22	Plot No. 68/269	Plot No. 77/272 & 75 (P)	Plot No. 74/270	Plot No. 58/266
77/272	12.13	Plot No. 58/266 & 75/271	Plot No. 81 (P) & 81/274	Plot No. 82 (P)	Plot No. 77 (P)
80/273	5.02	Plot No. 81/274	Tarapadar	Plot No. 80 (P)	Plot No. 80 (P)
81/274	11.02	Plot No. 82 (P) & 77/272	Plot No. 81 (P) & 80/273	Plot No. 83/276	Plot No. 81 (P)
82/275	3.33	Plot No. 82 (P)	Plot No. 83/276	Plot No. 86	Plot No. 82 (P)
83/276	19.47	Plot No. 82/275	Tarapadar	Plot No. 85 & 86	Plot No. 81/274 & 83 (P)

		84/277		14.40	Plot No. 85	Tarapadar	Plot No. 93 & 84 (P)	Plot No. 83/276 & Tarapadar	
		71		25.78	Bhataguda	Plot No. 128	Khakes	Plot No. 70 & 72	Patch - II
		128		36.00	Plot No. 71	Plot No. 135	Khakes	Plot No. 127 & 129/278	
		129/278		13.87	Plot No. 127	Plot No. 129 (P)	Plot No. 128 & 165	Plot No. 125	
			Total	**268.83 Ac or 108.792 ha**					

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e:mail: deputydirectorpp@rediffmail.com

Memo No. 6927 / FE&CC Date 11.04.22

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6928 / FE&CC Date 11.04.22

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6929 / FE&CC Date 11.04.22

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/ Tahasildar-Thuamul Rampur, Dist.-Kalahandi for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6930 / FE&CC Date 11.04.22

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division / Divisional Forest Officer, Kalahandi (South) Division for Information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6931 / FE&CC Date 11.04.22

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6932 / FE&CC Date 11.04.22

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022

OSD-cum-Special Secretary to Government

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

NOTIFICATION

No.FE-DIV-FLD-0031-2021- 6940 /FE&CC, Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village - **Uparjhabi** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 266.942 ha (659.63 acres), shall be Protected Forest with effect from the date of issue of the Notification and shall be known as **"Uparjhabi Protected Forest"**.

Forest Block:

Name of the Protected Forest : Uparjhabi Protected Forest

	Patch-I	Patch-II	Patch-III	Patch-IV	Total
Area in Acres	183.05	19.28	439.76	17.54	659.63 Ac
Area in Ha	74.077	7.802	177.965	7.098	266.942 ha

Name of the Village : Uparjhabi

Name of the Police Station : Thuamul Rampur

Name of the Tahasil : Thuamul Rampur

Name of the Sub-Division : Bhawanipatna

Name of the District : Kalahandi

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total area in Ac.	Boundary description				Patch
					North	South	East	West	
Uparjhabi	90/2	1	Dangar	28.23	Loharajora, Sargiguda & Talajhabi	Plot No. 5/794	Plot No. 20/795	Plot No. 2	Patch - I

		2	15.78	Talajhabi	Plot No. 3	Plot No. 1, 5/794	Talajhabi	
		3	17.18	Plot No. 2	Plot No. 4/793	Plot No. 5/794	Talajhabi	
		4/793	16.28	Plot No. 3	Plot No. 4 (P) & Talajhabi	Plot No. 5/794	Talajhabi	
		5/794	26.29	Plot No. 1	Plot No. 5 (P)	Plot No. 20/795	Plot No. 2, 3, 4/793	
		20/795	79.29	Sargiguda	Plot No. 23 & 20 (P)	Plot No. 168/805 & 20 (P)	Plot No. 5/794, 21	
		24/796	19.28	Plot No. 24 (P)	Plot No. 37, 39 & 24 (P)	Plot No. 28, 29, 30, 31 & 24 (P)	Plot No. 23	Patch-II
		65/797	8.56	Plot No.118 & 65 (P)	Plot No. 112/802	Plot No. 114/804 & 113/803	Plot No. 65 (P)	Patch-III
		84/798	1.83	Plot No.112 (P)	Plot No. 87/799	Plot No. 112/802	Plot No.83, 85 & 84 (P)	
		87/799	6.84	Plot No. 84/798	Plot No. 108/800	Plot No. 112/802	Plot No.87 (P)	
		108/800	37.16	Plot No. 88, 91, 87/799 & 108 (P)	Plot No. 107 & 108 (P)	Plot No. 111/801	Plot No. 100 & 104	
		111/801	36.00	Plot No. 112/802	Plot No. 111 (P)	Plot No. 710/813	Plot No. 108/800	
		112/802	39.74	Plot No. 65/797 & 65 (P)	Plot No. 111/801	Plot No. 710/813	Plot No. 112 (P), 84/798 & 87/799	
		113/803	25.10	Plot No. 114/804	Plot No. 710/813	Plot No. 113 (P)	Plot No. 65/797	
		114/804	9.92	Plot No.114 (P)	Plot No. 113/803	Plot No. 114 (P)	Plot No. 65/797	
		168/	42.23	Sargiguda &	Plot No. 172,	Plot No. 381/806	Plot No.	

		805			Pokhariguda	352 & 168 (P)		168/805	
		381/806		30.47	Pokhariguda	Plot No. 352, 370 & 381 (P)	Plot No. 382/807	Plot No. 168/805	
		382/807		29.31	Pokhariguda	Plot No. 576, 575/810	Pokhariguda	Plot No. 381/806 & 382 (P)	
		573/808		41.07	Plot No. 575 (P)	Plot No. 707 & 573 (P)	Plot No. 574/809, 575/810 & 573 (P)	Plot No. 573 (P)	
		574/809		15.61	Plot No. 575/810	Plot No. 574 (P)	Plot No. 577/811	Plot No. 573/808	
		575/810		24.41	Plot No. 382/807 & 575 (P)	Plot No. 574/809	Plot No. 576	Plot No. 573/808	
		576		17.15	Plot No. 382/807	Plot No. 577/811	Pokhariguda	Plot No. 575/810	
		577/811		4.37	Plot No. 576	Plot No. 577 (P)	Pokhariguda	Plot No. 574/809	
		710/813		51.24	Plot No. 113/803	Plot No.687 & 710 (P)	Plot No. 678 & 710 (P)	Plot No. 111/801 & 112/802	
		721/814		18.76	Plot No. 699/812	Krishnakaberi & Kodiparlmarapas	Jhabiguda & Kodiparlmarapas	Plot No. 721 (P)	
		699/812		17.54	Plot No. 699 (P)	Plot No. 721/814 & 721 (P)	Jhabiguda	Plot No. 700 & 699 (P)	Patch-IV
			Total	659.63 Ac or 266.942 ha					

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

Memo No. 6941 / FE&CC Date 11.04.2022

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6942 / FE&CC Date 11.04.2022

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Allganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6943 / FE&CC Date 11.04.22

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/ Tahasildar-Thuamul Rampur, Dist.-Kalahandi for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6944 / FE&CC Date 11.04.22

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division/ Divisional Forest Officer, Kalahandi (South) Division for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6945 / FE&CC Date 11.04.22

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6946 / FE&CC Date 11.04.22

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022

OSD-cum-Special Secretary to Government

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

NOTIFICATION

No.FE-DIV-FLD-0031-2021-6968 /FE&CC, Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village-**Silet** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 89.342 ha (220.77 acres), shall be Protected Forest with effect from the date of issue of the Notification and shall be known as "**Silet Protected Forest**".

FOREST BLOCK

Name of the Protected Forest : **Silet**

	Patch-I	Patch-II	Patch-III	Total
Area in Acre	158.04	30.4	32.33	220.77 Ac.
Area of Protected Forest in Ha.	63.957	12.302	13.083	89.342 Ha.

Name of the Village : **Silet**

Name of the Police Station : Thuamul Rampur

Name of the Tahasil : Thuamul Rampur

Name of the Sub-Division : Bhawanipatna

Name of the District : Kalahandi

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total Area (in Ac.)	Boundary Description				Patch
					North	South	East	West	
Silet	36/1	1/311	Dangar	9.05	Sikerguda	Plot No. 2/312	Sikerguda	Plot No. 217, 219 & Semikhal	Patch-I
		2/312		20.45	Plot No. 1/311, 1 (P) & Sikerguda	Plot No. 3/313, 4/314 & 4 (P)	Sikerguda	Plot No. 2 (P)	
		3/313		23.03	Plot No. 2/312	Plot No. 5/315 & 6/316	Sikerguda & Plot No. 3 (P)	Plot No. 4/314	
		4/314		15.65	Plot No. 2/313	Plot No. 5/315	Plot No. 3/313	Plot No. 221 & 4 (P)	
		5/315		12.16	Plot No. 3/313 & 4/314	Semikhal	Plot No. 6/316	Plot No. 5 (P) & Semikhal	
		6/316		26.20	Plot No. 3/313	Plot No. 7/317	Plot No. 9/318 & 6 (P)	Plot No. 5/315 & Semikhal	
		7/317		7.37	Plot No. 6/316	Plot No. 7 (P)	Plot No. 8 & 9 (P)	Semikhal	
		9/318		11.97	Sikerguda & Plot No. 9 (P)	Plot No. 8 & 9 (P)	Plot No. 12/320	Plot No. 6/316 & 9 (P)	
		11/ 319		4.12	Plot No. 11 (P)	Plot No. 12/320	Plot No. 11 (P)	Plot No. 11 (P)	
		12/ 320		17.80	Plot No. 11/319 & 12 (P)	Plot No. 13/321 & 20	Plot No. 12 (P)	Plot No. 9 (P) & 9/318	
		13/ 321		10.24	Plot No. 12/320	Plot No. 13 (P)	Plot No. 20	Plot No. 13 (P)	
		15		20.33	Plot No. 14	Dandapadar	Plot No. 16,	Semikhal &	Patch-II

							17/322	Dandapadar	
		17/ 322		10.07	Plot No. 16	Dandapadar	Plot No. 17 (P)	Dandapadar & Plot No. 15	
		215/ 323		16.74	Plot No. 215 (P)	Sumandi	Plot No. 216/324	Plot No. 205, 214	Patch-III
		216/ 324		15.59	Plot No. 216 (P)	Sumandi	Kandulguda & Plot No. 216 (P)	Plot No. 215/323	
			Total	220.77 Ac or 89.342 Ha					

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e:mail: deputydirectorpp@rediffmail.com

Memo No. 6969 / FE&CC Date 11.04.22

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6970 / FE&CC Date 11.04.22

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6971 / FE&CC Date 11.04.22

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/ Tahasildar-Thuamul Rampur, Dist.-Kalahandi for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6972 / FE&CC Date 11.04.22

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division/ Divisional Forest Officer, Kalahandi (South) Division for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6973 / FE&CC Date 11.04.22

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6974 / FE&CC Date 11.04.22

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022

OSD-cum-Special Secretary to Government

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

NOTIFICATION

No.FE-DIV-FLD-0031-2021- 6961 /FE&CC, Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village - **Nakrundi** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 144.4166 ha (356.86 acres), shall be Protected Forest with effect from the date of issue of the Notification and shall be known as "**Nakrundi Protected Forest**".

FOREST BLOCK

Name of the Protected Forest	:	Nakrundi	
	Patch-I	Patch-II	Total
Area in Acre	61.43	295.43	356.86 Ac
Area of Protected Forest in Ha.	24.860	119.556	144.416 Ha
Name of the Village	:	Nakrundi	
Name of the Police Station	:	Thuamul Rampur	
Name of the Tahasil	:	Thuamul Rampur	
Name of the Sub-Division	:	Bhawanipatna	
Name of the District	:	Kalahandi	

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total Area (In Ac.)	Boundary Description (Plot No. existing)				Remarks
					North	South	East	West	
Nakrundi	72/1	2/ 596	Dangar	22.46	Plot No. 2 (P), 1	Plot No. 3/597	Plot No. 2 (P)	Bhitarsungi	Patch-I
		3/ 597		24.03	Plot No. 2/596	Plot No. 4/598	Plot No. 3 (P), 49	Plot No. 3 (P) & Bhitarsungi	
		4/ 598		6.21	Plot No. 3/597	Plot No. 4 (P)	Plot No. 45/610	Plot No. 4 (P)	
		45/ 610		8.73	Plot No. 48, 49	Plot No. 45 (P)	Plot No. 46	Plot No. 4/598	
		5/ 599		15.35	Plot No. 5 (P)	Plot No. 5 (P)	Plot No. 44/609	Plot No. 6/600 & 8/602	Patch-II
		6/ 600		19.45	Plot No. 6 (P) & Bhitarsungi	Plot No. 8/602	Plot No. 5/599	Plot No. 7/601	
		7/ 601		36.28	Bhitarsungi	Plot No. 7 (P) & 9/603	Plot No. 6/600 & 8/602	Tala-ambapadar & Plot No. 7 (P)	
		8/ 602		22.02	Plot No. 6/600	Plot No. 8 (P)	Plot No. 5/599 & 15/608	Plot No. 7/601 & 9/603	
		9/ 603		23.48	Plot No. 7/601	Plot No. 10/604	Plot No. 8/602 & 9 (P)	Plot No. 9 (P) & Tala ambapadar	
		10/ 604		18.38	Plot No. 9/603	Tijmali	Plot No. 10 (P)	Tala-ambapadar	
		12/ 605		20.46	Plot No. 12 (P)	Tijmali	Plot No. 13/606	Tijmali	
		13/ 606		25.36	Plot No. 13 (P) & 14/607	Tijmali	Plot No. 403/612 & 404 (P)	Plot No. 12/605	

		14/607		12.59	Plot No. 15/608	Plot No. 14 (P) & 13/606	Plot No. 359 & 403/612	Plot No. 14 (P)	
		15/608		21.41	Plot No. 15 (P)	Plot No. 15 (P) & 14/607	Plot No. 359	Plot No. 15 (P) & 8/602	
		44/609		16.39	Plot No. 44 (P) & 4	Plot No. 44 (P)	Plot No. 316/611	Plot No. 5/599	
		316/611		29.48	Plot No. 45 (P)	Plot No. 316 (P)	Plot No. 316 (P), 315	Plot No. 44/609	
		403/612		18.49	Plot No. 359 & 403 (P)	Plot No. 404/613 & 404 (P)	Plot No. 403 (P), 406/614	Plot No. 13/606 & 14/607	
		404/613		5.46	Plot No. 403/612 & 406/614	Plot No. 404 (P)	Plot No. 404 (P)	Plot No. 404 (P)	
		406/614		10.83	Plot No. 407 & 406 (P)	Plot No. 404/613 & 405	Plot No. 406 (P)	Plot No. 406 (P), 403/612	
			Total	**356.86 Ac. or 144.4166 Ha.**					

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e:mail: deputydirectorpp@rediffmail.com

Memo No. 6962 / FE&CC Date 11.04.2022

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number. 11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6963 / FE&CC Date 11.04.2022

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6964 / FE&CC Date 11.04.22

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/ Tahasildar-Thuamul Rampur, Dist.-Kalahandi for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6965 / FE&CC Date 11.04.22

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division/ Divisional Forest Officer, Kalahandi (South) Division for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6966 / FE&CC Date 11.04.22

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6967 / FE&CC Date 11.04.22

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022

OSD-cum-Special Secretary to Government

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

NOTIFICATION

No.FE-DIV-FLD-0031-2021- 6954 /FE&CC, Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village - **Khandala** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 106.8004 ha (263.91 acres), shall be Protected Forest with effect from the date of Issue of the Notification and shall be known as "**Khandala Protected Forest**".

FOREST BLOCK

Name of the Protected Forest	:	**Khandala**
Area in Acre	:	263.91 Ac
Area of Protected Forest in Ha.	:	106.8004 Ha
Name of the Village	:	**Khandala**
Name of the Police Station	:	Thuamul Rampur
Name of the Tahasil	:	Thuamul Rampur
Name of the Sub-Division	:	Bhawanipatna
Name of the District	:	Kalahandi

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total Area	Boundary Description

		1/92		(In Ac.)	North	South	East	West
Khandala	10/2	2	Patita	9.77	Hadkarsi	Plot No. 5/94	Plot No. 2 & 3/93	Plot No. 1 (P)
				12.60	Hadkarsi	Plot No. 3/93	Plot No. 11	Plot No. 1/92
		3/93		21.63	Plot No. 2	Plot No. 4	Plot No. 10/97 & 3 (P)	Plot No. 1/92
		4		15.00	Plot No. 3/93	Plot No. 7/96	Plot No. 9	Plot No. 5/94
		5/94		4.53	Plot No. 1/92	Plot No. 6/95	Plot No. 4	Plot No. 5 (P)
		6/95		6.38	Plot No. 5/94	Plot No. 6 (P)	Plot No. 7/96	Plot No. 6 (P)
		7/96		14.16	Plot No. 4	Bhitarsungi & Plot No. 7 (P)	Plot No. 8	Plot No. 6/95
		8		13.80	Plot No. 9	Bhitarsungi	Plot No. 87	Plot No. 7/96
		9		15.00	Plot No. 10/97	Plot No. 8	Plot No. 86	Plot No. 4
		10/97		15.46	Plot No. 11	Plot No. 9	Plot No. 79/100	Plot No. 3/93 & 3 (P)
		11		18.28	Hadkarsi	Plot No. 10/97	Plot No. 12/98	Plot No. 2
		12/98		21.77	Hadkarsi & Plot No. 12 (P)	Plot No. 79/100	Plot No. 13/99	Plot No. 11
		13/99		19.55	Karlapat Sanctuary & Plot No. 13 (P)	Plot No. 13 (P)	Plot No. 14, 15 & 13 (P)	Plot No. 12/98 & 79/100
		79/100		14.40	Plot No. 12/98	Plot No. 86	Plot No. 13/99 & 80/101	Plot No. 10/97 & 10 (P)
		80/		3.92	Plot No. 80 (P)	Plot No. 85/102	Plot No. 80 (P)	Plot No.

		101						79/100
		85/ 102		13.05	Plot No. 80/101	Plot No. 88/103	Plot No. 85 (P)	Plot No. 86
		86		15.00	Plot No. 79/100	Plot No. 87	Plot No. 85/102	Plot No. 9
		87		15.70	Plot No. 86	Bhitarsungi	Plot No. 88/103	Plot No. 8
		88/ 103		13.91	Plot No. 85/102	Mohangiri & Bhitarsungi	Mohangiri & Plot No. 88 (P)	Plot No. 87
		Total		263.91 Ac or 106.8004 Ha				

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e:mail: deputydirectorpp@rediffmail.com

Memo No. 6955 / FE&CC Date 11.04.22

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6956 / FE&CC Date 11.04.22

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6957 / FE&CC Date 11.04.22

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/

[illegible] Kalahandi for information and necessary action.

11/4/2022
OSD-cum-Special Secretary to Government

Memo No. 6958 / FE&CC Date 11.04.22

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division/ Divisional Forest Officer, Kalahandi (South) Division for information and necessary action.

11/4/2022
OSD-cum-Special Secretary to Government

Memo No. 6959 / FE&CC Date 11.04.22

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for Information and necessary action/ (5 spare copies for G.F).

11/4/2022
OSD-cum-Special Secretary to Government

Memo No. 6960 / FE&CC Date 11.04.22

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022
OSD-cum-Special Secretary to Government

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

*****

NOTIFICATION

No.FE-DIV-FLD-0031-2021- 6947 /FE&CC, Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village - **Pokhariguda** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 230.00 ha (568.34 acres), shall be Protected Forest with effect from the date of issue of the Notification and shall be known as **"Pokhariguda Protected Forest"**.

FOREST BLOCK

Name of the Protected Forest	:	**Pokhariguda**		
	Patch-I	Patch-II	Patch-III	Total
Area in Acre	51.46	85.89	430.99	568.34Ac.
Area of Protected Forest in Ha.	20.83	34.76	174.42	230.00 Ha.
Name of the Village	:	**Pokhariguda**		
Name of the Police Station	:	Thuamul Rampur		
Name of the Tahasil	:	Thuamul Rampur		
Name of the Sub-Division	:	Bhawanipatna		
Name of the District	:	Kalahandi		

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total area in Ac.	Boundary description				Patch
					North	South	East	West	
Pokhariguda	50/1	569/753	Danger	14.73	Plot No. 577/754	Plot No. 569 (P)	Plot No. 577/754 & 569 (P)	Plot No. 283 & 569 (P)	Patch - I
		577/754		20.56	Kumjore	Plot No. 578, 592/755 & 577 (P)	Kumjore	Plot No. 569/753	
		592/755		16.17	Plot No. 577/754, 577 (P) & Kumjore	Plot No. 592 (P)	Plot No. 654/760	Plot No. 577/754 & 592 (P)	
		174/745		15.78	Plot No. 174 (P)	Plot No. 173, 377/747	Plot No. 186/746	Plot No. 174 (P)	Patch-II
		186/746		27.55	Plot No. 186 (P)	Plot No. 377/747	Plot No. 186 (P)	Plot No. 174/745	
		377/747		15.95	Plot No. 174/745 & 174 (P)	Plot No. 390/748	Plot No. 377 (P)	Plot No. 377 (P)	
		391/749		26.61	Plot No. 390/748	Uparjhabi	Plot No. 393	Sargiguda	
		390/748		25.25	Plot No. 377/747	Plot No. 391/749	Plot No. 392/750 & 390 (P)	Plot No. 390 (P) & Sargiguda	Patch-III
		392/750		35.58	Plot No. 384 & 392 (P)	Plot No. 393	Plot No. 392 (P), 394 (P), 339, 423	Plot No. 392 (P), 390/748	
		393		29.10	Plot No. 392/750	Uparjhabi	Plot No. 394/751	Plot No. 391/749	
		394/751		26.85	Plot No. 394 (P),	Plot No. 683	Plot No. 394 (P),	Plot No. 392/750,	

					411		619/758	393
		548/752		0.67	Plot No. 611, 548 (P)	Plot No. 717 & 548 (P)	Plot No. 616/756	Plot No. 548 (P)
		616/756		10.12	Plot No. 611, 613, 615 & 616 (P)	Plot No. 639, 618 (P) & 618/757	Plot No. 643, 644 & 616 (P)	Plot No. 548/752
		618/757		20.99	Plot No. 616/756	Plot No. 619/758	Plot No. 620, 621, 622, 624 & 618 (P)	Plot No. 618 (P)
		619/758		34.16	Plot No. 618/757 & 620	Plot No. 683	Plot No. 619 (P) & 681/768	Plot No. 619 (P) & 394/751
		653/759		14.23	Plot No. 654/760	Plot No. 675/764	Plot No. 665/762, 673/763	Plot No. 653 (P)
		654/760		17.18	Plot No. 654 (P) & Kumjore	Plot No. 653/759 & 654 (P)	Plot No. 655/761 & 654 (P)	Plot No. 592/755
		655/761		11.01	Kumjore	Plot No. 665/762	Plot No. 655 (P)	Plot No. 654/760 & 654 (P)
		665/762		5.21	Plot No. 655/761	Plot No. 673/763	Plot No. 655 (P)	Plot No. 653/759
		673/763		0.38	Plot No. 665/762	Plot No. 674	Plot No. 673	Plot No. 653/759
		675/764		24.33	Plot No. 653/759 & 675 (P)	Plot No. 678/767	Plot No. 677/766 & 675 (P)	Plot No. 641, 642 & 675 (P)
		676/765		14.35	Plot No. 676 (P) & Chatiguda	Plot No. 677/766	Chatiguda	Plot No. 676 (P)
		677/766		7.74	Plot No. 676/765	Plot No. 678/767	Chatiguda	Plot No. 677 (P), 675/764

		678/ 767		16.96	Plot No. 675/764	Plot No. 681/768	Plot No. 677/766 & Chatiguda	Plot No. 678 (P) & 681/768	
		681/ 768		29.15	Plot No. 678/767 & 681 (P)	Plot No. 682, 683	Chatiguda	Plot No. 683, 681 (P) & 619/ 758	
		682		12.25	Plot No. 681/768	Jhabiguda	Chatiguda & Jhabiguda	Plot No. 683	
		683		38.00	Plot No. 394/751, 619/758 & 681/ 768	Plot No. 684	Plot No. 682 & Jhabiguda	Plot No. 393 & Uparjhabi	
		684		17.75	Plot No. 683	Plot No. 685/743	Jhabiguda	Uparjhabi	
		685/ 743		39.73	Plot No. 684	Plot No. 684 (P)	Jhabiguda	Uparjhabi	
			Total	**568.34 Ac or 230.00 ha**					

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e:mail: deputydirectorpp@rediffmail.com

Memo No. 9948 / FE&CC Date 11.04.22

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number. 11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 9949 / FE&CC Date 11.04.20

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information

and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6950 / FE&CC Date 11.04.22

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/ Tahasildar-Thuamul Rampur, Dist.-Kalahandi for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6951 / FE&CC Date 11.04.22

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division/ Divisional Forest Officer, Kalahandi (South) Division for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6952 / FE&CC Date 11.04.22

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6953 / FE&CC Date 11.04.22

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022

OSD-cum-Special Secretary to Government

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

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NOTIFICATION

No.FE-DIV-FLD-0031-2021- 6933 /FE&CC, Date 11.04.2022

10F (Cons) 77/2019

In exercise of the powers conferred under Section 33 of the Odisha Forest Act, 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village - **Kumjore** under Thuamul Rampur Tahasil in the District of Kalahandi mutated and transferred in favour of Forest, Environment & Climate Change Department for the purpose of raising Compensatory Afforestation thereon against proposed diversion of forest land involved in the mining lease over 1243.27 ha for mining of Iron and Manganese Ore in Dubna-Sakradihi Mines in Keonjhar District, Odisha of Odisha Mining Corporation Ltd. vide letter F. No.8-26/2019FC dt.06.05.2021 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division) under Section 2 of the forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 175.549 ha (433.79 acres), shall be Protected Forest with effect from the date of issue of the Notification and shall be known as **"Kumjore Protected Forest"**.

Forest Block:

Name of the Protected Forest	:	Kumjore Protected Forest		
		Patch-I	Patch-II	Total
Area in Acres	:	52.44	381.35	433.79 Ac
Area in Ha	:	21.22	154.327	175.549 ha
Name of the Village	:	Kumjore		
Name of the Police Station	:	Thuamul Rampur		
Name of the Tahasil	:	Thuamul Rampur		
Name of the Sub-Division	:	Bhawanipatna		
Name of the District	:	Kalahandi		

Land Schedule:

Village	Khata No.	Plot No.	Kissam	Total area in Ac.	Boundary description				Patch
					North	South	East	West	
Kumjore	69/1	209/476	Dangar	52.44	Plot No. 208 & 209 (P)	Pokhariguda	Plot No. 401, 209 (P)	Plot No. 192, 193 & 209 (P)	Patch - I

		1/ 467		57.51	Tukuguda	Plot No. 2/468, 1 (P) & 2 (P)	Plot No. 21/469	Pokhariguda	Patch-II
		2/ 468		44.96	Plot No. 1/467	Plot No. 181/473, 157/472	Plot No.8, 13 & 2 (P)	Pokhariguda	
		21/ 469		28.85	Plot No. 43/471	Plot No. 16, 17 & 21 (P)	Plot No. 38/470, 21 (P)	Plot No. 1/467	
		38/ 470		1.87	Plot No. 40, 38 (P) & 43 (P)	Plot No. 22	Plot No.39 & 2 (P)	Plot No. 21/469	
		43/ 471		56.86	Tunapali	Plot No. 65 & 43 (P)	Plot No. 294/477	Plot No. 42, 21/469 & Tukuguda	
		157/ 472		7.82	Plot No. 2/468	Plot No. 158, 160 & 157 (P)	Plot No. 157 (P)	Plot No. 181/473	
		181/ 473		24.08	Plot No. 2/468 & 2 (P)	Plot No. 188/474	Plot No. 157/472 & 181 (P)	Plot No. 181 (P) & Pokhariguda	
		188/ 474		31.66	Plot No. 181/473	Pokhariguda	Plot No. 189/475 & 188 (P)	Plot No. 188 (P) & Pokhariguda	
		189/ 475		34.84	Plot No. 185, 190, 192, 193 & 189 (P)	Pokhariguda	Plot No. 209/476	Plot No. 188/474 & 189 (P)	
		294/ 477		44.35	Tunapali	Plot No. 295 (Road), 314, 315, 414 & 294 (P)	Plot No. 319/478 & 319 (P)	Plot No. 43/471	
		319/ 478		47.39	Tunapali & Bhataguda	Plot No. 318, 321/463 & 319 (P)	Bhataguda	Plot No. 294/477	

		321/ 463		1.16	Plot No. 319/478	Plot No. 321 (P)	Bhalaguda	Plot No. 319 (P) & 321 (P)	
Total				433.79 Ac or 175.549 ha					

By Order of the Governor

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e:mail: deputydirectorpp@rediffmail.com

Memo No. 6934 / FE&CC Date 11.04.2022

Copy forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to FE&CC Deptt.

2. The Notification is statutory and may be assigned SRO number.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6935 / FE&CC Date 11.04.2022

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment, Forests and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Integrated Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6936 / FE&CC Date 11.04.2022

Copy forwarded to the Revenue & Disaster Management Department/ Director of Land Records and Survey, Odisha, Cuttack/ RDC (SD) Berhampur, Dist.-Ganjam/ Collector, Kalahandi/ Tahasildar-Thuamul Rampur, Dist.-Kalahandi for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6937 / FE&CC Date 11.04.2022

Copy forwarded to the Principal Chief Conservator of Forests & HoFF, Odisha/ Chief Conservator of Forests (Forest Diversion & Nodal Officer) FC Act, O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Bhawanipatna Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ Divisional Forest Officer, Keonjhar Forest Division/ Divisional Forest Officer, Kalahandi (South) Division for information and necessary action.

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6938 / FE&CC Date 11.04.2022

Copy forwarded to the Head State Portal, IT Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

11/4/2022

OSD-cum-Special Secretary to Government

Memo No. 6939 / FE&CC Date 11.04.2022

Copy forwarded to the Under Secretary to Government, Office Establishment Section, FE&CC Department for Information and necessary action with reference to their letter No.21646/F&E Dt. 22.11.2016.

11/4/2022

OSD-cum-Special Secretary to Government