



Rungta Mines Limited

MAIN ROAD, BARBIL - 758 035, DIST : KENDUJHAR, ODISHA , INDIA
Telefax : 06767 - 276651, E-mail : bbloffice@rungtamines.com

RML/BBL/GEO/2023-24/275

Date: 30.10.2023.

To,

The Divisional Forest Officer
Bonai Forest Division, Bonai,
Dist.: Sundargarh, Odisha.

Sub: Submission of compliance to the Conditions stipulated in Stage-I approval letter of Ministry of Environment, Forest & Climate Change, (Forest Conservation Division), Government of India, New Delhi vide F. No 8-01/2023-FC dated 18.05.2023 for diversion of 83.602 Ha. forest land including 2.529 Ha. of Safety Zone in Chandiposhi Iron Ore Block of M/s Rungta Mines Limited, in Koira Tahasil of Bonai Forest Division of Sundargarh District, Odisha.

Sir,

With reference to the subject cited above, we are submitting herewith the compliance to the Conditions stipulated in Stage-I approval letter of Ministry of Environment, Forest & Climate Change, (Forest Conservation Division), Government of India, New Delhi vide F. No 8-01/2023-FC dated 18.05.2023 for diversion of 83.602 Ha. forest land including 2.529 Ha. of Safety Zone in Chandiposhi Iron Ore Block of M/s Rungta Mines Limited in Five Sets.

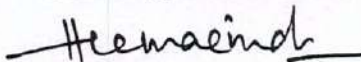
We request your good office to kindly forward the same for obtaining Stage-II forest clearance of our aforesaid project.

An early action in this matter is highly solicited.

Thanking you.

Yours faithfully,

For Rungta Mines Limited


Director

Encl: As above.

*Received
five copies compliance.
Isakhan
30.10.23*



Compliance to the Conditions stipulated in Stage-I approval letter of Ministry of Environment, Forest & Climate Change, (Forest Conservation Division), Government of India, New Delhi vide F. No 8-01/2023-FC dated 18.05.2023 for diversion of 83.602 Ha forest land including 2.529 Ha of Safety Zone in Chandiposhi Iron Ore Block of M/s Rungta Mines Limited in Koira Tahasil of Bonai Forest Division of Sundargarh District, Odisha.

Sl. No.	Conditions	Compliance
1.	Legal status of the diverted forest land shall remain unchanged	Legal status of the diverted forest land shall remain unchanged. An undertaking to this effect is enclosed as Annexure- 1.
2.	Compensatory Afforestation:	
a.	The User Agency shall transfer the cost of raising and maintaining the compensatory afforestation as per the approved CA Scheme at the current wage rate in consultation with State Forest Department in the account of CAMPA of the concerned State through online portal;	Non-forest land for Compensatory afforestation has been identified in village Talabarada (83.602 ha.) under Banspal Tahasil of Keonjhar Forest Division of Keonjhar district. As per the demand raised by the DFO, Keonjhar on dated 22.05.2023, the User Agency has deposited an amount of Rs.4,03,43,900/- towards cost of compensatory afforestation through RTGS (UTR No-CNRBR52023052656293590) dated 26.05.2023 in State CAMPA fund. Copy of the RTGS slips is enclosed as Annexure- 2.
b.	The land identified for raising Compensatory Afforestation shall be notified by the State Government as RF under Section-4 or PF under Section-29 of the Indian Forest Act, 1927 or under the relevant Section (s) of the local Forest Act, as the case may be, before the Stage-II approval;	Non-forest land over 83.602 Ha identified for compensatory afforestation in village Talabarada under Banspal Tahasil of Keonjhar District has already been mutated and transferred in favour of the Forest Dept. The proposal for notification as PF has been submitted to the PCCF (Nodal), Bhubaneswar vide Memo No. 12065/6F-Mining-13/2022 dt. 19.10.2023 of the DFO, Keonjhar Division. (Annexure- 3.)
c.	The cost of survey, demarcation and erection of permanent pillars, if required on the identified 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	Non-forest land for Compensatory afforestation has been identified in village Talabarada (83.602 ha.) under Banspal Tehsil of Keonjhar Forest Division of Keonjhar district. As per the demand raised by the DFO, Keonjhar on dated 22.05.2023, the

	with appropriate provision for anticipated cost increase for works scheduled for subsequent years;	<p>User Agency has deposited an amount of Rs.4,03,43,900/- towards cost of compensatory afforestation through RTGS (UTR No-CNRBR52023052656 293590) dated 26.05.2023 in State CAMPA fund. Copy of the RTGS slips is already enclosed as Annexure- 2.</p> <p>As per approved schemes it has been proposed to take up 39 Ha @1000 seedlings and @1600 seedlings over 32 Ha with soil moisture conservation measures over 83.602 Ha with 10 years maintenance along with provision of Angle Iron and Chain Link fencing around the plantation area. The indigenous species selected for plantation are Jamun, Kuruma, Dhaura, Sisoo, Ghambhar, Amla, Karanja, Neem, panas etc.</p> <p>The approved CA scheme will be implemented and maintained by the Divisional Forest Office, Keonjhar Forest Division.</p>
d.	The compensatory afforestation over non-forest land, equal in extent to the forest land being diverted i.e. 83.602 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;	The condition will be complied by Divisional Forest Office, Keonjhar Forest Division.
e.	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 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;	<p>Degraded forest land for 1.5 times Safety Zone, over 3.794 Ha Or 4 Ha ($2.529 \times 1.5 = 3.794$ Ha) has been identified in Dhenkiam RF under Tamra Forest Range of Bonai Forest Division. As per the demand raised by DFO, Bonai on dated 06.10.2023, the user agency has deposited a sum of Rs. 13,23,900 through RTGS (UTR No CNRBR52023101365429803 on dt. 13.10.2023) towards afforestation on degraded forest land for 1.5 times Safety Zone. Copy of the RTGS slip is enclosed as Annexure-4.</p> <p>Copy of approved Scheme is enclosed as Annexure-5.</p>
f.	User agency either himself or through the State Forest Department shall undertake gap planting and soil &	A scheme for gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded

	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;	open forests (having crown density less than 0.4), if any, located in the area within 100 meter from outer perimeter of the mining lease has been technically approved by RCCF, Rourkela with financial outlay of Rs.1,68,84,200/-. The scheme will be implemented by the User Agency at the project cost in a phased manner. An undertaking to this effect is already enclosed as Annexure-1 . Copy of the approved scheme is enclosed as Annexure-6 .
3.	NPV:	
a.	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 06.01.2022 read with 22.03.2022 through online portal of CAMPA account of the State Concerned;	As per the demand raised by the Divisional Forest Officer, Bonai Forest Division vide his letter dated 24.05.2023, the user agency has deposited an amount of Rs.12,01,08,485/- towards Net Present Value (NPV) over 83.602 ha. of forest land through RTGS (UTR No-CNRBR52023060556898538) dated 05.06.2023 in State CAMPA fund. Copy of the RTGS slips is enclosed as Annexure-7 .
b.	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;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1 .
4.	A Site-Specific Wildlife Conservation Plan shall be prepared and implemented at the project cost;	The Site Specific Wildlife Conservation Plan has been approved by the P.C.C.F (Wildlife) and Chief Wildlife Warden, Odisha vide letter No: 4749/CWLW-FDWC-FD-0055-2022 dated 15.04.2023 with financial outlay of 780.60 lakhs (Rs 708.60 Lakh for Bonai Division & Rs 72.00 Lakh for Keonjhar Division) for implementation of activities in the ZOI (Buffer zone). As per the demand raised by the DFO, Bonai on dated 27.04.2023, the user Agency has deposited an amount of Rs.780.60 lakhs towards cost of Site

		<p>Specific Wildlife Conservation Plan through RTGS (UTR No.CNRBR5202305 3156575073) dated 31.05.2023 in State CAMPA fund. Copy of the RTGS slips is enclosed as Annexure-8.</p> <p>Further, regarding implementation of activities in the core zone, the User agency will implement the same under the guidance of the DFO, Bonai division in a phase wise manner. An undertaking to this effect is enclosed as Annexure-1.</p>
5.	<p>An Integrated Regional Wildlife Conservation Plan specially addressing the movement of elephant in the entire Sundargarh and Keonjhar districts comprising Jharsuguda, Sundargarh, Bonai and Keonjhar Forest Division may be prepared by the State Govt. to mitigate adverse impact of mining on the movement of elephant and other wildlife by proportional share from the lease holders;</p>	<p>The condition will be complied by the State Government.</p> <p>Further, we have submitted an undertaking to pay the cost as per approved Integrated Regional Wildlife Conservation Plan as demanded by the Forest Department. (Copy of undertaking attached as Annexure-1).</p>
6.	<p>The State/User Agency shall raise thick plantations as a green belt, to minimize air and sound pollution, around habitations near to their mine. As far as possible the user agency should address the livelihood of the villagers by providing direct/indirect employment and should regularly check their health issues and related treatment as long as they are not properly rehabilitated;</p>	<p>The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.</p>
7.	<p>The Nalla situated in the mining lease area shall not be diverted so as to retain the natural course of flow of water. No discharge from the mining site should enter the natural river and stream. To stabilize the bank of Nalla and to avoid siltation and flood a safety zone of 50 meter on both sides of Nala shall be maintained as green belt;</p>	<p>The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.</p>
8.	<p>Soil and moisture conservation measures in the rest of the catchment of this Nala and the forest lands in and around the proposed site shall be carried out to ensure recharge of water;</p>	<p>A scheme containing appropriate Soil Moisture conservation measures for rest of the catchment of the Nala and the forest lands in and around the Project site has been technically approved by RCCF, Rourkela with</p>

		financial outlay of ₹1,17,55,100/-. The scheme will be implemented by the User Agency at the project cost in a phased manner. An undertaking to this effect is enclosed as Annexure-1 . Copy of the approved scheme is enclosed as Annexure-9 .
9.	As per the mining plan no activities have been proposed in 6.120 ha of non-forest land. Fruit bearing trees shall be raised in this 6.120 ha of land wherever possible;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1 .
10.	Transportation of ore should be done as per the recommendation of NEERI;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1 .
11.	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/);	<p>The user agency will abide by the condition.</p> <p>The user Agency has deposited an amount of Rs.4,03,43,900/- towards cost of compensatory afforestation through RTGS (UTR No-CNRBR52023052656293590) dated 26.05.2023 in State CAMPA fund.</p> <p>The user agency has deposited an amount of Rs.12,01,08,485/- towards Net Present Value (NPV) over 83.602 ha. of forest land through RTGS (UTR No-CNRBR52023060556898538) dated 05.06.2023 in State CAMPA fund.</p> <p>The user agency has deposited an amount of Rs.780.60 lakhs towards cost of Site Specific Wildlife Conservation Plan through RTGS (UTR No.CNRBR52023053156575073) dated 31.05.2023 in State CAMPA fund.</p> <p>Degraded forest land for 1.5 times Safety Zone, over 3.794 Ha Or 4 Ha ($2.529 \times 1.5 = 3.794$ Ha) has been identified in Dhenkiam RF under Tamra Forest Range of Bonai Forest Division. As per the demand raised by DFO, Bonai on dated 06.10.2023, the user agency has deposited a sum of Rs. 13,23,900 through RTGS (UTR No CNRBR52023101365429803 on dt. 13.10.2023) towards afforestation on degraded forest land for 1.5 times Safety Zone.</p>

12.	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;	The KML files of the area to be diverted, the CA areas, the proposed SMC treatment area and the WLMP area will be uploaded on the e-Green watch portal with all requisite details by Forest Department.
13.	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:	
a.	Mitigative measures to minimize soil erosion and choking of stream shall be implemented within a period of three years with effect from the issue of Stage-II clearance in accordance with the approved Plan in consultation with the State Forest Department;	A scheme containing appropriate mitigative measures to minimize soil erosion and choking of streams has been technically approved by the RCCF, Rourkela with financial outlay of Rs.4,13,37,300/-. The scheme will be implemented by the User Agency at the project cost in a phased manner. An undertaking to this effect is enclosed as Annexure-1 . Copy of the approved scheme is enclosed as Annexure-10 .
b.	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;	A scheme, regarding planting drought hardy plant, species and sowing of seeds in the appropriate area within the mining lease has been technically approved by the RCCF, Rourkela with financial outlay of Rs.10,58,627/-. The scheme will be implemented by the User Agency at the project cost in phased manner. An undertaking to this effect is enclosed as Annexure-1 . Copy of the approved scheme is enclosed as Annexure-11 .
c.	Construction of check dams, retention /toe walls to arrest sliding down of the excavated material along the contour in accordance with the approved scheme;	A scheme for Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour has been technically approved by the RCCF, Rourkela with no budgetary provision as it remains included in the schemes prepared in compliance with condition No-13 (a) & (b). The scheme will be implemented by the User Agency at the project cost in a phased manner. An undertaking to this effect is enclosed as Annexure-1 .

		Copy of the approved scheme is enclosed as Annexure-12.
d.	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	A scheme to Stabilize the overburden dumps by appropriate grading/benching so as to ensure that the angles of repose at any given place is less than 28° has been technically approved by the RCCF, Rourkela with no budgetary provision as it remains included in the schemes prepared in compliance with condition No-13 (a) & (b). The scheme will be implemented by the User Agency at the project cost in a phased manner. An undertaking to this effect is enclosed as Annexure-1. Copy of the approved scheme is enclosed as Annexure-13.
14.	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:	
a.	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;	We 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. An undertaking to this effect is enclosed as Annexure-1.
b.	Boundary of the safety zone of the mining lease, adjacent to habitation/roads, should be properly fenced by the user agency;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
c.	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;	A scheme for fencing, protection and regeneration of safety zone over 3.499 Ha(Forest-2.529 Ha + Non forest-0.970 Ha) has been technically approved by RCCF, Rourkela with financial outlay of Rs.1,27,85,800/-. The scheme will be implemented by the user Agency at the project cost in a phased manner. An undertaking to this effect is enclosed as Annexure-1. Copy of the approved scheme is enclosed as Annexure-14.

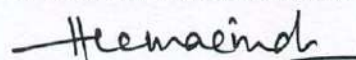
d.	The State Government and the user agency shall ensure that safety zone is maintained as per the prescribed norms;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1 .
15.	No damage shall be caused to the top-soil and the user agency will follow the top soil management plan;	A scheme for top soil management has been technically approved by the RCCF, Rourkela with financial outlay of Rs.2,90,53,247/-. The scheme will be implemented by the User Agency at the project cost in a phased manner. An undertaking to this effect is enclosed as Annexure-1 . Copy of the approved scheme is enclosed as Annexure-15 .
16.	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 de-silting 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;	A scheme for de-silting of village tanks & other water bodies located within 5km from the mine lease boundary so as to mitigate the impact of siltation of such tanks/water bodies, whenever required has been technically approved by the RCCF, Rourkela with financial outlay of Rs.69,19,931/-. The scheme will be implemented by the user Agency at the project cost in a phased manner. An undertaking to this effect is enclosed as Annexure-1 . Copy of the approved scheme is enclosed as Annexure-16 .
17.	The cost of felling of trees shall be deposited by the User Agency with the State Forest Department;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1 .
18.	Trees should be felled in phased manner as per the requirement in the approved Mining Plan with prior permission of concerned DFO;	Trees shall be felled in phased manner as per the requirement in the approved Mining Plan with prior permission of concerned DFO. An undertaking to this effect is enclosed as Annexure-1 .
19.	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.	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1 .
20.	A Site Specific Wildlife Management Plan shall be prepared by the State Government in consultation with the	The Site Specific Wildlife Conservation Plan has been approved by the P.C.C.F (Wildlife) and Chief Wildlife Warden,

	<p>PCCF (Wildlife) for the protection and conservation of wildlife of the area. A copy of approved Plan shall be submitted to the Ministry along with the 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;</p>	<p>Odisha vide letter No: 4749/CWLW-FDWC-FD-0055-2022 dated 15.04.2023 with financial outlay of 780.60 lakhs (Rs 708.60 Lakh for Bonai Division & Rs 72.00 Lakh for Keonjhar Division) for implementation of activities in the ZOI (Buffer zone).</p> <p>As per the demand raised by the DFO, Bonai on dated 27.04.2023, the user Agency has deposited an amount of Rs.780.60 lakhs towards cost of Site Specific Wildlife Conservation Plan through RTGS (UTR No.CNRBR52023053156575073) dated 31.05.2023 in State CAMPA fund.</p> <p>Copy of the approved plan is enclosed as Annexure-17.</p>
<p>21.</p>	<p>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.</p>	<p>FRA certificate over an area of 83.602 ha. has been issued by the District Collector, Sundargarh on dated 22.11.2022 is enclosed as Annexure-18.</p>
<p>22.</p>	<p>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;</p>	<p>The user agency will abide by the condition and take due care for reclamation of the mined out area in a phased manner as per the approved mining plan. Further, the User Agency will submit an annual report on status of reclamation to the concerned Dept. An undertaking to this effect is enclosed as Annexure-1.</p>

23.	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;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
24.	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;	The period of diversion of forest land under this proposal will be co-terminus with the period of the mining lease as amended vide the Mines & Minerals (Development & Regulation) Amendment Act, 2015 and the Rules framed thereunder.
25.	The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;	The Environmental clearance has been granted by State Level Environment Impact Assessment Authority (SEIAA), Bhubaneswar, Odisha vide SEIAA file No.403437/765-MINB1/10-2022 dt.30.05.2023. Copy is enclosed as Annexure-19.
26.	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;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
27.	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;	The boundary of the diverted forest land, mining lease and safety zone has already been demarcated on the ground at the project cost by erecting 4 feet high RCC pillars. Each pillar is inscribed with serial number, DGPS coordinates, and distance from pillar to pillar.
28.	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;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
29.	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;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.

30.	No damage to the flora and fauna of the adjoining area shall be caused;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
31.	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;	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
32.	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	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
33.	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.	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
34.	Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as prescribed in para1.21 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.	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.
35.	The compliance report shall be uploaded on e-portal (https://parivesh.nic.in/).	The user agency will abide by the condition. An undertaking to this effect is enclosed as Annexure-1.

For Rungta Mines Limited



Director



Rungta Mines Limited

MAIN ROAD, BARBIL - 758 035, DIST : KENDUJHAR, ODISHA, INDIA
Telefax : 06767 - 276651, E-mail : bbloffice@rungtamines.com

ANNEXURE- 1

UNDERTAKING

Condition No.1

We do hereby undertake that the legal status of the diverted forest land shall remain unchanged.

Condition No.2.(f)

We do hereby undertake to implement 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 100m. from outer perimeter of the mining lease, as per the approved scheme, in a phased manner at the project cost.

Condition No. 3.(b):

We do hereby undertake to pay the additional amount of the NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India.

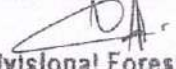
Condition No.4

We do hereby undertake to implement the activities in the core zone as per approved site specific wild life conservation plan under the guidance of DFO Bonai division, in a phase wise manner.

Condition No.5

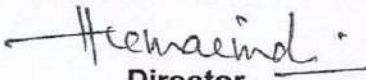
We do hereby undertake to pay the cost as per approved Integrated Regional Wildlife Conservation Plan as demanded by the Forest Department.

COUNTERSIGNED


Divisional Forest Officer
Bonai Division

(15)

For Rungta Mines Limited.


Director



Rungta Mines Limited

MAIN ROAD, BARBIL - 758 035, DIST : KENDUJHAR, ODISHA, INDIA
Telefax : 06767 - 276651, E-mail : bbloffice@runtamines.com

Condition No.6

We do hereby undertake to raise thick plantations as a green belt, to minimize air and sound pollution, around habitations near the project area. The user agency will also address the livelihood of the villagers by providing direct/indirect employment and will also regularly check their health issues and related treatment as long as they are not properly rehabilitated.

Condition No.7

We do hereby undertake that the Nalla situated in the mining lease area shall not be diverted to retain the natural course of flow of water. No discharge from the mining site will enter the natural river and stream. To stabilize the bank of Nalla and to avoid siltation and flood a safety zone of 50 meter on both sides of Nala shall be maintained as green belt.

Condition No.8

We do hereby undertake to implement the Scheme for Soil and Moisture Conservation measures plan as per the approved scheme, in a phased manner at the project cost.

Condition No.9

We do hereby undertake to plant Fruit bearing trees in the area over 6.120 ha of Non forest land wherever possible.

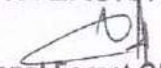
Condition No.10

We do hereby undertake to Transport ore as per the recommendation of NEERI.

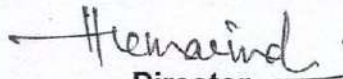
Condition No.11

We do hereby undertake to deposit all the compensatory levies as per the demand raised by DFO, Bonai in State CAMPA Fund only through e-portal.

COUNTERSIGNED


Divisional Forest Officer
Bonai Division

For Rungta Mines Limited.


Director



Rungta Mines Limited

MAIN ROAD, BARBIL - 758 035, DIST : KENDUJHAR, ODISHA , INDIA
Telefax : 06767 - 276651, E-mail : bbloffice@rungtamines.com

Condition No.(13a):

We do hereby undertake to implement the Scheme for mitigative measures to minimize soil erosion and choking of stream within a period of three year with effect from the issue of Stage-II clearance as per the approved plan in consultation with the State Forest Department, in a phased manner, at the project cost.

Condition No.13(b)

We do hereby undertake to implement the Scheme for planting of adequate drought hardy plant species and sowing of seeds in the appropriate areas within the mining lease as per the approved scheme, in a phased manner at the project cost.in a phased manner, at the project cost.

Condition No.13(c)

We do hereby undertake to implement the Scheme for construction of check dams, retention/toe walls to arrest sliding down of the excavated materials along the contour as per the approved scheme, in a phased manner at the project cost.

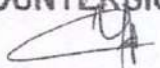
Condition No.13(d)

We do hereby undertake to implement the Scheme for stabilization the overburden dumps by appropriate grading/benching so as to ensure that the angles of repose at any given place is less than 28 degree as per the approved scheme, in a phased manner at the project cost.

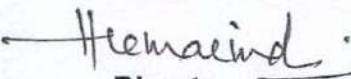
Condition No.14(a):

We do hereby undertake that to demarcate boundary of safety zone (7.5 meter strip all along outer boundary of the mining lease) and its fencing, protection and regeneration by erecting adequate number of 6 feet high RCC boundary pillars inscribed with DGPS coordinates with barbed fencing and deploying adequate number of watchers under the supervision of State Forest Department.

COUNTERSIGNED


Divisional Forest Officer
Bonai Division

For Rungta Mines Limited.


Director



Rungta Mines Limited

MAIN ROAD, BARBIL - 758 035, DIST : KENDUJHAR, ODISHA, INDIA
Telefax : 06767 - 276651, E-mail : bbloffice@rungtamines.com

Condition No.14(b)

We do hereby undertake that the boundary of the safety zone of the lease adjacent to the habitation/road will be properly fenced at the project cost to protect.

Condition No.14(c)

We do hereby undertake that the Scheme for safety zone shall be maintained as green belt to ensure dense canopy cover in the area and regeneration shall be taken in this area as per the approved scheme, in a phased manner at the project cost.

Condition No.14(d)

We do hereby undertake to maintain the safety zone as per the prescribed Norm, under the supervision of State Forest Department

Condition No.15

We do hereby undertake to implement the Scheme for Top Soil Management as per the approved scheme, in a phased manner at the project cost.

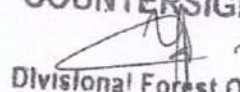
Condition No.16

We do hereby undertake to implement the Scheme for de-silting of the village tanks and other water bodies located within five km from the mining lease boundary so as to mitigate the impact of siltation of such tanks/water as per the approved scheme, in a phased manner at the project cost.

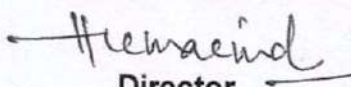
Condition No.17

We do hereby undertake that the cost of felling of trees shall be deposited by the user agency as per the guidance of State Forest Department.

COUNTERSIGNED


Divisional Forest Officer
Bonai Division

For Rungta Mines Limited.


Director



Rungta Mines Limited

MAIN ROAD, BARBIL - 758 035, DIST : KENDUJHAR, ODISHA , INDIA
Telefax : 06767 - 276651, E-mail : bbloffice@runtamines.com

Condition No. 18

We do hereby undertake to fell the trees in phased manner as per the requirement in the approved Mining Plan with prior permission of concerned DFO.

Condition No.19

We do hereby undertake 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.

Condition No. 22

We do hereby undertake to carry out mining in a phased manner, and will take due care for reclamation of the mined out area as per the approved Mining Plan.

We also undertake to submit an annual report on reclamation status of the mine to the concerned Govt. Departments/Authorities.

Condition No. 23

We do hereby undertake to comply with the Hon'ble Supreme Court order on re-grassing, and re-grass the mining area and any other area 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.

Condition No. 26

We do hereby undertake that, no labour camp will be established in the forest area and we will provide alternate fuels to the labourers and the staff working at the site to avoid any damage and pressure on the nearby forest areas.

COUNTERSIGNED

Divisional Forest Officer
Bonai Division

14

For Rungta Mines Limited.

Hemachand
Director



Rungta Mines Limited

MAIN ROAD, BARBIL - 758 035, DIST : KENDUJHAR, ODISHA, INDIA
Telefax : 06767 - 276651, E-mail : bbloffice@rungtamines.com

Condition No. 28

We do hereby undertake that, the layout plan of the mining plan/proposal shall not be changed without the prior approval of Ministry of Environment, Forest & Climate Change and the forest land shall not be used for any purpose other than that specified in the proposal.

Condition No. 29

We do hereby undertake that, the forest land will not be transferred to any other agency, department or person without prior approval of the Ministry of Environment, Forest & Climate Change.

Condition No. 30

We do hereby undertake that, no damage to the flora and fauna of the adjoining area shall be caused by us and that we will take all protective measures as would be required in consultation with the DFO, Bonai.

Condition No. 31

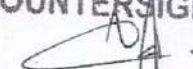
We do hereby undertake that, user agency shall submit annual self -monitoring report on compliance of stipulated conditions to the State Government ,concerned Regional Office and to the Ministry by the end of March every year.

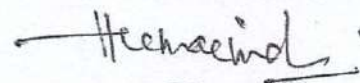
Condition No. 32

We do hereby undertake that any other conditions 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; shall be complied by the User Agency.

For Rungta Mines Limited.

COUNTERSIGNED


Divisional Forest Officer
Bonai Division


Director



Rungta Mines Limited

MAIN ROAD, BARBIL - 758 035, DIST : KENDUJHAR, ODISHA , INDIA
Telefax : 06767 - 276651, E-mail : bbloffice@rungtamines.com

Condition No. 33

We do hereby undertake to comply all the provisions of all the 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 would be applicable to the project.

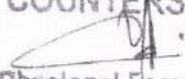
Condition No. 34

We do hereby undertake that, we shall insure compliance to provisions of all Acts, Rules and Regulations as prescribed in Para 1.21 of Chapter -1 of the Handbook of comprehensive guidelines of Forest (Conservation) Act, 1980 as issued by the Ministry's letter No. 5-2/2017-FC dated 28.03.2019.

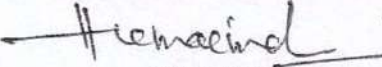
Condition No.35




We do hereby undertake that the stage-I compliance report will be uploaded on e-portal (<https://parivesh.nic.in>) of MoEF & CC, Govt. of India.




COUNTERSIGNED


Divisional Forest Officer
Bonai Division

For Rungta Mines Limited.


Director

AGENCY COPY	
  	
NEFT / RTGS CHALLAN for CAMPA Funds	
Date : 25-05-2023	
Agency Name.	RUNGTA MINES LTD
Application No.	58150057284
MoEF/SG File No.	8-01/2023-FC
Location.	ORRISA
Address.	Rungta Office, Main Road, At/PO: Barbil, OdishaKeonjhar
Amount(in Rs)	40343900/-
Amount in Words :Four Crore Three Lakh Forty-Three Thousand Nine Hundred Rupees Only	
NEFT/RTGS to be made as per following details;	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	1508258150057284 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre,21/1, III Floor, Jelitta Towers, Mission Road, Bengaluru-560027
<ul style="list-style-type: none"> This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only 	

BANK COPY	
  	
NEFT / RTGS CHALLAN for CAMPA Funds	
Date : 25-05-2023	
Agency Name.	RUNGTA MINES LTD
Application No.	58150057284
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<ul style="list-style-type: none"> This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only 	

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 and reference id to Email: fcsblr@unionbankofindia.bank , epurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank



OFFICE OF THE DIVISIONAL FOREST OFFICER, KEONJHAR DIVISION

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

Memo No. 12065 /6F-Mining-13/2022
Dated, Keonjhar the 19th October, 2023

To

The Principal Chief Conservator of Forests,
Forest Diversion and Nodal Officer, F C Act,
O/o- the PCCF, HoFF, Odisha, Bhubaneswar.

Sub:

Draft Notification for declaring non-forest land mutated in favour of State Forest, Environment & Climate Change Department for compensatory afforestation in village Talabarada under Banspal Tahasil against diversion of 83.602 ha Forest land in Chandiposi Iron Ore Block of M/s Rungta Mines Ltd. in Sundargarh District, Odisha as "Protected Forest" under section 33 of Orissa Forest Act, 1972.

Ref:

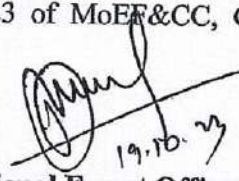
- 1.No.8-01/2023-FC dated 18.05.2023 of MoEF&CC, GoI, New Delhi.
2. No. 2018/ Rev dated 17.06.2022 & Letter No. 4076/Rev dated 24.08.2023 of Collector, Keonjhar.
3. Letter No.2327 dated 16.09.2023 Tahasildar, Banspal.

With reference to the subject cited above this is to intimate that, the following non-forest Govt. land situated in Village- Talabarada under Banspal Tahasil of Keonjhar District has been mutated and transferred in favour of State Forest, Environment & Climate Change Department for compensatory afforestation therein against diversion of 83.602 ha Forest land in Chandiposi Iron Ore Block of M/s Rungta Mines Ltd. under Koira Tahasil of Sundargarh District. Accordingly the draft PF Notification in triplicate, Map of Village- Talabarada in triplicate and the Xerox copy of RoR are submitted herewith for favour of your kind information and onwards transmission to the Government for declaration of PF Notification.

Name of the Village	Area to be notified	Project related
Talabarada, Tahsil- Banspal, Dist-Keonjhar, Odisha	83.602	Diversion of 83.602 ha Forest land in Chandiposi Iron Ore Block of M/s Rungta Mines Ltd. in Sundargarh District, Odisha.

Encl:-

1. Land allotment letter No.2022/Rev dated 17.06.2022 & Alienation Sanction Order No. 2064/Rev dated 24.08.2023 of Collector, Keonjhar.
2. Letter No.2327 dated 16.09.2023 of Tahasildar, Banspal.
3. Draft PF Notification along with Map & RoR of Vill- Lungajhar.
4. Stage-I approval order No.8-01/2023-FC dated 18.05.2023 of MoEF&CC, GoI, New Delhi.

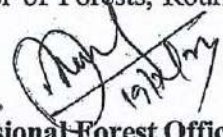

19.10.23
Divisional Forest Officer,
Keonjhar Division.


18/10

PTO

Memo No. 12066 Dated 19-10-2023

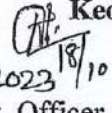
Copy forwarded to the Regional Chief Conservator of Forests, Rourkela Circle, Rourkela for favour of kind information and necessary action.

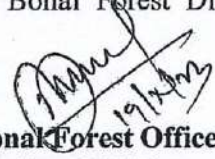


Divisional Forest Officer,
Keonjhar Division.

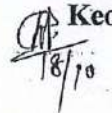
Memo No. 12067 Dated 19-10-2023

Copy forwarded to the Divisional Forest Officer, Bonai Forest Division for information and necessary action.





Divisional Forest Officer,
Keonjhar Division.



**GOVERNMENT OF ODISHA
FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT**

NOTIFICATION

No. /FE & CC, Dated, the 2023

In exercise of the powers conferred under Section -33 of the Odisha Forest Act, 1972(Odisha Act 14 of 72), the State Government do here by declare that the following land situated in Vill-Talabarada under Bansapal Tahasil of Keonjhar District mutated and transferred in favour of State Forest, Environment and Climate Change Department for Compensatory Afforestation purpose against the approved diversion of 83.6020 ha forest land in Chandiposi Iron Ore Block of M/s Rungta Mines Ltd. under Koira Tahasil of Sundargarh District vide Letter No.8-01/2023-FC dated 18.05.2023 of the Government of India, Ministry of Environment, Forest & Climate Change, new Delhi under Section 2 of the Forest Conservation Act, 1980, the limits of which are specified below and the area of which is 83.6020 ha. Shall be Protected Forests with effect from the date of issue of the Notification and shall be known as Talabarada Protected Forests.

Forest Block : Talabarada PF
Name of the Protected Forest : Talabarada PF
Area in Ha. : 83.6020 ha.
Name of the Village : Talabarada
Name of the P.S. : Nayakote
Name of the Tahasil : Bansapal
Name of the Sub-Division : Keonjhar
Name of the District : Keonjhar

Land Schedule

Site No.	Village	Khata No.	Plot No.	Kissam	Total Area In ha.	Boundary description (Plot No. existing)			
						North	South	East	West
1	Talabarada	24	10(P)	Parbat-I	0.8660	10(P),	13(P)	11(P)	10(P)
2	Talabarada	24	11(P)	Parbat-I	7.6270	11(P)	12(P)	37	10(P)
3	Talabarada	24	12(P)	Parbat-I	13.2790	11(P)	12(P)	36(P)	13(P)
4	Talabarada	24	13(P)	Parbat-I	1.8300	10(P)	18	12(P)	14
5	Talabarada	24	36(P)	Parbat-I	13.7080	37	35	68(P)	12(P)
6	Talabarada	24	40(P)	Parbat-I	4.2440	40(P)	41(P)	45(P)	40(P)
7	Talabarada	24	41(P)	Parbat-I	5.3720	40(P)	42(P)	43(P)	41(P)
8	Talabarada	24	42(P)	Parbat-I	4.4810	41(P)	68(P)	43(P)	42(P)
9	Talabarada	24	43(P)	Parbat-I	14.6620	44	59,54	43(P)	42(P)
10	Talabarada	24	45(P)	Parbat-I	6.5120	45(P)	44	46	40(P)
11	Talabarada	24	68(P)	Parbat-I	11.0210	42(P)	110, 68(P)	68(P),59	36
Total= 83.6020 ha.									

Prepared & Verified



Divisional Forest Officer,
Keonjhar Division.

BY ORDERS OF THE GOVERNOR OF ODISHA

**ADDL. CHIEF SECRETARY
GOVERNMENT OF ODISHA
FOREST, ENVIRONMENT &
CLIMATE CHANGE DEPARTMENT**

Memo No _____ /Dated

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 copy of each to this Department/ Director of land Records and Survey, Odisha, Cuttack/ Collector, Keonjhar/Divisional Forest Officer, Keonjhar / Tahsildar, Banspal.

The Notification is a Statutory may be assigned S.R.O number.

Deputy Secretary to Government.

Memo No _____ /Dated

Copy forwarded to the Revenue and Excise Department / Director of Land Records and Surveys, Odisha, Cuttack/ R.D.C (ND), Sambalpur for information and necessary action.

Deputy Secretary to Government.

Memo No _____ /Dated

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

Deputy Secretary to Government.



OFFICE OF THE COLLECTOR AND DISTRICT MAGISTRATE, KEONJHAR

No. 2022 /Rev/Dt. 17-06 /2022
XIX-03/2022

To

The Divisional Forest Officer,
Keonjhar Division, Keonjhar

Sub:-

Identification/allotment of non-forest Govt. land measuring 83.6020 Ha. in village-Talabarada under Banspal Tahasil for raising Compensatory Afforestation in lieu of forest land to be diverted proposed for mining and ancillary activities within Chandiposi Iron Ore Block in Sundargarh District by M/s. Rungta mines Ltd.

Ref:-

This Office Memo No. 1877/Rev dt.26.05.2022

Sir,

With reference to the letter on the subject cited above, I am to say that, the following schedule of non-forest Govt. land measuring 83.6020 Ha. in village- Talabarada under Banspal Tahasil has been identified for raising Compensatory Afforestation in lieu of forest land to be diverted proposed for mining and ancillary activities within Chandiposi Iron Ore Block in Sundargarh District by M/s. Rungta Mines Ltd.

Land Schedule
Tahasil-Banspal

Sl.No	Khata No	Plot No	Total Area (in Ha.)	Area identified (in Ha)	Kisam
Talabarada	24 (AAA)	10(P)	16.0000	0.8660	Parbat-I
		11(P)	16.0000	7.6270	Parbat-I
		12(P)	16.0000	13.2790	Parbat-I
		13(P)	16.0000	1.8300	Parbat-I
		36(P)	16.0000	13.7080	Parbat-I
		40(P)	17.4400	4.2440	Parbat-I
		41(P)	16.0000	5.3720	Parbat-I
		42(P)	16.0000	4.4810	Parbat-I
		43(P)	16.0000	14.6620	Parbat-I
		45(P)	10.2400	6.5120	Parbat-I
		68(P)	12.2400	11.0210	Parbat-I
Total				83.6020	

The land has been jointly verified by the R.I. Taramakanta, Tahasildar, Banspal, Forest Section Officer, Suakati and Range Officer, B.J.P. Range as reported by the Tahasildar, Banspal. (copy of the joint verification report is enclosed for reference)

Hence, in pursuance of guideline issued vide letter F.No.11-306/2014-FC dated 07.10.2014 of MOEF & CC Govt. of India, I am to say that, the above schedule of non-forest Govt. land identified for the purpose stated above will be transferred and mutated in favour of the State Forest & Environment Department for creation of C.A. against the project indicated in the 1st para on payment of premium of the non-forest Govt. land by the project proponent immediately on receipt of stage-1 approval under FC Act for diversion of forest land required by the project proponent as the guideline issued vide letter F.No.11-306/2014-FC dated 07.10.2014 of MOEF & CC Govt. of India.

Contd...P/2

P/2

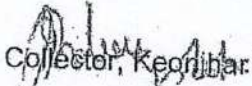
You are requested to file requisition before the Tahasildar, Banspal for sanction of alienation of the land in favour of the State Forest & Environment Department after receipt of Stage-1 approval under F.C. Act.

Yours faithfully,


Collector, Keonjhar

Memo No. No 2023 /Dt. 17-06-2022 /

Copy submitted to Joint Secretary to Government, Revenue & Disaster Management Department, Odisha, Bhubaneswar for information.


Collector, Keonjhar

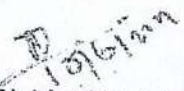
Memo No. No 2024 /Dt. 17-06-2022 /

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

Copy forwarded to the Tahasildar, Banspal for information and necessary action with reference to his L.No.1500/Rev dt. 08.06.2022.

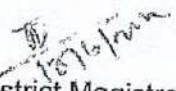
Copy forwarded to the Mining Officer, Keonjhar for information.

Copy to Guard File (Lease Branch)


Addl. District Magistrate,
Keonjhar

Memo No. No 2025 /Dt. 17-06-2022 /

Copy forwarded to the Sr. General Manager, Rungta Mines Ltd. Main Road, Barbil-758035 for information and necessary action with reference to his L.No.RML/BBL/GEO/2021-22/457 dt. 13.01.2022.


Addl. District Magistrate,
Keonjhar



OFFICE OF THE COLLECTOR & DISTRICT MAGISTRATE: KEONJHAR
AT/PO-KEONJHAR, DISTRICT: KEONJHAR, ODISHA, PIN-758001
(REVENUE SECTION)

e-mail: revenue.kjr@gmail.com

No. 2064 /Rev/Dt. 24/08/2023
XIX-74/2023

After careful consideration of the Alienation Proposal submitted by the Tahasildar, Banspal vide Alienation Case No.17/2023 and in exercise of the powers conferred vide Revenue & D.M. Department Notification No. 42899/R&DM/ dt.07.11.2009, readwith L.No. 22958/ R&DM/ dt.04.08.2014, No. 29089/ R&DM/ dt.29.09.2014 and No.31312/ R&DM/ dt.24.10.2014, sanction is hereby accorded for alienation of the following schedule of non-forest Government land in favour of State Forest, Environment & Climate Change Department for raising compensatory afforestation against diversion of 83.602Ha.Forest land (including 2.529Ha. Safety Zone) in Chandiposi Iron Ore Block in Koira Tahasil of Bonai Forest Division of Sundargarh District by M/s. Rungta Mines Limited under section 2(ii) of Forest (Conservation) Act'1980 on payment of premium/land cost of Rs.1,66,29,690/- (Rupees One Crore Sixty-Six Lakh Twenty-Nine Thousand Six hundred Ninety) only by the User Agency i.e. M/s. Rungta Mines Ltd subject to the terms and conditions as indicated below.

Land Schedule
Tahasil:- Banspal

Name of village	Khata No	Plot No	Total area as per RoR in Ha.	Area applied for alienation in Ha.	Kisam
Talabarada	24 (AAA)	10(P)	16.000	0.8660	Parbat-I
		11(P)	16.000	7.6270	Parbat-I
		12(P)	16.000	13.2790	Parbat-I
		13(P)	16.000	1.8300	Parbat-I
		36(P)	16.000	13.7080	Parbat-I
		40(P)	17.4400	4.2440	Parbat-I
		41(P)	16.000	5.3720	Parbat-I
		42(P)	16.000	4.4810	Parbat-I
		43(P)	16.000	14.6620	Parbat-I
		45(P)	10.2400	6.5120	Parbat-I
		68(P)	12.2400	11.0210	Parbat-I
11 Plots Total=			83.6020		

Premium Payable

I	Premium of the land measuring 83.6020 Ha. or Ac.206.58 @ Rs.80,500/- per acre in village- Talabarada i.e. Rs.80,500 x Ac.206.58 =	1,66,29,690/-
	TOTAL	1,66,29,690/-

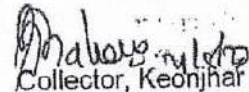
(Rupees One Crore Sixty-Six Lakh Twenty-Nine Thousand Six hundred Ninety)only.

Contd...P/2

P/2

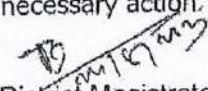
Term & conditions

1. The land shall be utilized exclusively for the purpose for which it is alienated and shall not be transferred or otherwise disposed of.
2. The Forest & Environment Department shall take such precautionary measures as necessary to keep the land free from encroachment .If the land or any portion of it is not utilized within three years for the purpose for which it is alienated, the same shall revert to Government in Revenue & Disaster Management Department free from all encumbrances and without payment of compensation for the land or for any improvement that might have been made thereto.
3. Infringement of any of the conditions of the alienation shall result in immediate resumption of the land by the Government in Revenue & Disaster Management Department free from all encumbrances.
4. The Project Proponent /User Agency i.e. M/s Rungta Mines Limited shall deposit the premium/land cost of Rs.1,66,29,690/- (Rupees One Crore Sixty-Six Lakh Twenty-Nine Thousand Six hundred Ninety) only with the Tahasildar, Banspal.
5. The User Agency will have to pay the amount over and above the premium already assessed , if any calculated and demanded, for any reason, in future.
6. The Tahasildar to realize the premium/land cost i.e. Rs.1,66,29,690/- (Rupees One Crore Sixty-Six Lakh Twenty-Nine Thousand Six hundred Ninety) only from the User Agency and take follow up action i.e. correction of RoRs etc. after realization of the premium/land cost.


Collector, Keonjhar


Memo No. 2065 /Rev/Dt 24.08.2023

Copy forwarded to the Under Secretary to Government, Revenue & D.M. Department, Odisha, Bhubaneswar/ Under Secretary, Board of Revenue, Odisha, Cuttack/ Under Secretary to Government, Forest Environment and Climate Change Department, Odisha, Bhubaneswar/ Secretary to RDC (ND) Odisha, Sambalpur for information and necessary action.


Addl. District Magistrate,
Keonjhar

Memo No. 2066 /Rev/Dt 24.08.2023

Copy forwarded to the Divisional Forest Officer, Keonjhar for information and necessary action with reference to his L.No.4522/6F-Mining- dt.24.05.2023. He is requested to take over possession of the land from the Tahasildar Banspal.

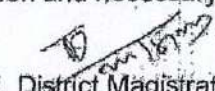

Addl. District Magistrate,
Keonjhar

Contd. P/3

P/3


Memo No. 2067 /Rev/Dt 24.08.2023

Copy forwarded to the Sub-Collector, Keonjhar for information and necessary action with referenced to his letter No.7771 dt.17.08.2023.


Addl. District Magistrate,
Keonjhar

Memo No. 2068 /Rev/Dt 24.08.2023


Copy forwarded to the Director, M/s. Rungta Mines Ltd., Main Road, Barbil, District-keonjhar-758035 for information and necessary action.


Addl. District Magistrate,
Keonjhar

Memo No. 2069 /Rev/Dt 24.08.2023

Copy forwarded to the Tahasildar, Banspal for information and necessary action. He is directed to realize the premium/land cost Rs.1,66,29,690/- (Rupees One Crore Sixty-Six Lakh Twenty-Nine Thousand Six hundred Ninety) from the User Agency and take follow up action i.e. correction of RoRs etc. after realization of the premium/land cost. The alienation case record No.17/2023 of Banspal Tahasil is returned herewith, the receipt of which may be acknowledged.

Copy to Guard File.(Lease Branch)


Addl. District Magistrate,
Keonjhar

ଖତିୟାନ

ମୌଜା : ଚଳବରଡ଼ା
 ଥାନା : ନୟାକୋଟ
 ଥାନା ନମ୍ବର : 5

ତହସିଲ : ବାଂଶପାଳ
 ତହସିଲ ନମ୍ବର : 05
 ଜିଲ୍ଲା : କେନ୍ଦୁଝର

ଜମିଦାରଙ୍କ ନାମ ଓ
 ଖେତ୍ତାଟ ବା ଖତିୟାନର
 କ୍ରମିକ ନମ୍ବର

ଓଡ଼ିଶା ସରକାର ପ୍ରଥମ ଭାଗ ଖେତ୍ତାଟ ନମ୍ବର 1

୧) ଖତିୟାନର କ୍ରମିକ ନଂ

24/1

୨) ପ୍ରକାର ନାମ, ପିତାର
 ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ

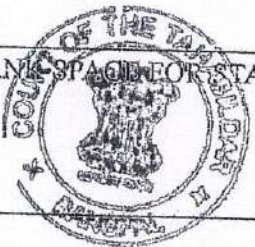
ରାଜ୍ୟ ଜଙ୍ଗଲ, ପରିବେଶ ଏବଂ ଜଳବାୟୁ ପରିବର୍ତ୍ତନ ବିଭାଗ, ଓଡ଼ିଶା ।

କ୍ରମିକ	ଜଳକର	ଖଜଣା	ସେସ	ନିସ୍ତାର ସେସ ଓ ଅନ୍ୟାନ୍ୟ ସେସ ଯଦି କିଛି ଥାଏ	ମୋଟ	୫) କ୍ରମବର୍ତ୍ତନଶୀଳ ଖଜଣାର ବିବରଣୀ
୪) ଦେୟ		0.00	0.00	0.00	0.00	

୬) ବିଶେଷ ଅନୁସଙ୍ଗ
 ଯଦି କିଛି ଥାଏ

ଅନ୍ତିମ ପ୍ରକାଶନ ତାରିଖ : 17/09/1980
 ଖଜଣା ଧାର୍ଯ୍ୟ ତାରିଖ :

BLANK SPACE FOR STAMPING



ADDL TAHSILDAR
 BANSPAL

ଖତିୟାଦର କ୍ରମିକ ନଂ - 24/1		ମୌଜା : ଚଳବରତା			ଜିଲ୍ଲା : ବେଲୁଝା
ପୁର ଚୟନ ଓ ଚଳର ନାମ	କ୍ଷମତା ଓ ପୁର ଖଜଣା	କ୍ଷମତା ବିଶାରିତ ବିବରଣୀ ଓ ଚୌହଦି	ଭାଗର		ମୂଲ୍ୟ
			ଏକର	ଫୁ	
୭	୮	୯	୧୦	୧୧	୧୨
10/129	ପର୍ବତ ଏକ		21399	0.8660	
11/130	ପର୍ବତ ଏକ		18846	7.6270	
12/131	ପର୍ବତ ଏକ		32813	13.2790	
13/132	ପର୍ବତ ଏକ		4522	1.8300	
36/133	ପର୍ବତ ଏକ		33873	13.7080	
40/134	ପର୍ବତ ଏକ		10487	4.2440	
41/135	ପର୍ବତ ଏକ		13274	5.3720	
42/136	ପର୍ବତ ଏକ		11072	4.4810	
43/137	ପର୍ବତ ଏକ		36230	14.6620	
45/138	ପର୍ବତ ଏକ		16091	6.5120	
68/139	ପର୍ବତ ଏକ		27233	11.0210	
11 ପୁର			2065809	83.6020	

ADDL. TAHASILDAR
BANS PAL

Government of India
Ministry of Environment, Forest and Climate Change
(Forest Conservation Division)

Indira Paryavaran Bhawan,
Jorbagh Road, Aliganj
New Delhi – 110003
Dated: 18th May, 2023

To
The Addl. Chief Secretary (Forests),
Government of Odisha,
Bhubaneswar.

Sub: Proposal for seeking prior approval under Section 2 (ii) of the Forest (Conservation) Act, 1980 in favour of M/s Rungta Mines Ltd. for non-forestry use of 83.602 ha of forest land including 2.529 ha of Safety Zone in Chandiposhi Iron Ore Block in Koira Tahasil of Bonai Forest Division of Sundargarh District, Odisha– (Online proposal No. FP/OR/MIN/150057/2021) reg.

Madam/Sir,


I am directed to refer to the Government of Odisha's letter No FE-DIV-FLD-0001-2023-300/FE&CC dated 06.01.2023 on the above subject seeking prior approval of the Central Government under Section 2 of the Forest (Conservation) Act, 1980 and letter no. 3632/9F(MG)-104/2022 dated 24.02.2023 forwarding additional information as sought by the Ministry vide its letter of even number dated 02.02.2023 and to say that the proposal has been examined by the Advisory Committee constituted by the Central Government under Section - 3 of the aforesaid Act.

2. After careful examination of the proposal of the State Government and on the basis of the recommendations of the 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 in favour of M/s Rungta Mines Ltd. for non-forestry use of 83.602 ha of forest land including 2.529 ha of Safety Zone in Chandiposhi Iron Ore Block in Koira Tahasil of Bonai Forest Division of Sundargarh District, Odisha subject to fulfillment of the following conditions:

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

2. **Compensatory Afforestation:**

- a. The User Agency shall transfer the cost of raising and maintaining the compensatory afforestation as per the approved CA Scheme at the current wage rate in consultation with State Forest Department in the account of CAMPA of the concerned State through online portal;
- b. The land identified for raising Compensatory Afforestation shall be notified by the State Government as RF under Section-4 or PF under Section-29 of the Indian Forest Act. 1927 or under the relevant Section


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- (s) of the local Forest Act, as the case may be, before the Stage-II approval;
- c. The cost of survey, demarcation and erection of permanent pillars, if required on the identified 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;
 - d. The compensatory afforestation over non-forest land, equal in extent to the forest land being diverted i.e. 83.602 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;
 - e. 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 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;
 - f. 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;

3. NPV:

- a. 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 06.01.2022 read with 22.03.2022 through online portal of CAMPA account of the State Concerned;
 - b. 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. *A Site-Specific Wildlife Conservation Plan shall be prepared and implemented at the project cost;*
 5. *An Integrated Regional Wildlife Conservation Plan specially addressing the movement of elephant in the entire Sundargarh and Keonjhar district comprising Jharsuguda, Sundargarh, Bonai and Keonjhar Forest Division may be prepared by the State Govt. to mitigate adverse impact of mining on the movement of elephant and other wildlife by proportional share from the lease holders;*
 6. *The State/User Agency shall raise thick plantations as a green belt, to minimize air and sound pollution, around habitations near to their mine. As far as possible the user agency should address the livelihood of the villagers by*

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- providing direct/indirect employment and should regularly check their health issues and related treatment as long as they are not properly rehabilitated;*
7. *The Nalla situated in the mining lease area shall not be diverted so as to retain the natural course of flow of water. No discharge from the mining site should enter the natural river and stream. To stabilize the bank of Nalla and to avoid siltation and flood a safety zone of 50 meter on both sides of Nala shall be maintained as green belt;*
 8. *Soil and moisture conservation measures in the rest of the catchment of this Nala and the forest lands in and around the proposed site shall be carried out to ensure recharge of water;*
 9. *As per the mining plan no activities have been proposed in 6.120 ha of non-forest land. Fruit bearing trees shall be raised in this 6.120 ha of land wherever possible;*
 10. *Transportation of ore should be done as per the recommendation of NEERI;*
 11. 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/>);
 12. 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;
 13. 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:
 - a. Mitigative measures to minimize soil erosion and choking of stream shall be implemented within a period of three years with effect from the issue of Stage-II clearance in accordance with the approved Plan in consultation with the State Forest Department;
 - b. 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;
 - c. Construction of check dams, retention /toe walls to arrest sliding down of the excavated material along the contour in accordance with the approved scheme;
 - d. 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
 14. **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:
 - a. 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;
 - b. Boundary of the safety zone of the mining lease, adjacent to habitation/roads, should be properly fenced by the user agency;



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- c. 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;
- d. The State Government and the user agency shall ensure that safety zone is maintained as per the prescribed norms;
15. No damage shall be caused to the top-soil and the user agency will follow the top soil management plan;
16. 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;
17. The cost of felling of trees shall be deposited by the User Agency with the State Forest Department;
18. Trees should be felled in phased manner as per the requirement in the approved Mining Plan with prior permission of concerned DFO;
19. 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.
20. 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. 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;
21. 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;
22. 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;
23. 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


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- 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;
24. 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;
 25. The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;
 26. 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;
 27. 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;
 28. 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;
 29. 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;
 30. No damage to the flora and fauna of the adjoining area shall be caused;
 31. 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;
 32. 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
 33. 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.
 34. 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.
 35. The compliance report shall be uploaded on e-portal (<https://parivesh.nic.in/>).

After receipt of compliance report on fulfillment 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/
(Suneet Bhardwaj)

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.

AGENCY COPY	
 <small>यूनियन बैंक ऑफ इंडिया</small>	
 	
NEFT / RTGS CHALLAN for CAMPA Funds Date : 11-10-2023	
Agency Name.	RUNGTA MINES LTD
Application No.	58150057118
MoEF/SG File No.	8-01/2023-FC
Location.	ORRISA
Address.	Rungta Office, Main Road, At/PO: Barbil, OdishaKeonjhar
Amount(in Rs)	1323900/-
Amount in Words :Thirteen Lakh Twenty-Three Thousand Nine Hundred Rupees Only	
NEFT/RTGS to be made as per following details;	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	1508258150057118 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre,21/1, III Floor, Jelitta Towers, Mission Road, Bengaluru-560027
• This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only	

BANK COPY	
 <small>यूनियन बैंक ऑफ इंडिया</small>	
 	
NEFT / RTGS CHALLAN for CAMPA Funds Date : 11-10-2023	
Agency Name.	RUNGTA MINES LTD
Application No.	58150057118
MoEF/SG File No.	8-01/2023-FC
Location.	ORRISA
Address:	Rungta Office, Main Road, At/PO: Barbil, Odisha Keonjhar
Amount(in Rs)	1323900/-
Amount in Words :Thirteen Lakh Twenty-Three Thousand Nine Hundred Rupees Only	
NEFT/RTGS to be made as per following details;	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	1508258150057118 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre, 21/1, III Floor, Jelitta Towers, Mission Road, Bengaluru-560027
• This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only	

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 and reference id to Email: fcsblr@unionbankofindia.bank , epurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank

SCHEME FOR
1.5 TIMES SAFETY ZONE AFFORESTATION
OVER 4.00 HA. IN DEGRADED
FOREST LAND
IN DHENKIAM .R.F.
(TAMRA RANGE)
OF
BONAI FOREST DIVISION
FOR CHANDIPOSHI IRON ORE BLOCK
OF
M/S RUNGTA MINES LTD.

**SCHEME FOR 1.5 TIMES SAFETY ZONE AFFORESTATION OVER 4.00 HA.
IN DEGRADED FOREST LAND IN DHENKIAM R.F. (TAMRA RANGE) OF BONAI
FOREST DIVISION FOR CHANDIPOSHI IRON ORE BLOCK OF
M/S RUNGTA MINES LTD.**

1. INTRODUCTION:

Government of India in the Ministry of Environment, Forest and Climate Change, Govt. of India has granted Stage-I approval for diversion of 83.602 ha. of forest land (including 2.529 ha. of Safety Zone) for Chandiposhi Iron Ore Block of M/s Rungta Mines Ltd. within their allotted Chandiposhi Iron Ore Block of 131.580 ha. in Bonai Forest Division vide his Letter No.8-01/2023-FC dt.18.5.2023. The MoEF & CC has stipulated certain conditions for fulfillment. As per Condition No.2 (e) of the MoEF & CC, the afforestation on degraded forest land to be selected elsewhere measuring one and half times the area under safety zone shall be done at the project cost. The total Safety zone in the forest area comes to 2.529 ha. So, 1.5 times Safety Zone area comes to 3.794 ha. (2.529 ha. X 1.5 times). Accordingly, the Range Officer, Tamra has identified 4.00 ha. of degraded forest land. The location of the 1.5 times Safety zone afforestation area has been shown in the Topo map vide **Annexure-IX.**

Plantation of 200 nos. of seedlings per ha. at a spacing of 2.5 Mt. x 2.5 Mt. will be taken up over 4.00 Ha. of identified area. The cost estimate for this plantation calculated as per cost norm for ANR plantation is enclosed as **Annexure-I.**

2. IDENTIFICATION OF THE DEGRADED FOREST AREA:

An area of 4.00 ha. of degraded forest land has been identified in Dhenkiam RF of Tamra Range of Bonai Division for taking up 1.5 times Safety Zone Afforestation. Dhenkiam RF comes under Selection Working Circle as per the Working Plan of Bonai Forest Division. The area has been inspected by the Range Officer, Tamra Range and found to be suitable for 1.5 times Safety Zone Afforestation, and free from encroachment & encumbrances. Certificate to this effect furnished by the Range Officer, Tamra Range (**Annexure-V**).

Further the identified area has been verified with the help of Decision Support System (DSS) & found the area suitable for plantation. The DSS report is attached as (**Annexure-VI**).

The Certificate on DSS analysis report in the prescribed format is enclosed as (**Annexure-VII**).

3. **TOPOGRAPHY AND SOIL:**

The forest land identified for this purpose is Hilly to slope, sandy loam and stony in some patches. The area experiences tropical climate with monsoon rainfall.

4. **CLIMATE**

The area experiences Sub-tropical climate. It is characterized by very hot summer and cool winter. Maximum temperature during summer rises upto 44^o Celsius and the minimum goes down to 8^o Celsius. The area gets rain from South-East Monsoon, which breaks during second fortnight of June and continues upto last week of September. The annual rainfall varies from 780 to 1880mm. The annual average rainfall is 1500mm. The bulk of precipitation occurs during July-August. During April-May, occasional rainfall occurs along with thunder storm.

5. **EXISTING VEGETATION.**

The vegetation of degraded forest land identified for raising 1.5 times of Safety Zone area in Dhenkiam RF comprises of Sal, Asan, Karda, Kurei, Bheru, Mae, Kendu etc. The canopy density has been reported to be less than 0.4.

6. **OBJECTIVE OF THE SCHEME:**

- i) To restock the barren forest land by planting suitable species.
- ii) To improve the micro-edaphic conditions by undertaking suitable soil and moisture conservation measures.
- iii) To protect the area against encroachment, illicit felling, fire occurrence, grazing etc., so as to check further degradation of the area.
- iv) To provide gainful employment to the local people mainly involving SC/ST population.
- v) To create awareness among the local villagers on protection and maintenance of plantation and forest.

7. **PROPOSED TECHNIQUE:**

To achieve the above objectives, it has been proposed to take up ANR Plantation @ 200 seedlings per hectare at a spacing of 2.5 mtr x 2.5 mtr over 4.00 ha. (18 months old seedlings) in the identified degraded forest area of Dhenkiam RF of Tamra Range. The said plantation work shall be undertaken in the 0th year (Pre-plantation operation) followed by first year plantation work and maintenance during 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th. & 10th year. The detailed expenditure statement per hectare is enclosed as Annexure-I.

(A). SURVEY AND DEMARCATION:

The area is surveyed and demarcated in the field with the help of G.P.S. The GPS co-ordinates of the boundary of the site are mentioned in the Map. RCC Pillars of usual size will be posted along the boundary line. This operation will be helpful in future maintenance and management. The GPS Map showing the identified area has been enclosed as Annexure-VIII.

(B). REGENERATION CLEANING AND TENDING OPERATION:

The operation aims at tending the existing crop silviculturally for better growth. It involves removal of inferior and diseased tree growth. During this operation, climbers etc which interferes with the growth of the existing crop are to be cut. This operation helps sapling to grow better and faster. The site clearance is to be done by cutting and removal of Eupatorium and all other unwanted growth.

The following operation will be carried out during the operation.

- i) Cutting back of individual inferior poles interfering with the growth of better ones
- ii) Cutting back of malformed and diseased individuals.
- iii) Singling of coppice shoots & retaining healthier ones.
- iv) Cutting of climbers.
- v) Cutting back of high stumps flush to the ground.
- vi) Pruning the branches of the poles up to hand reach.

During 1st year operation, climber cutting, high stump cutting, and cutting of shrub, herbs, malformed and diseased plants will be done. In the next two years, cutting of individuals and singling of economically important species will be done.

(C). PLANTATION:

The area will be stocked by way of raising plantation in ANR with gap Plantation. Taking in to consideration the soil condition, the local habitation and suitability of the site, the following species are selected.

- | | |
|---|--|
| 1. <i>Dalbergia latifolia</i> (Sisoo) | 7. <i>Gmelina arborea</i> (Gambhari) |
| 2. <i>Pongamia pinnata</i> (Karanja) | 8. <i>Mangifera indica</i> (Mango) |
| 3. <i>Emblica officinalis</i> (Amla) | 9. <i>Artocarpus heterophyllus</i> (Panas) |
| 4. <i>Terminalia bellerica</i> (Bahada) | 10. <i>Limonia acidissima</i> (Kaitha) |
| 5. <i>Terminalia chobula</i> (Harida) | 11. <i>Syzygium cumini</i> (Jamu) |
| 6. <i>Acacia catechu</i> (Khair) | |

The following operations will be taken up for plantation;

i) Raising of nursery:

Seedlings required for plantation shall be raised in a temporary nursery nearer to the planting site and water sources. Nursery work will be started 18 months prior to the year of plantation so that quality seedling stock will be available for plantation. The seedlings shall be raised 10% extra besides the actual requirement to compensate the casualties. Seedlings will be raised in polythene bags of 9" x 5" size following standard nursery practice.

ii) Alignment and pitting:

Alignment and pitting will be taken up in the month of March-April, Pits of size 45cm x 45cm x 45cm will be dug maintaining a spacing of 2.5mtr x 2.5mtr @200 seedlings per ha. It is proposed to take up Plantation in the blank patches.

iii) Actual Planting:

The seedlings will be planted @200 seedlings per ha. in the dug out pits of size 45cm x 45cm x 45cm with a spacing of 2.5mtr x 2.5mtr. Plantation shall be taken up after first regular shower of monsoon and completed by the end of July. Species will be planted as per suitability of the soil condition. NPK/ Bio fertilizer @50gms per plant shall be applied as basal dosage. Anti-termite insecticide shall also be applied to each pit while planting. Casualties if any noticed shall be replaced with the excess seedlings raised for the purpose. During second year also, casualty replacement will be done for which seedlings shall be raised.

iv) Weeding, Soil working & manuring :

For establishment and better growth of the planted seedlings, timely weeding, soil working and manuring are necessary. It is proposed to carry out two weedings, soil working and manuring during the first year and second year of plantation and one weeding and soil working during third year. During first year and second year, first weeding and manuring shall be carried out during August-September and the second one during October-November along with soil working. First weeding shall be around the plants and the second will be of strip weeding. The weeding of third year will be around the plants, which will be carried out during August.

After each weeding, soil working will be done around each plant at a radius of 0.5mtr, and manuring of each plant will be done @50grms of NPK/ Bio fertilizer per plant in ring form.

v) Application of insecticides:

After planting of good healthy seedlings, the plantation site may cause influx of insects, which usually eat and damage the tender leaves and shoots of the plants. To get rid of such insect attack, application of insecticides will be taken up in required doses at desired intervals. Spraying of insecticides shall be done preferably in a sunny day in the forenoon as per requirement.

vi) Fire line tracing and maintenance:

Fire causes heavy loss to the forest & plantation during fire season. To prevent incidence of fire, the area shall be divided in to suitable blocks by tracing fire lines. Boundaries of the plantation patches and these block lines will be scrapped of the growth to a width of 2.0mtr during February-March and the cut back materials and the dry leaves stacked along these lines will be burnt under strict supervision. This operation shall be carried out for three years.

8. SOIL CONSERVATION MEASURES:

The site selected for 1.5 times Safety Zone Afforestation is degraded Proposed Reserve Forest, undulating, and gullies have been formed due to erosion. So, Soil Conservation Measures like Staggered Trench, Percolation Pit, Contour Trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke and WHS as per site requirement have been proposed. The cost norm of SMC is enclosed as Annexure-III.

9. FENCING:

To protect the ANR plantation from biotic interference, Bamboo twigs & Thorns fencing is proposed over the identified area of 4.00 ha. in Dhenkiam Reserve Forest of Tamra Range. The total perimeter of the said identified area is 855 RMT (Or, 0.855 Km) length of boundary.

The cost norm for Bamboo twigs & Thorns fencing is enclosed as Annexure-II.

10. WATERING :

Watering of the plantation will be carried out aided by solar system with Borewell (1 system for 5 ha. plantation) fitted with Drip system. The cost norm is furnished as Annexure-IV.

11. MOTIVATION OF PEOPLE:

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Ludhuni village is to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages.

12. EXECUTING AGENCY :

The Divisional Forest Officer, Bonai Division shall execute the work by involving the local VSS mentioned above.

13. INSPECTION, MONITORING & EVALUATION:

In order to make the Afforestation under this 1.5 times Safety Zone Afforestation Scheme successful, intensive inspection of the plantation by the Forest field staff and the Officers at the Divisional level is necessary. Moreover, frequent monitoring and evaluation shall have to be done at different stages.

14. REQUIREMENT OF FUNDS:

For implementation of all prescriptions outlined above ₹ 13,23,900/- (Rupees Thirteen Lakh Twenty Three Thousand Nine hundred) only will be required as detailed below.

1.	ANR Plantation @200 plants per hectare over 4.00 ha. @₹1,05,986/-	₹	4,23,944.00
2.	Bamboo twigs & Thorns fencing over 0.855 KM (Or, 855 RMT) @₹440.856/- per RMT.	₹	3,76,932.00
3.	Soil conservation measures structures like staggered trench, percolation pit, contour trench, graded earthen bund, LBCD, wire mesh, LBCD, Sub surface Dyke and Water Harvesting structures = 4.00 ha X ₹39,284/-.	₹	1,57,136.00
4.	Water provision to plantation: Solar system with Bore well (1 system for 5 Ha. Plantation) fitted with Drip system @ ₹2,45,476/- X 1 nos.	₹	2,45,476.00
		Sub-Total :-	₹ 12,03,488.00
5.	Entry Point Activities (10%) of the cost		1,20,349.00
		G. TOTAL :-	₹ 13,23,837.00 Or, ₹ 13,23,900.00

(Rupees Thirteen Lakh Twenty Three Thousand Nine hundred) only.

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

Divisional Forest Officer,
Bonai Division.

ANNEXURE-I

ANNEXURE-6						
Programs for Compensatory Afforestation through Aided Natural Regeneration (ANR) @ 200						
Seedlings/ha. 120 months old seedling						
WAGE RATE Rs- 311/- 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.)
0th Year (Advance work) Pre-Planting Operation						
1	Survey and Pillar posting	Nov/Dec	2	622	0	622
2	Preparation of Management Map (Digital Map)	Nov/Dec	1	311	100	411
3	Preparation of Management Map (Physical Map)	Nov/Dec	2	622	0	622
4	Preparation of Management Map including clearance of forest, cutting of trees, High stump cutting, singling of about 10% of cut out after drying treat the field to 100%	Jan/Feb	15	4665	0	4665
5	Alignment and marking for digging of pits	Feb/Mar	0.5	156	0	156
6	Digging of pits (1.5 m x 1.5 m x 45 cm) in neat and straight lines	Feb/Mar	8	2488	0	2488
Total			28.5	8063.5	100.0	8163.5
1st Year/Planting Year						
7	Removal of weeds by clearing the deposit soil of the pits, application of organic compounds/ COM/ FYM & making the soil perfectly	June/Jul	1.5	466.5	1000	1467
8	Transportation of 18 months old polythene bag seedlings from track tractor from the nursery to the nursery to planting site including labour charges	Jul/Aug	0	0	1320	1320
9	Planting of 18 months old polythene bag seedlings at starting site of plantation	Jul/Aug	0.5	156.5	0	156
10	Planting of 18 months old polythene bag seedlings on head land resulting in 100% survival rate in individual digout pit within 10 days by applying insecticide, fertilizer & mulch to the soil with other applicat	Jul/Aug	4.5	1399.5	0	1400
11	Application of insecticide @ 500 mg/plant at basal dose @ 1000 mg per ha @ 300.00	Jul/Aug	0	0	600	600
12	Application of compost/2/3 Khat/any other material @ 150.00	Jul/Aug	0	0	600	600
13	Application of Bio-pesticide @ 5 gms/plants @ 1 kg @ 150.00	Jul/Aug	0.5	156	0	156
14	Application of 100g (20 nos.)	Aug/Sept	2	622	0	622
15	Application of 100g (20 nos.)	Oct/Nov	3	933	0	933
16	Application of 100g (20 nos.)	Feb/Mar	3	933	0	933
17	Application of 100g (20 nos.)	Aug/Mar	8	2488	0	2488
Total			23	7153	2920	10073
2nd Year Maintenance						

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Item No.	Name of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
1	12 m wide fire line over 400 m length	Feb/Mar	3	933.00	0	933
2	12 m wide fire line over 400 m length including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	Total		15.0	4665.0	0.0	4665.0
9th Year Maintenance						
1	12 m wide fire line over 400 m length	Feb/Mar	3	933.00	0	933
2	12 m wide fire line over 400 m length including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	Total		15.0	4665.0	0.0	4665.0
10th Year Maintenance						
1	12 m wide fire line over 400 m length	Feb/Mar	3	933.00	0	933
2	12 m wide fire line over 400 m length including watering as per requirement	Apr/Mar	12	3732.00	0	3732
	Total		15.0	4665.0	0.0	4665.0

Year wise Abstract of Cost Norms (showing seedling cost separately)

Year	No. person days	Labour cost @ Rs. 311/- per day (Rs)	Material Cost (In Rs.)	Monitoring Evaluation, Learning, Documentation and Other Contingency (8% of (4+5+6))	Cost of Seedlings @Rs.50.31 per seedlings	TOTAL COST
1	2	3	4	5	6	7
2015	2115	657.65	100	436.50	0.00	940.00
2016	220	687.20	2920	427.00	11060.00	21560.00
2017	195	606.45	195	240.50	1096.00	806.00
2018	190	590.90	500	231.00	1.00	670.00
2019	150	466.50	0	135.00	0.00	400.00
2020	150	466.50	0	135.00	0.00	400.00
2021	150	466.50	0	135.00	0.00	400.00
2022	150	466.50	0	135.00	0.00	400.00
2023	150	466.50	0	135.00	0.00	400.00
2024	150	466.50	0	135.00	0.00	400.00
2025	150	466.50	0	135.00	0.00	400.00
Total	1950	60645.0	4275.0	2280.0	12074	79274.0

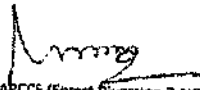
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1. The cost norms are based on the prevailing rates of wages and materials in the region of Karnataka and should be revised as per the prevailing rates.

2. The cost norms for the LDC, Gully Plugging, Marginal Trench, Central Trench, Gravel Band, etc. may be taken up as per the rates mentioned in the CA prepared when up-graded. The cost norms for the LDC and Marginal trench may be preferred to CA with the use of hand area.

3. The cost norms for the LDC and Marginal Trench may be estimated as per the availability of water.

4. The cost norms may be changed with the approval of the concerned DCEs keeping the overall cost norms fixed for each financial year.


APCCF (Forest Division & NO, FC Act)

Metric for AVR-200 Plans/Ha

Sl. No.	Commitment Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	Total Cost	
1	2002-22	5400	21500	3000	5700	6600	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	100000
2	2002-23	5400	2766	8016	7755	8804	6135	6437	6754	7081	7416	7819												96181
3	2003-24		9670	23778	9267	3124	6126	6432	6754	7081	7417	7828	8220											
4	2004-25			10258	24881	9730	3551	6432	6754	7081	7417	7819	8202											
5	2005-26				10882	16215	12817	8970	6754	7081	7417	7819	8202											
6	2006-27					14429	27576	10778	8428	7081	7417	7819	8202											
7	2007-28							11907	28902	11265	9899	7662	7819	8202										
8	2008-29							12897	25112	11807	10284	8428	8202											
9	2009-30							7819	31867	22128	17828	8202	8202											
10	2010-31									12897	25112	11807	10284											

APCD (Forest Division & NO. FC Act)

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ANNEXURE-II

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Fencing Model 1st					
Comprositary Plantation raised inside the Forest Area using Bamboo Twigs & Thorns					
WAGE RATE RS. 911/- PER DAY					
Items of work	Preliminary Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per Ha.)
0th Year Maintenance					
		0	0	0	0
1st Year Maintenance					
Preparation of 250 (100/100) x 1000 (100/100) bamboo twigs (out of 120/Handic)	Sept./Oct	30	9330	14133	23463.0
Planting of 1000 bamboo twigs (out of 120/Handic)	Sept./Oct		0	8400	8400.0
Planting of 1000 bamboo twigs (out of 120/Handic)	Sept./Oct	6.5	2021.5		2021.5
Planting of 1000 bamboo twigs (out of 120/Handic)	Sept./Oct		0	4200	4200.0
Planting of 1000 bamboo twigs (out of 120/Handic)	Sept./Oct	9	2799		2799.0
Planting of 1000 bamboo twigs (out of 120/Handic)	Sept./Oct		0	5775	5775.0
TOTAL		45.5	14150.5	31608.5	45709.0
2nd Year Maintenance					
Maintenance of bamboo twigs fence including	Feb./Mar	20	6220	1500	7720
3rd Year Maintenance					
Maintenance of bamboo twigs fence including	Feb./Mar	20	6220	5675	11895
4th Year Maintenance					
Maintenance of bamboo twigs fence including	Feb./Mar	20	6220	5675	11895
5th Year Maintenance					
Maintenance of bamboo twigs fence including	Feb./Mar	20	6220	5675	11895
Abstract					
Year	No. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)	
0th	0.0	0.0	0.0	0.0	
1st	45.5	14150.5	31608.5	45709.0	
2nd	20.0	6220.0	1500.0	7720.0	
3rd	20.0	6220.0	5675.0	11895.0	
4th	20.0	6220.0	5675.0	11895.0	
5th	20.0	6220.0	5675.0	11895.0	
Total	125.5	39080.5	50133.5	89164.0	


APCC (Forest Division & ND, FC Act)

Matrix for Model F - I Fencing (Bamboo Twig)

Sl. Commodity and Year	IN RUBIES																Total Cost	
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI		
Base Price	0	45759	7720	21896	11865	11895												
1 2021-22	0	48057	8511	13770	14458	15187											99967	
2 2022-23			30440	3887	24239	15181	15840											104956
3 2023-24				30991	4184	15382	13842	20937										110224
4 2024-25					85870	9803	15941	18739	47524									115725
5 2025-26						48816	10345	45736	11924	18684								121512
6 2026-27							5171	15811	14873	14873								127088
7 2027-28								8017	1702	2082	20316	20316						133968
8 2028-29									6170	1570	1927	2043	2040					140885
9 2029-30										1488	1501	2287	2030					147899
10 2030-31											2621	1202	2183					155281

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ANNEXURE-III

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Annexure-11

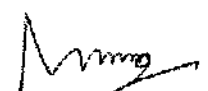
WAGE RATE Rs. 111/- PER DAY

Sl. No.	Item of Works	Preferable Period of Execution	Total Cost
2th Year (Pre-Planting Operation)			
	1st Year		0
	2nd Year		
	Pre-planting structures like Slaggered Trench, Percolation pit, water to then burst, L.H.D. Wire mesh L.H.D. Side surface Dyke, etc. & soil conservation on 1st	Apr/Sept	20,215
	2nd Year		
	Pre-planting cost @ 1% of total year cost	Apr/Jul	3,032
	3rd Year		
	Pre-planting cost @ 1% of annual year cost	Apr/Jul	3,032
	4th Year		
	Pre-planting cost @ 1% of annual year cost	Apr/Jul	3,032
	5th Year		
	Pre-planting cost @ 1% of annual year cost	Apr/Jul	3,032
	Total		32,343.0

Abstract

Sl. No.	Item	No. person days	Labour cost @ Rs. 111/- per day	Material Cost	Total cost (Rs.)
		0.0	0.0	0.0	0.0
		0.0	0.0	20,215.0	20,215.00
		0.0	0.0	3,032.00	3,032.00
		0.0	0.0	3,032.00	3,032.00
		0.0	0.0	3,032.00	3,032.00
		0.0	0.0	3,032.00	3,032.00
	Total	0.00	0.00	32,343.0	32,343.00

1. Different items of work may be taken up as per the scope & requirements of the plantation site out of the design as specified above. 2. The cost of the work may be increased along this document.


 AMCCY (Forest Division & NO. PE Act)

Matrix for [SMC]

Sl. No.	Commence Month Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
Base Month		0	20215	3092	3092	3092	3092	3092										
1	2021-22	0	21276	3342	3529	3585	3670											35633
2	2022-23		0	22787	3509	3595	3680	4054										37915
3	2023-24			0	23403	3584	3670	4052	4287									39284
4	2024-25				0	24571	3658	4054	4285	4480								41208
5	2025-26					0	25800	4551	4287	4473	4704							43310
6	2026-27						27092	5264	4480	4678	4904	5136						45425
7	2027-28							28305	4607	4704	4935	5166						47719
8	2028-29							0	29557	4704	4935	5166						50136
9	2029-30							0	30867	4935	5166	5403						52642
10	2030-31							0	32143	5166	5403	5645						55374

In Rupees

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ANNEXURE-IV

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		Watering Model-W-1			
		Watering provision to CA Plantation			
		System with bore well (1 system for 5 Ha plantation) fitted with Drip system, Wage rate @ Rs.311/-			
		Year of installation (1st Year)			
1	Capex	1.58,000			
2	Opex	7,00,000			
3	Wage	50,000			
4	Cost	15,000			
5	Total	8,02,431			
6	Cost per Ha	(Rs.17,447.5) - (Rs.1,67,446/-)			
7	1st Year Watering	1,63,866			
8	2nd Year Watering	0			
9	3rd Year Watering	8,174			
10	4th Year Watering	8,174			
11	5th Year Watering	8,174			
	Total	1,79,388			
Abstract					
Sr No.	Year	Nr. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
1	2017	0	0.0	1,63,866.0	1,63,866.0
2	2018	0	0.0	0.0	0.0
3	2019	0	0.0	8,174.0	8,174.0
4	2020	0	0.0	8,174.0	8,174.0
5	2021	0	0.0	8,174.0	8,174.0
	Total	0	0	1,79,388.0	1,79,388.0

APCCF (Forest Division & ND, FC Act)

Matrix for Watering W1 (Solar Borewell) fitted with Drip System (per Ha)

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	163486	0	8174	8174	8174	8174	8174										
1	2021-22	264486	0	9011	9483	9935	30758											222653
2	2022-23		17552	0	9482	9936	10437	32255										233786
3	2023-24			180243	0	8833	10493	10964	33971									245876
4	2024-25				189755	0	10482	10955	11402	35687								257791
5	2025-26					189735	0	10954	11405	12087	37387							270819
6	2026-27						20865	0	11328	12081	39138							284271
7	2027-28							21082	0	12077	12881	13590	42138					298180
8	2028-29								12881	0	12881	13816	14881	15881				313099
9	2029-30									12881	0	13816	14881	15881	16881			328944
10	2030-31										12881	0	14881	15881	16881	17881		345412

In Rupees

13

6F
31.7.23



ANNEXURE - V

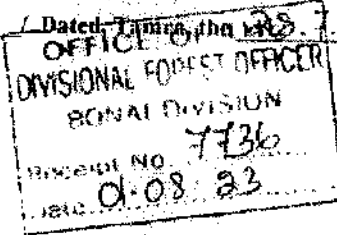
ବନାଞ୍ଚଳ ଅଧିକାରୀ କ କାର୍ଯ୍ୟାଳୟ, ତାମ୍ରା ବନାଞ୍ଚଳ

OFFICE OF THE FOREST RANGE OFFICER, TAMRA FOREST RANGE
A.T.O. GHORUNDIA, DIST- SUNDERGARH, STATE-ODISHA

Memo No.: 1052 / Dated: Tamra, the 23 July, 2023

To

The Divisional Forest Officer,
Bonai Forest Division, Bonai
Dist: Sundergarh.



Sub: Submission of Topo and GPS map of degraded Forest land over 4.00 ha. Identified in Dhenkiam R.F. under Tamra Forest Range under Bonai Forest Division against 1.5 times safety zone for iron ore mining in Chandiposhi Iron Ore Block of M/s Rungta Mines Ltd. in Tahasil Koira in Sundargarh District, Odisha.

Ref: - Your Office Memo No-4303/6F-(Mg.)Dt -04.05.2023.

Sir,

With reference to the subject cited above, I am submitting herewith the proposal for plantation over 4.00 ha. of degraded forest land inside Dhenkiam R.F having canopy density below 0.4 (approx.) required for plantation on the ANR model @200 nos plants per ha over 4.00 ha of forest land coming under Bonai Forest Division in Sundargarh District. Plant species such as; Karanj, Neem, Panasa, Bamboo, Aswastha, Bara & Mango etc. are suitable for the ANR plantation over the identified degraded forest land of 4.00 ha. The findings are given below:

1. The identified degraded forest land is coming under Dhenkiam R.F and Compartment No SWC Compt / DM-13 under Tamra Forest Range under Bonai Forest Division.
2. Some Forest Species standing in scattered manner in the boundary line of the identified degraded Forest. Separate map with GPS reading of the site enclosed herewith
3. RCC pillars were posted and numbered serially.
4. Canopy of the vegetation (density) is less than 0.4 (approx.) and species found such as Sal, Asan, Karda, Kurei, Bheru, Mac, Kendu etc. in this selected degraded area.
5. The area is suitable for ANR plantation @200 per Ha. As some of the patches are rocky area. (Hudi)
6. The area is suitable for Plantation in management point view.
7. Yes, the area is free from encroachment and encumbrances, and not included under FRA '2006'.
8. No, the area has not been allotted previously for any other project.
9. GPS Map enclosed.
10. The perimeter of the identified degraded forest land for fencing is 855 meters (approx.).
11. Sandy loam and stony in some patches.
12. The adjoining village of the identified area North-Ludhum, East- River Bramhani South-Dhenkiam RF West -Dhenkiam RF.
13. SWC Compt. /DM-13
14. Yes, a masonry sign board fixed at the identified degraded Forest Land.

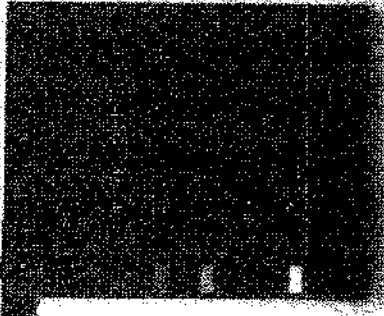
This is for favour of your kind information and necessary action.

Encl: As above.

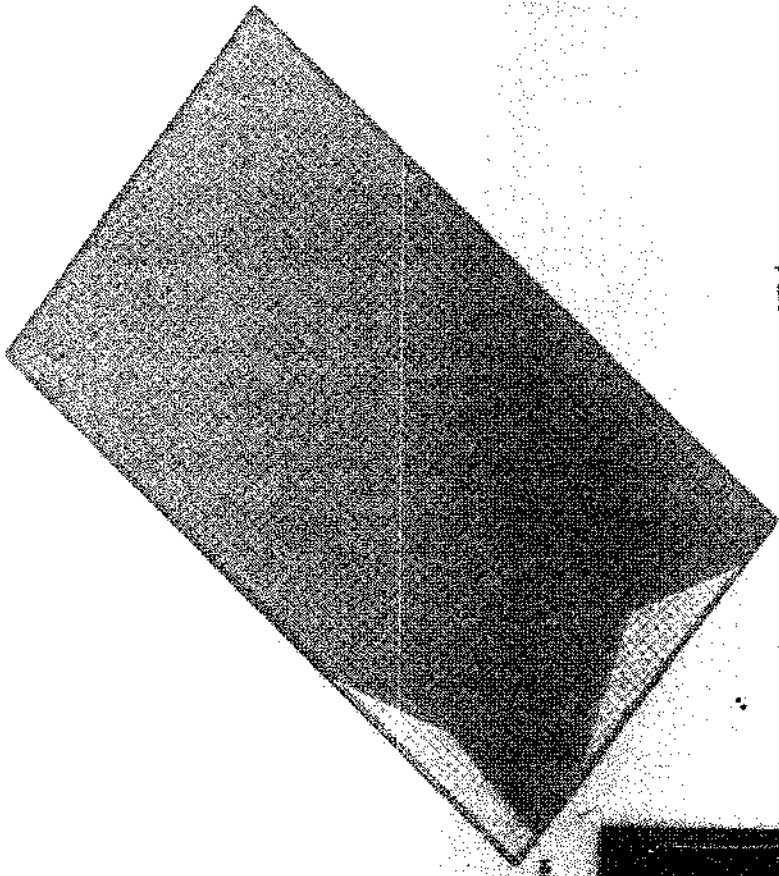
Received
31.7.23

Yours faithfully,

Forest Range Officer
Tamra



000000



ANNEXURE - 10

DA
Divisional Forest Officer
Bonnar Division

Srinivas
Tadik

Srinivas
Forest Range Officer
Tanna Range
Bhahadunguri Section

CERTIFICATE ON DSS ANALYSIS FOR CA/ACA/PCA

This is to certify that DSS Analysis of land identified for CA/ACA/PCA and subsequent ground truthing have been done. The outcome is as mentioned below:

Sl. No	Name of Range	Name of the Forest Block (RF/PRF/PP/Forest)	Area identified for CA/ACA/PCA (in ha.)	Classification of identified land (in ha.)							Area suitable for plantation				Plantation Model (AR/ANR)	Remark
				Very Dense Forest	Moderately Dense Forest	Open Forest	Non-Forest	Scrub	Water	Total	Open Forest	Non-Forest	Scrub	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Tamra	Dhenkiam RF	4.000	-	-	3.75	0.25	-	-	4.00	-	-	-	-	ANR-200 plant over 4.00 ha.	-

Countersigned

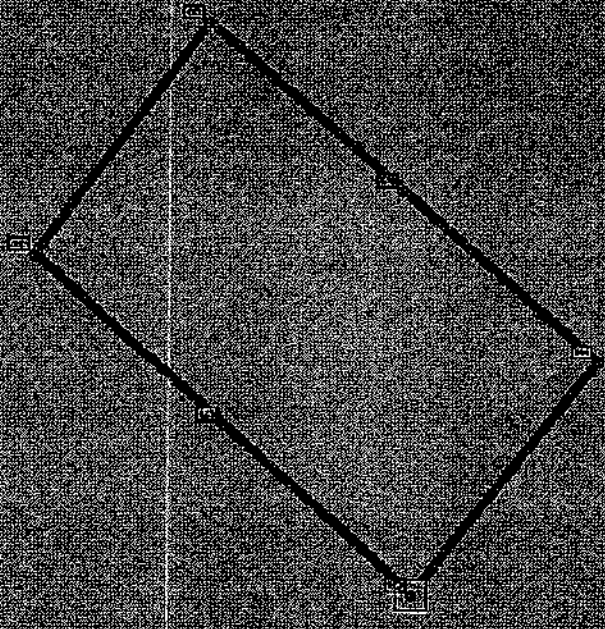
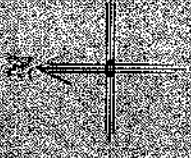
RCCF, Rourkela Circle
Regional Chief Conservator of Forests
Rourkela Circle


Divisional Forest Officer
Bonai Forest Division

ANNEXURE - VII

GPS MAP SHOWING THE IDENTIFIED DEGRADED FOREST LAND OVER 4000 HECTS IN
 DHENKALJI TALUKA RANGEL UNDER BONEH FOREST DIVISION FOR PLANTATION
 AGAINST 15 TIMES SAFETY ZONE IN FOREST AREA OVER 2.529 HECTS IN RESPECT
 OF CHANDPUSHI IRON ORE BLOCK OF MR. KUNTA MINES LIMITED.

SCALE NOT TO SCALE



SURVEY POINT NO.	Easting	NATITUDE	LONGITUDE
1	275315.75	215535.00	84° 51' 30.7"
2	275310.28	215535.65	84° 51' 32.8"
3	275308.00	215536.65	84° 51' 30.5"
4	275307.28	215539.75	84° 51' 36.7"
5	275308.50	215539.80	84° 51' 33.0"
6	275308.50	215539.80	84° 51' 33.0"

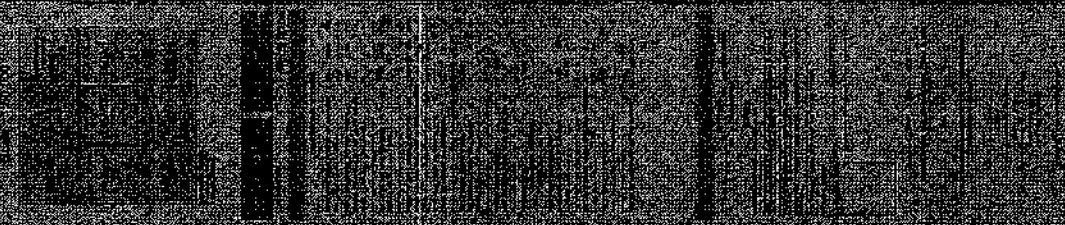
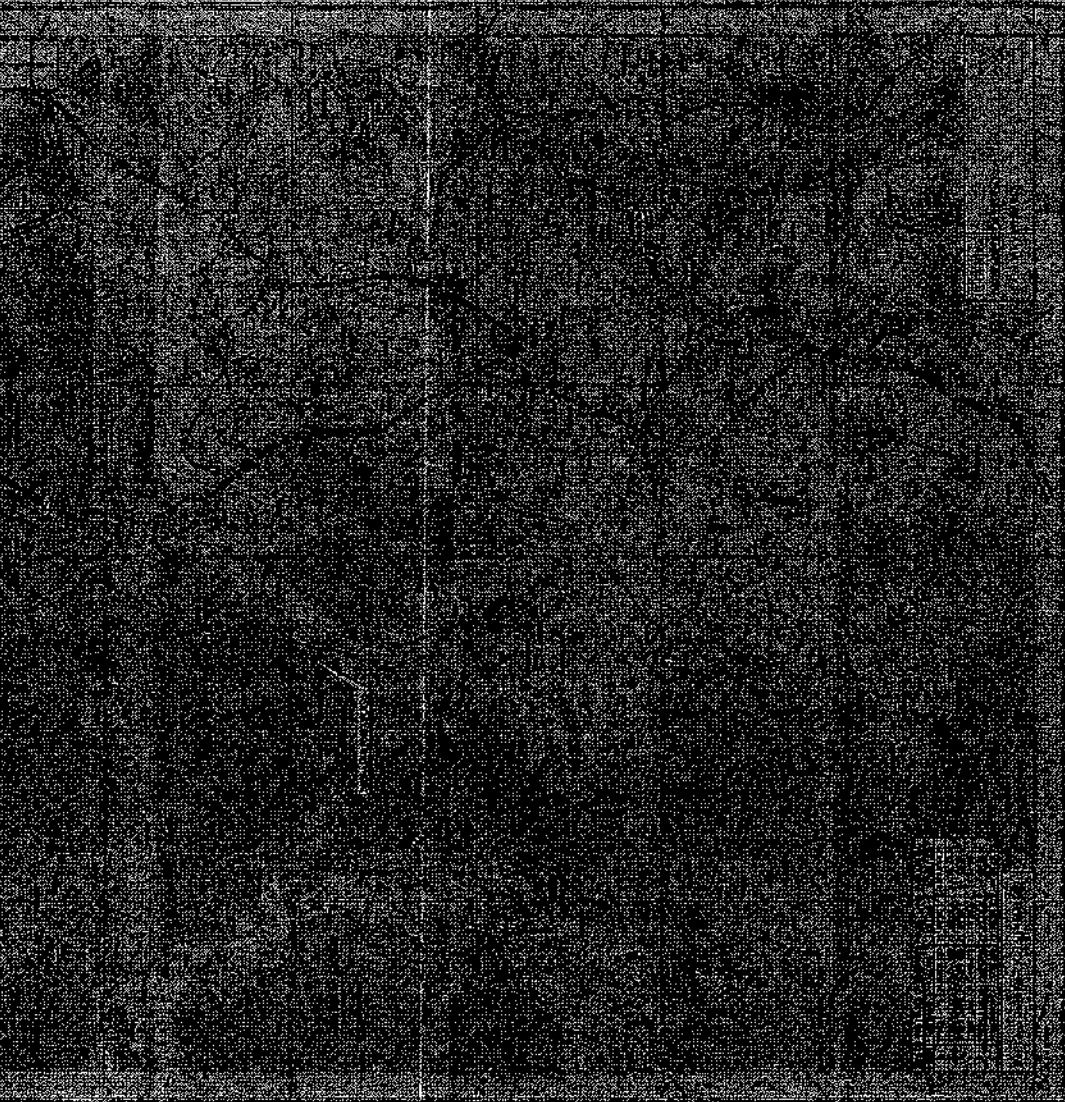
LEGEND



DEGRADED FOREST LAND
 SAFETY ZONE

THE UNIVERSITY OF CHICAGO PRESS
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PRINTED IN GREAT BRITAIN BY THE UNIVERSITY PRESS, CAMBRIDGE

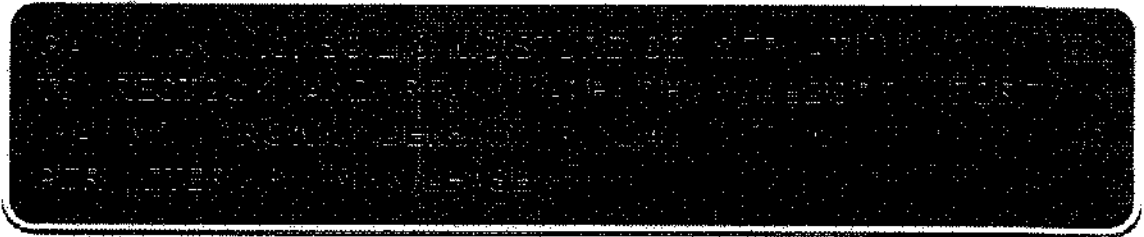
1963





Scheme

For



**Condition No. 2(f) of
Stage-I Forest Clearance Granted
Vide Letter No8-01/2023-FC dated 18.05.2023
of Govt. of India, Ministry of Environment, Forest and Climate
Change, New Delhi
for
Diversion of 83.602 Ha. of forest Land
(including 2.529 Ha. of safety zone)
within
131.580 Ha. Lease Area
of
CHANDIPOSHI IRON ORE BLOCK
of
M/S RUNGTA MINES LTD.
under
Koira Tahasil, Bonai Sub-Divn., Dist.-Sundargarh
Odisha.**

SCHEME FOR GAP PLANTING, SOIL & MOISTURE CONSERVATION TO RESTOCK AND REJUVENATE DEGRADED OPEN FORESTS WITHIN 100M FROM OUTER PERIMETER OF CHANDIPOSHI IRON ORE BLOCK OF M/S RUNGTA MINES LTD. IN SUNDARGARH DISTRICT OF ODISHA.

1. INTRODUCTION

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron Ore Block over an area of 131.580 Ha. for Iron Ore located in Koira Mining Circle, district Sundargarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MXIII(b) 48/2021/7741/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing No. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron Ore Block over 131.580 Ha for Iron Ore located at a distance of 8 km to the east of Koira town, Koira Tahasil, Sundargarh district on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (Fifty) years. Accordingly, M/s Rungta Mines Ltd. submitted the proposal to obtain approval of the Central Govt. over 83.602 hectare of forest land U/s-2 (ii) of the Forest (Conservation) Act'1980 within the above Mining Lease area.

Further, Stage-I approval over 83.602 ha. of Forest Land for U/s-2 (ii) of F.C. Act'1980 has been granted by MoEF& CC, Govt of India, New Delhi vide their Letter No 8-01/2023-FC Dated 18.05.2023, wherein it has been stipulated as per Condition No.2. (f), for preparation and implementation of a Scheme containing for gap plantation and soil & moisture conservation activities to restock and rejuvenate the degraded open forest (having crown density less than 0.4) if any, located in the area within 100m from outer perimeter of the mining lease.

2. LOCATION

Chandiposhi Iron ore Block of M/s Rungta Mines Ltd. is located in Sundargarh district of Odisha and can be approached throughout the year by road. It falls within the survey of India topo sheet No.73 G/5. The total mining lease hold area is 131.580.

Latitude- 21° 53' 20.7643" to 21° 54' 14.1285" N

Longitude- 85°17'16.4825" to 85° 18' 04.3218 E

3. TOPOGRAPHY

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is 750 meters and the lowest one is of 604 meters. Mendamaruni RF, Bhabanipahar RF, Karo RF of Bonai Forest Division are situated near the ML area.

4. SOIL TYPE

Soil type in the study area varies widely from hard rock to lateritic soil. Areas at higher elevations are usually hard rock consisting of laterite. The top soil is scanty in the area. Whatever top soil is available is thinly spread over all Soil profile in nature. The pH of the soil is slightly acidic in nature.

5. CLIMATE

The area of Chandiposhi block experiences humid tropical climate. During the summer days the area experiences very hot climate and the temperature shoots up to maximum of 47°C. The winter is also very cold and the minimum temperature goes down to a low of 1°C during the night time. It experiences very high rainfall during the monsoon period.

6. DRAINAGE

In the Northern part of the block, the Teherai Nala is flowing through areas west of this block meets the Suna Nadi to the north of it. The general elevation difference in the area is 30m. The proposed working area lies at the hill & is well above the water table.

7. OBJECTIVES OF THE SCHEME

The main objective of the present scheme is to fulfil the condition 2 (f) *which envisages to undertake 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 100m from outer perimeter of the mining lease.*

- 1) To afforest the degraded forest land and to restore the degraded forest lands by RDF plantation within 100m from the outer perimeter of the lease area.
- 2) Clearly demarcating and fencing the area in ground to dispense with the biotic interferences.
- 3) To improve the micro edaphic conditions by undertaking suitable soil and moisture conservation measures
- 4) To create awareness among the local villagers for protection and maintenance of this plantation in particular and the adjoining forest for ensuring enrichment of the ecosystem.

8. PROPOSED TECHNIQUE

To achieve the above objectives, it has been proposed to take up AR plantation @ 1000 plants/ha. at a spacing of 2.5 mt X 2.5 mt. in identified permanent gaps. The following items of works prescribed in the scheme will be taken up, the detailed expenditure statement of which is enclosed in Annexure-I.

To achieve the above objectives, the following items of work are mainly prescribed to be taken up:

SURVEY AND DEMARCATON OF BOUNDARY

The identified degraded forest lands will be surveyed clearly with reference to the village maps and reserve forest boundary and demarcated by posting R.C.C. pillars at every corner/turningpoint of boundary line and the Scheme proposes financial Implication for the same.

REGENERATION CLEANING AND TENDING OPERATION

The operation aims at tending (climber cutting, cleaning, double shoot cutting, pruning etc.) of the existing crop for the growth of promising principal species of the locality (Sal with associates) for ensuring better growth of the plants. It includes removal of inferior, diseased, malformed, dead, dying and defective tree growth and disposal of them by distributing it among the local VSS members. Apart from it, weed eradication is also an integral part as they interfere with the growth of both planted species and natural regeneration.

The detailed operation to be carried out is as follows-

- i) Cutting of herbs and shrubs interfering with the growth of the promising species.
- ii) Cutting back of top broken pole crops interfering with growth of well-formed pole crops.
- iii) Cutting back of malformed and diseased species.
- iv) Cutting of climbers up to hand's reach.
- v) Sharp cutting of high stumps at a height of 0.5 mtr above the ground level to get a smooth stool with least damage to the cortex layer .This will promote growth of new stool shoots as well as root collar shoots of species having coppicing vigor.
- vi) Singling out the coppice shoots coming out from stools and retaining two to three most promising ones.
- vii) Pruning of the branches of the pole crops up to hand's reach.

During the 1st year, climber cutting, and cutting of high stumps, weeds and malformed and diseased species will be done. In the next two years, cutting back of malformed individuals and singling of coppice shoots in case of desired species will be done in the subsidiary silvicultural activities.

9. PLANTING& POST-PLANTING

The area will be re-stocked by raising plantation@ 1000 plants per hectare in AR model. Taking into consideration, the site specific soil condition, existing indigenous species growing there and the bonafied requirement of the local people, the species have been proposed to be planted in the area as mentioned in Point No.8 below.

The main objective of the present scheme is to raise gap plantation in degraded forest as well as to apply soil & moisture conservation measures, restock & rejuvenate degrade forest within 100 m. in the outer perimeter of Mining lease of Chandiposhi Iron Ore Block of M/s Rungta Mines Limited. Such Plantations will act as a Transition Crop to support the main crop of the lease area.

Hence, the main objective of the present scheme is as follows:-

- i) To afforest the degraded forest land and to restore the degraded forest lands by AR model.
- ii) Clearly demarcating and fencing with brush wood the area to dispense with the biotic interferences.
- iii) To improve the micro edaphic conditions by undertaking suitable soil and moisture conservation measures.
- iv) To protect the area against encroachment, illicit felling, fire incidences, grazing and all other forms of biotic interference.
- v) To create awareness among the local villagers for protection and maintenance of plantation for ensuring enrichment of the ecosystem and replacement of the degraded areas with natural green cover.

10. LAND SCHEDULE

Details of land schedule of Gap Plantation Area in forest land and Non-forest Govt. land within 100 m radius from the M.L. boundary.

Village :Badaindipur, Sanua, Teherei &Sargigarh

PLOT DETAILS WITHIN 100 MTRS. PERIMETER FROM OUTER ML BOUNDARY OF CHANDIPOSHI IRON ORE BLOCK OF M/S RUNGTA MINES LIMITED							
SL NO.	VILLAGE	PLOT NO.	KHATA NO.	TENANT NAME	KISSAM	AREA INCLUDED WITHIN 100 MT PERIMETER ZONE OF ML BOUNDARY (IN HA)	REMARKS
A. FOREST LAND							
1	SANUA	2	40	RAKHIT	GRAMYA JUNGLE	0.010	Rev. Forest
2	SANUA	3	42	AJA	JUNGLE	3.122	Rev. Forest
3	SANUA	80	43	AAA	PAHAD	4.435	DLC Forest
4	SANUA	201	43	AAA	PAHAD	4.455	DLC Forest
5	SANUA	202	43	AAA	PAHAD	3.068	DLC Forest
6	SANUA	203	43	AAA	PAHAD	0.719	DLC Forest
7	TEHEREI	640	56	AJA	PATRA JUNGLE	1.078	Rev. Forest
8	TEHEREI	665	56	AJA	PATRA JUNGLE	0.684	Rev. Forest
9	TEHEREI	669	56	AJA	PATRA JUNGLE	0.131	Rev. Forest
10	BADAINDUPUR	184	39	AAA	PAHAD	0.966	DLC Forest
11	BADAINDUPUR	186	36	RAKHIT	GRAMYA JUNGLE	0.869	Rev. Forest
12	BADAINDUPUR	190	36	RAKHIT	JUNGLE	1.396	Rev. Forest
13	BADAINDUPUR	196	36	RAKHIT	JUNGLE	1.264	Rev. Forest
14	SARGIGARH	618	55	AJA	JUNGLE	0.723	Rev. Forest
15	SARGIGARH	636	55	AJA	JUNGLE	1.175	Rev. Forest
16	SARGIGARH	621	56	AAA	PAHAD	1.094	DLC Forest
17	SARGIGARH	624	56	AAA	PAHAD	6.904	DLC Forest
18	SARGIGARH	617	56	AAA	PAHAD	4.652	DLC Forest
SUB-TOTAL (A)						36.745	
B. NON-FOREST GOVT. LAND							
1	TEHEREI	638	56	AJA	GODA-II	0.141	Govt.
2	TEHEREI	658	57	AAA	PATHAR CHATAN	0.408	Govt.
3	TEHEREI	663	56	AJA	GODA-II	0.099	Govt.
4	TEHEREI	667	56	AJA	PATIT	0.400	Govt.
5	TEHEREI	668	56	AJA	GODA-II	0.111	Govt.
6	BADAINDUPUR	185	38	AJA	GODA-I	0.254	Govt.
7	BADAINDUPUR	191	38	AJA	GODA-I	0.374	Govt.
8	BADAINDUPUR	193	38	AJA	GODA-II	0.125	Govt.
9	BADAINDUPUR	473	38	AJA	PATIT	0.195	Govt.
10	BADAINDUPUR	476	38	AJA	GODA-I	0.154	Govt.
11	SARGIGARH	608	53	RAKHIT	GOCHAR	0.63	Govt.
12	SARGIGARH	637	55	AJA	GHRBARI	0.07	Govt.
13	SARGIGARH	638	55	AJA	GHRBARI	0.014	Govt.
14	SARGIGARH	640	53	RAKHIT	GHRBARI	0.143	Govt.
15	SARGIGARH	698	55	AJA	GHRBARI	0.082	Govt.
SUB-TOTAL (B)						3.200	
TOTAL (A+B)						39.945	

Abstract:

SL. NO.	VILLAGE	FOREST AREA IN HA.	GOVT. LAND IN HA.	TOTAL AREA IN HA.
1	SANUA	15.809	0.000	15.809
2	TEHEREI	1.893	1.159	3.052
3	BADAINDUPUR	4.495	1.102	5.597
4	SARGIGARH	14.548	0.939	15.487
Total		36.745	3.200	39.945

11. SELECTION OF SITE FOR GAP PLANTING

The above forest land is situated in the outer perimeter of the mining lease of Chandiposhi Iron Ore Block of M/s Rungta Mines Limited, in Sundargarh District of Orissa under Bonai Forest Division. The proposed sites measure forest land (crown density <0.4) over 15.809 ha. in Sanua village, 1.893 Ha in Teherai village, 4.495 ha. in Badaindpur village and 14.548 Ha in Sargigarh village. Non-forest Government land over 3.200 Ha has also been selected for plantation. The topography of the site is sloppy in nature. The soil is mostly sandy loam at patches and depth of the soil is of limited extent.

12. DESCRIPTION OF THE EXISTING VEGETATION

The proposed site for gap plantation has dense growth of weeds like Eupatorium & Lantana etc. The available growth is degraded due to biotic pressure like loping, grazing and fire wood collection.

Choice of species:

As far as possible, care shall be taken to select indigenous species for plantation which are associates of local species.

The list of species to be adopted for the plantation is as follows:

1	Amla	<i>Emblica officinalis</i>
2	Bamboo	<i>Dendrocalamus strictus</i>
3	Karanja	<i>Pongamia pinnata</i>
4	Asan	<i>Terminalia tomentosa</i>
5	Sisoo	<i>Dalbergia sisoo</i>
6	Gambhar	<i>Gmelina arborea</i>
7	Neem	<i>Azadirachta indica</i>
8	Harida	<i>Terminalia chebula</i>
9	Bahada	<i>Terminalia bellerica</i>
10	Kasi	<i>Bridelia retusa</i>
11	Mango	<i>Mangifera indica</i>
12	Guava	<i>Psidium guajava</i>
13	Jack fruit	<i>Artocarpus heterophyllus</i>
14	Bara	<i>Ficus bengalensis</i>
16	Aswastha	<i>Ficus religiosa</i>

13. RAISING OF NURSERY

Seedlings required for the plantation shall be raised in the nursery of Chandiposhi Iron Ore Block. The Nursery should have a capacity of raising adequate seedlings. Nursery works will be undertaken in consultation with D.F.O., Bonai Division. All the infrastructures shall be provided by M/S Rungta Mines Ltd. Work will be started one year before the year of plantation so that two year old seedlings will be available for plantation. 20% extra seedlings shall be raised to compensate and mitigate the eventuality of seedling casualty in the nursery. Standard nursery practices shall be followed for raising of seedlings in polythene bags.

14. ALIGNMENT AND STACKING

Alignment, stacking and pitting will be taken up in the month of March-April, Pits of size 30cmX 30cm X 30cm will be dug maintaining a spacing of 2.5 mt x 2.5 mt @ 200 plants per hectare.

15. PLANTING

The seedlings will be planted in dug out pits of 30 cm³ maintaining a spacing of 2.5 mt between the pits @ 1000 seedlings per hectare. Plantation should be taken up after first regular shower of monsoon and should be completed by end of August. NPK/DAP fertilizer @ 50 gms per plant should be given as basal dose. Anti- termite and insecticide like @ 5 gms. per plant should be applied per pit. Foreign earth shall be provided in each pit to enrich the growth of seedlings within a marked period. Casualty replacement when required during the planting year and in the second year should be undertaken for which the seedlings shall be raised.

16. WEEDING, SOIL WORKING AND MANURING

For establishment and better growth of the planted seedlings, weeding, soil working and manuring are necessary. It is proposed to carry out two weeding, soil working and manuring added with vermin compost @ 200 gm/plant during the first year and second year of plantation. Weeding and manuring for the first and second year shall be carried out during September – October Urea 70 gm & NPK 50 gmand the second one during September-October along with soil working during which 70gms of vermi compost shall be added to the soil per plant. First weeding shall be for entire area weeding and the second weeding should be strip weeding. The weeding and of third year will be for entire area weeding which shall be carried out during August.

17. APPLICATION OF INSECTICIDES

The plantation site after planting with good seedlings may in course of time get infested with diseases owing to influx of insects and pests into the area which usually cause heavy damage to the soft, tender and avidly growing parts of the plant that affects the rate of growth and sometimes causes wide spread casualty of the seedlings. To avoid such incidences, foliar spray and ground application of insecticides at regular intervals usually on a sunny day in the fore noon shall be done.

18. FIRE LINE TRACING AND MAINTENANCE

Fire causes irreparable damage to the plantation and the forest growth during fire season and to prevent such fire out-breaks in the area, the plantation area shall be divided into suitable blocks by tracing fire lines. Boundaries of the plantation patches and these block lines will be scrapped of forest growth to a width of 3.0 mt. during Feb-March and the cut back materials and the dry leaves stacked along these fire lines shall be burnt under direct supervision. This operation is highly essential and the scheme proposes to carry this operation for the first three years

The detailed cost estimate of various operations to be taken up in AR plantation has been furnished in **Annexure-I**.

19. POINTS OF IMPORTANCE

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

- All care will be taken to raise healthy seedlings of minimum 2' height and 20% extra of the required stock shall be raised. 1 year old seedlings shall be used in case of Asan, Arjun, Phasi, Neem, Harida, Bahada, Kasi etc. However, in case of Sisoo, Gambhar, Chakunda etc 6 months old seedlings can be used. Pitting shall be invariably done during February – April, i.e before onset of monsoon. In hilly areas, pits shall be dug along the contours. Planting shall be done on the onset of monsoon and should not be delayed. The gradient of the site is 1:10 which is considered as level ground with slight undulating at places.
- Basal dose of 30 grams of NPK and 5 grams of Aldrin be applied at the time of planting. Casualty replacement, weeding and soil working, application of fertilizer and insecticides shall be taken up as per the provisions in the cost- norm at the proper time. Watchers shall be engaged who shall also take up tracing of inspection path and fire line and maintenance of fence in addition watch and ward duty.
- All out efforts shall be taken to keep the plantation free from grazing, fire and other biotic interference.

20. SOIL CONSERVATION MEASURES:

The site selected for GAP plantation, undulating, and gullies have been formed due to erosion. So, Soil Conservation Measures like Staggered Trench, Percolation Pit, Contour Trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke and WHS as per site requirement have been proposed. The cost norm of SMC is enclosed as **Annexure-III**.

21. FENCING:

To protect the AR plantation from biotic interference, Bamboo twigs & Thorns fencing is proposed over the identified area of 39.945 ha. within 100 m from outer perimeter of the mining lease area. The total perimeter of the said identified area is 7493 RMT (Or, 7.493 Km) length of boundary.

The cost norm for Bamboo twigs & Thorns fencing is enclosed as **Annexure-II**.

22. WATERING :

Watering of the plantation will be carried out aided by solar system with Borewell (1 system for 5 ha. plantation) fitted with Drip system. The cost norm is furnished as Annexure-IV.

23. MOTIVATION OF PEOPLE:

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Teherai, Sargigarh, Sanua and Bad-indupur are to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages. Thus, 15% of the plantation cost has been earmarked for expenditure on this score.

24. EXECUTING AGENCY

All the works under this 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 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 co-ordination with the Forest Department.

SPECIALISED CELL

Sl. No.	Name	Educational Qualification	Designation	Expertise
1	Shri D.K. Parida	Mining Engineer	CGM (Mining)	20 Years experience in Mining operation projects
2	Shri Jayanta Das	Surveyor	A.V.P (Survey)	30 Year's experience in mining Survey
2	Shri G.K.Pujari	M.Sc., M.Phil.	G.M (Env.)	23 Years experience with Pollution control & Environmental Management
3	Shri Indrajit Mukherjee	M.sc	AGM (Geology)	22 Years' experience In Mining and exploration field.

25. INSPECTION, MONITORING AND EVALUATION

For successful implementation of the present Scheme, intensive inspection and technical guidance from concerned technical wing is required. Sufficient fuel/ conveyance charges for the executing agency and technical experts shall be provided by the user agency for proper execution of this programme.

26. REQUIREMENT OF FUNDS

The total cost of the implementation of proposed scheme will be Rs. 1,68,84,200/- (Rupees One Crore Sixty-Eight Lakh Eighty-Four Thousand Two Hundred) Only, details are as under-

TOTAL COST OF GAP PLANTING, SOIL & MOISTURE CONSERVATION WITHIN 100MTR.FROM OUTER PERIMETER OF MINING LEASE TO RESTOCK AND REJUVENATE DEGRADED FOREST

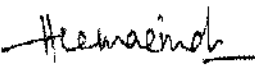
Wage Rate Rs.345.00

1.	AR Plantation @1000 plants per hectare over 36.745 ha. @₹2,58,777/-	₹	95,08,761.00
2.	Bamboo twigs & Thorns fencing over 6.076 KM (Or, 6076 RMT) @₹440.856/- per RMT.	₹	26,78,641.00
3.	Soil conservation measures structures like staggered trench, percolation pit, contour trench, graded earthen bund, LBCD, wire mesh, LBCD, Sub surface Dyke and Water Harvesting structures = 36.745 ha X ₹39,284/-.	₹	14,43,491.00
4.	Water provision to plantation: Solar system with Bore well (1 system for 5 Ha. Plantation) fitted with Drip system @ ₹2,45,476/- X 7 nos.	₹	17,18,332.00
	SUB TOTAL :-	₹	1,53,49,225.00
5.	Entry Point Activity (10%) of the cost) :-	₹	15,34,923.00
	GRAND TOTAL :-	₹	1,68,84,148.00 Or, 1,68,84,200.00

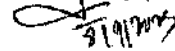
(Rupees One Crore Sixty-Eight Lakh Eighty-Four Thousand Two Hundred) only

M/s Rungta Mines Ltd.do hereby undertake to execute the item of works mentioned in this scheme in a phased manner at the project cost.

Rungta Mines Ltd.


Director

Technically Approved



Regional Chief Conservator of Forests
Rourkela Circle

26. **REQUIREMENT OF FUNDS**

The total cost of the implementation of proposed scheme will be Rs. 1,88,90,600/- (Rupees One Crore Eighty Eight Lakh Ninety Thousand Six Hundred) Only, details are as under-

TOTAL COST OF GAP PLANTING, SOIL & MOISTURE CONSERVATION WITHIN 100MTR.FROM OUTER PERIMETER OF MINING LEASE TO RESTOCK AND REJUVENATE DEGRADED FOREST

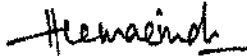
Wage Rate Rs.345.00

1.	AR Plantation @1000 plants per hectare over 39.945 ha. @₹2,58,777/-	₹	1,03,36,847.00
2.	Bamboo twigs & Thorns fencing over 7.493 KM (Or, 7493 RMT) @₹440.856/- per RMT.	₹	33,03,334.00
3.	Soil conservation measures structures like staggered trench, percolation pit, contour trench, graded earthen bund, LBCD, wire mesh, LBCD, Sub surface Dyke and Water Harvesting structures = 39.945 ha X ₹39,284/-.	₹	15,69,199.00
4.	Water provision to plantation: Solar system with Bore well (1 system for 5 Ha. Plantation) fitted with Drip system @ ₹2,45,476/- X 8 nos.	₹	19,63,808.00
	SUB TOTAL :-	₹	1,71,73,188.00
5.	Entry Point Activity (10% of the cost) :-	₹	17,17,319.00
	GRAND TOTAL :-	₹	1,88,90,507.00 Or, 1,88,90,600.00

(Rupees One Crore Eighty Eight Lakh Ninety Thousand Six Hundred) only

M/s Rungta Mines Ltd.do hereby undertake to execute the item of works mentioned in this scheme in a phased manner at the project cost.

Rungta Mines Ltd.


Director

Countersigned


Divisional Forest Officer
Bonai Division

ANNEXURE-I

ANNEXURE-4						
BASE COST NORM FOR COMPLEMENTARY AFFORESTATION (BLOSSOM PLANTATION)						
@ 1000 PLANTS PER HECTARE (10 months old seedling)						
WAGE RATE RS. 155/- PER MANDAY						
Sl. No	Items of work	Probable 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	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site preparation (Cleaning & removal of debris etc)	Nov/Dec	12	3732	0	3732
4	Erection of 4-03 mt wide Inspection Path	Feb/Mar	1	311	0	311
5	Alignment and stacking of pits	Feb/Mar	1	311	0	311
6	Digging of pits (45 cm x 45 cm x 45 cm) in hard and rocky soil	Feb/Mar	40	12440	0	12440
7	Construction of Temporary Labour Shed, Drinking water facility and First Aid etc.	Jan/Mar	9	9	3500	3500
Total			57	17727	3600	21327
1st Year/Planting Year						
1	Refilling of pits by inserting the dugout soil of the pits, application of organic compounds/ CDM/ FYM & adding the same in pits.	Jan/Jul	7.5	2332.50	5000	7332.50
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 18 Buss) & stacking the seedling @ Rs.6/- per Seedling (1100 nos.)	Jul/Aug	0	0	6600	6600
3	Watering polythene seedlings at planting site	Jul/Aug	2	622	0	622
4	Conveyance of polythene seedlings on 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	22.5	6997.50	0	6997.50
5	Cost of Fertilizer & Insecticide: (a) FYM/Bio-fertilizer @ 50 gms/plant as basal dose = 5kg @ Rs.30/- per kg = Rs. 1500.00 (b) Urea/Vermicompost/Mo Khano/any other fertilizer in two subsequent doses @ Rs. 750.00 (c) Insecticide/ Bio-pesticide @ 5 gms/plant @ Rs.150/- per kg = Rs. 750.00	Jul/Aug	0	0	3000	3000
6	Casualty Replacement @ 10% (100 nos.)	Jul/Aug	2.5	777.5	0	777.5
7	1st weeding & Measuring	Aug/Sept	12	3732	0	3732
8	2nd Weeding, Soil working (1 mt. diameter around the plants) & Manuring	Oct/Nov	15	4665	0	4665
9	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Apr-May	12	3732	0	3732
Total			76.50	23791.50	14600.00	38391.50
2nd Year Maintenance						
1	Transportation of 100 seedlings from Nursery to plantation site including loading, unloading & maintenance by Tractor @ Rs.6/- per seedling	Jul	0	0	600	600
2	Casualty replacement: 10%	Jul	2.5	777.5	0	777.5
3	Cost of Fertilizer & Insecticide: A) Cost of Insecticide/ Bio-pesticide @ 5 gms/plant = 0.5 kg @ Rs.30/- per kg = Rs. 75/- B) Urea/FYM/Bio-fertilizer/Vermicompost/Mo Khano/any other fertilizer @ Rs. 2800/-	July/Aug	0	0	2875	2875
4	Weeding (Complete weeding), Measuring & Soil working (1 mt. diameter around the plants)	Sep/Oct	15	4665	0	4665
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr-May	19	5598	0	5598
7	Maintenance of Temporary Labour Shed, Drinking water facility and First Aid etc.	Apr-May	0	0	1000	1000
Total			38.5	11973.5	4475	16448.5

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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
3rd Year Maintenance						
1	Cost of Pottilow/Urea/NPK/Bo-fer/Uhar/Vernakumpo/A/Mo Khat/any other fertilizer	July/Aug	0	0	2800	2800
2	Weeding (Complete weeding, Mowing & Soil working, 1 row diameter around the plants)	Sep/Oct	15	4665	0	4665
3	Pire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
4	Watch & Ward including watering as per requirement	Apr/Mar	18	5598	0	5598
5	Maintenance of Temporary Labour Shed, Drinking water facility and First Aid etc.	Apr/Mar	0	0	1000	1000
Total			36.0	11196	3800	14996
4th Year Maintenance						
1	Pire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward including maintenance of vegetative fences	Apr/Mar	18	5598	0	5598
Total			21	6531	0	6531
5th Year Maintenance						
1	Pire line tracing (2 m. wide fire line over 400 m long)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
6th Year Maintenance						
1	Pire line tracing (2 m. wide fire line over 400 m long)	Feb/Mar	3	933.00	0	933.0
2	Pruning of branches, Singling out of multiple stems	Jan/Mar	3	933.00	0	933.0
3	Watch & Ward	Apr/Mar	18	5598.00	0	5598.0
Total			24	7464	0	7464.0
7th Year Maintenance						
1	Pire line tracing (2 m. wide fire line over 400 m long)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
8th Year Maintenance						
1	Pire line tracing (2 m. wide fire line over 400 m long)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
9th Year Maintenance						
1	Pire line tracing (2 m. wide fire line over 400 m long)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
10th Year Maintenance						
1	Pire line tracing (2 m. wide fire line over 400 m long)	Feb/Mar	3	933	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
Total			31	6531	0	6531

C/L

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)	
Sl. No	Year	No. of Mandays	Labour cost (In Rs.)	Material Cost (In Rs.)	Monitoring, Evaluation, Documentation and Other Contingency (5% of (4+5))	Cost of Seedlings @Rs.50.31 per seedlings	TOTAL COST(In Rs.)
1	0th year	57.0	17727.0	3600.0	971.00	0.00	22308.00
2	1st year	76.5	23761.5	14600.0	1918.50	55341.00	95661.00
3	2nd year	38.5	11973.5	4475.0	611.50	5031.00	22301.00
4	3rd year	36.0	11196.0	3000.0	744.00	0.00	15740.00
5	4th year	21.0	6531.0	0.0	326.00	0.00	6857.00
6	5th year	21.0	6531.0	0.0	326.00	0.00	6857.00
7	6th year	24.0	7464.0	0.0	373.00	0.00	7837.00
8	7th year	21.0	6531.0	0.0	326.00	0.00	6857.00
9	8th year	21.0	6531.0	0.0	326.00	0.00	6857.00
10	9th year	21.0	6531.0	0.0	326.00	0.00	6857.00
11	10th year	21.0	6531.0	0.0	326.00	0.00	6857.00
	Total	358.0	111358.0	46475.0	6791.0	60373.0	209176.0

Note:

- 1 Priority must be given to the indigenous local species available nearby to the site of plantation.
- 2 10% indigenous fruit bearing trees must be preferred to plantation.
- 3 Site specific Soil conservation work like LSCB, Gully Plugger, Saggered Trench, Contour Trench, Graded Bank etc may be taken up
- 4 Chain link fencing can be adopted in the CA plantation taken up outside the forest area and Bamboo hedge fencing may be preferred
- 5 Watering facilities for procurement of water & watering may be adopted as per the availability of water.
- 6 The Cost Norm of various items can be changed with the approval of the concerned RCLP's keeping the overall cost norms fixed for each Financial Year


 A/CCF (Forest Division B, NO, FC Act)

13

Maple River & Sycamore Creek (43,000 Acres)

Block No.	Block Name	In Block																		
		1	2	3	4	5	6	7	8	9	10	11	12							
1	22301	102814	24925	19224	8835	8751	20592	9644	10131	10957	11189									
2	23419	205404	29834	19117	8793	9189	11827	10130	10838	11189	11722									
3	14886	110728	27108	20094	9100	9448	11578	10657	11179	11722	12119									
4	25815	118768	28440	21029	9850	10130	12157	11888	11728	12119	12829									
5	27108	112078	29689	27154	8113	10837	12795	11722	12119	12849	13778									
6	28440	128127	31377	20767	10843	11189	12408	12119	12831	13575	14284									
7	28684	135891	31796	24425	11172	11722	12073	12818	13878	14324	14987									
8	31377	141321	24021	25646	11721	12119	12772	13575	14284	14987	15718									
9	32047	14837	3033	3608	12119	12849	13778	14284	14987	15718	16201									
10	34954	15868	18139	20274	12814	13575	14284	14987	15718	16201	17374									

APCCF (Forest Division & NO. FC Act)

ANNEXURE-II

12

Working Model For						
Fencing for Compensatory Plantation valued (Rs) in the Forest Areas using Bamboo Twigs & Thorns						
WAGE RATE Rs. 214/- PER DAY						
Sr. No	Items of work	Preferable Period of Execution	Man days	Wages	Material cost (Rs)	Total Cost (Rs. per lha.)
0th Year Maintenance						
1	Nil.		0	0	0	0
1st Year Maintenance						
1	1. Form an average perimeter of 250 m/ha. @ 93.35/ML (Half bundle Bamboo Twigs/mtr @ 1.20/Bundle) Labour: Material = 4000 (approx)	Sept./Oct	30	6330	14133	23463.0
2	2. Drive posts of 2" diameter at a distance of 2m spacing or fixed (2' above soil & 3" above self) 250/2 = 125 x 1 = 125 Nos. of Bamboo Poles 1 Bamboo (approx) 24" height = 3 poles 125/3 = 42 Bamboo @ 200/Bamboo	Sept./Oct		0	8400	8400.0
3	3. Preparation of Bamboo poles. Digging of holes of 2 ft depth & drive Bamboo poles @ 20 poles/ML	Sept./Oct	6.5	1391.5		2822.5
4	4. Use of bamboo for driving the bamboo poles. Drive with double side two strand Bamboo basket (One 6" above ground) and other one 4" above ground (250/2) / 24 = 21 Bamboo @ 200/Bamboo	Sept./Oct		0	4200	4200.0
5	5. Making Bamboo basket. Finishing the bottom & tying the same in double strand on both ends etc. @ Rs 13/ unit.	Sept./Oct	9	2799		2799.0
6	6. 500x 9.125 kg @ 62.5 kg @ Rs.70/Kg	Sept./Oct		0	4375	4375.0
7	7. Making one Bamboo Twig rope with Bamboo frame			0	500.5	500.5
TOTAL			45.5	14150.5	31608.5	46759.0
Rate per running mt. 43759/250 = 189/line						
2nd Year Maintenance						
1	1. Repair & Maintenance of Bamboo Twig fence including Material cost	Feb./Mar	20	6220	1500	7720
Rate per running mt. 7720/250 = 30.88 or say Rs. 31-Rate						
3rd Year Maintenance						
1	1. Repair & Maintenance of Bamboo Twig fence including Material cost	Feb./Mar	20	6220	5675	11895
Rate per running mt. 11895/250 = 47.58 or say Rs. 48-Rate						
4th Year Maintenance						
1	1. Repair & Maintenance of Bamboo Twig fence including Material cost	Feb./Mar	20	6220	5675	11895
Rate per running mt. 11895/250 = 47.58 or say Rs. 48-Rate						
5th Year Maintenance						
1	1. Repair & Maintenance of Bamboo Twig fence including Material cost	Feb./Mar	20	6220	5675	11895
Rate per running mt. 11895/250 = 47.58 or say Rs. 48-Rate						
Abstract						
Sr. No	Year	No. person days	Labour cost @ Rs. 314/- per day	Material Cost	Total cost (Rs.)	
1	0th year	0.0	0.0	0.0	0.0	
2	1st year	45.5	14150.5	31608.5	46759.0	
3	2nd year	20.0	6220.0	1500.0	7720.0	
4	3rd year	20.0	6220.0	5675.0	11895.0	
5	4th year	20.0	6220.0	5675.0	11895.0	
6	5th year	20.0	6220.0	5675.0	11895.0	
TOTAL		135.5	39030.5	50193.5	89154.0	


 APCCF (Forest Division & NO, FC Act)

Matrix for Model F-1 Fencing (Bamboo Twig)

Sl. No.	Completive Report Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
1	2021-22	0	45759	7720	11605	11885	11885											99867
2	2022-23	0	48047	8531	13770	14456	15181	15842										108866
3	2023-24	0		0	52971	9384	15182	15940	16731									110714
4	2024-25				0	56620	9853	15941	16732	17574								115726
5	2025-26				0	58401	10346	16733	17574	18453								121512
6	2026-27				0	61321	10846	17575	18453	19378								127588
7	2027-28				0	64327	11346	18454	19379	20345								133964
8	2028-29				0	67406	11846	19379	20346	21362								140688
9	2029-30				0	70565	12346	20346	21362	22430								147899
10	2030-31				0	74555	12846	21362	22430	23552								155004

In Rupees

APCF (FOREST DIVISION & NO. FCART)

ANNEXURE-III

11c

Annexure-III			
Cost Norms for creation of Compensatory Afforestation with Stabilisation of Soil & Conservation of Moisture (2000)			
WAGE RATE Rs/811/- PER DAY			
Sl.No	Item of Works	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, Gradient earth bank, LSCB, Wire mesh LSCB, S.D 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
5th Year			
6	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
Total			32,343.00

Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
1	0th year	0.0	0.0	0.0	0.0
2	1st year	0.0	0.0	20,215.00	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	32,343.00	32,343.00

Different types of SMC structures may be taken up as per the scope & requirements of the plantation site out of the design & specification of different structures annexed along this document.


 APCCF (Forest Division & NQ, FC Act)

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Matrix for ISMC

Sl. No.	Commence ment Year	Budget Month														Total Cost		
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV		XV	XVI
1	2021-22	0	21216	2042	3510	3685	3870											36613
2	2022-23	0	0	22287	3509	3656	3666	4064										27415
3	2023-24			0	23401	3604	3870	4052	4267									58284
4	2024-25				0	24371	3868	4264	4365	4480								41246
5	2025-26					0	26623	4652	4787	4878	4708							43820
6	2026-27					0	27090	4264	4400	4702	4829							45475
7	2027-28					0	28445	4477	4670	4837	5185							47789
8	2028-29					0	28867	4701	4938	5184	5445							50138
9	2029-30					0	31350	4936	5185	5443	5717							32842
10	2030-31					0	32928	5183	5445	5715	6003							55276

In Rupees

[Signature]
 AFCC (Foreign Division & NO, FCAD)

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ANNEXURE-IV

119

Watering Method-IV			
Watering provision to CA Plantations			
Solar system with Doro well (3 systems for 5 Ha plantation) fitted with Drip system. Wage rate @ Rs.512/-			
Year of installation (6th Year)			
1	Cost of borewell		1,50,000
2	Installation of Solar panel & other System		3,00,000
3	Cost of 0.8 HP submersible motor with accessories		50,000
4	Water Storage Tanks/ Flexible pipes		15,000
5	Cost of laying Drip system including all accessories, fittings etc. with 12% GST		3,02,431
Total			8,17,431
6	Cost of Water & watering per Ha. (8,17,431/5) = Rs. 1,63,486/-		1,63,486
1st Year Watering			
7	No. maintenance required		0
Total			0
2nd Year Watering			
8	Maintenance of system @ 5% of initial cost of installation		8,174
Total			8,174
3rd Year Watering			
9	Maintenance of system @ 5% of initial cost of installation		8,174
Total			8,174
4th Year Watering			
10	Maintenance of system @ 5% of initial cost of installation		8,174
Total			8,174
5th Year Watering			
11	Maintenance of system @ 5% of initial cost of installation		8,174
Total			8,174

Abstract					
Sl. No.	Year	No. person days	Labour cost @ Rs. 312/- per day	Material Cost	Total cost (Rs.)
1	1st year	0	0.0	1,63,486.0	1,63,486.0
2	2nd year	0	0.0	0.0	0.0
3	3rd year	0	0.0	8,174.0	8,174.0
4	4th year	0	0.0	8,174.0	8,174.0
5	5th year	0	0.0	8,174.0	8,174.0
6	6th year	0	0.0	8,174.0	8,174.0
Total		0	0.0	1,96,108.0	1,96,108.0

APCCP (Forest Division & NO, FC Act)



Matrix for Watering WI (Solar Borewell) fitted with Drip System (per Ha)



Sl. No.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
Base Month		8174	8174	8174	8174	8174	8174											In Rupees
1	2021-22	169486	0	9011	9463	9935	30758											228553
2	2022-23		171690	0	9462	9886	10432	32285										233785
3	2023-24			182349	0	9885	10493	10964	33911									245475
4	2024-25				189355	0	10432	10965	11502	35607								257751
5	2025-26					196718	0	10964	11503	12077	37387							270659
6	2026-27						208654	0	11502	12078	12681	39256						284471
7	2027-28							219827	0	12077	12682	13315	41219					298380
8	2028-29								230041	0	12681	13316	13981	43280				313259
9	2029-30									241548	0	13915	13982	14680	45444			328564
10	2030-31										253620	0	14681	15414	47716			345412

APDC (Forest Division & N.O, FC Act)

[Signature]

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AGENCY COPY	
	
	
NEFT / RTGS CHALLAN for CAMPA Funds Date : 03-06-2023	
Agency Name.	RUNGTA MINES LTD
Application No.	58150057793
MoEF/SG File No.	8-01/2023-FC
Location.	ORRISA
Address.	Rungta Office, Main Road, At/PO: Barbil, Odisha Keonjhar
Amount(in Rs)	120108485/-
Amount in Words : Twelve Crore One Lakh Eight Thousand Four Hundred and Eighty-Five Rupees Only	
NEFT/RTGS to be made as per following details;	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	1608258150057793 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre, 21/1, III Floor, Jelitta Towers, Mission Road, Bengaluru-560027
<ul style="list-style-type: none"> This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only 	

BANK COPY	
	
	
NEFT / RTGS CHALLAN for CAMPA Funds Date : 03-06-2023	
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<ul style="list-style-type: none"> This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only 	

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 and reference Id to Email: fcsbfr@unionbankofindia.bank, epurse@unionbankofindia.bank, ubin0903710@unionbankofindia.bank

For RUNGTA MINES LIMITED

(Authorised Signatory)


(Authorised Signatory)

CNRBR52023060556898538



05/06/2023

AGENCY COPY

यूनियन बैंक  **Union Bank**
of India

NEFT / RTGS CHALLAN for CAMPA Funds

Date : 30-05-2023

Agency Name.	RUNGTA MINES LTD
Application No.	58150057587
MoEF/SG File No.	8-01/2023-FC
Location.	ORRISA
Address.	Rungta Office, Main Road, A/PO: Barbil, OdishaKeonjhar
Amount(In Rs)	78060000/-


Amount in Words :Seven Crore Eighty Lakh Sixty Thousand Rupees Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	UBIN0996335
Pay to Account No.	1508258150057587 Valid only for this challan amount.
Bank Name & Address:	Union Bank Of India FCS Centre,21/1, III Floor, Jellitta Towers, Mission Road, Bengaluru-560027

• 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 : 30-05-2023

Agency Name.	RUNGTA MINES LTD
Application No.	58150057587
MoEF/SG File No.	8-01/2023-FC
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Amount(In Rs)	78060000/-

Amount in Words :Seven Crore Eighty Lakh Sixty Thousand Rupees Only

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For RUNGTA MINES LIMITED

(Authorised Signatory)

(Authorised Signatory)

31/05/2023

ENRBR52023053156575073

**SCHEME FOR
SOIL AND MOISTURE
CONSERVATION MEASURES IN THE
REST OF THE
CATCHMENT OF THIS NALA AND THE
FOREST LAND IN AND AROUND THE
PROPOSAL SHALL BE CARRIED OUT
TO ENSURE RECHARGE OF WATER IN
KOIRA RANGE OF BONAI FOREST
DIVISION
IN SUNDARGARH DISTRICT
FOR CHANDIPOSHI IRON ORE
BLOCK
OF
M/S RUNGTA MINES LTD.**

Scheme for Soil and Moisture Conservation measures in the rest of the catchment of this Nala and the forest land in and around the proposal shall be carried out to ensure recharge of water in Koira Range of Bonai Forest Division in Sundargarh District.

1. INTRODUCTION

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron Ore Block over an area of 131.580 Ha. for Iron Ore located in Koira Mining Circle, district Sundargarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MXIII(b) 48/2021/7741/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing No. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron Ore Block over 131.580 Ha for Iron Ore located at a distance of 8 km to the east of Koira town, Koira Tahasil, Sundargarh district on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (Fifty) years. Accordingly, M/s Rungta Mines Ltd. submitted the proposal to obtain approval of the Central Govt. over 83.602 hectare of forest land U/s-2 (ii) of the Forest (Conservation) Act'1980 within the above Mining Lease area.

Further, Stage-I approval over 83.602 ha. of Forest Land for U/s-2 (ii) of F.C. Act'1980 has been granted by MoEF & CC, Govt of India, New Delhi vide their Letter No.8-01/2023-FC dated 18.05.2023, wherein it has been stipulated as per Condition No.8 for "*Soil and moisture conservation measures in the rest of the catchment of this Nala and the forest lands in and around the proposed shall be carried out to ensure recharge of water*"

Forest and wildlife are inextricably linked to each other as forest meets almost all requirement of wild fauna in the form of food, water, cover, space etc. Therefore, to save nala from erosion will fulfil the requirement of water for wildlife. Tree cover will provide shade, escape cover to them while visiting streams to quench their thirst. Special afforestation by planting/retaining species of fruit trees like Harida, Bahada, Amla, Zyzypus, Kendu, Mahul, ficus species like Bar, Aswastha, Jari, Dimiri, will be preferred. Grass lands are also to be raised with palatable grasses for wildlife.

2. LOCATION

Chandiposhi Iron ore Block of M/s Rungta Mines Ltd. is located in Sundargarh district of Odisha and can be approached throughout the year by road. It falls within the survey of India topo sheet No.73 G/5. The total mining lease hold area is 131.580.

Latitude- 21° 53' 20.7643" to 21° 54' 14.1285" N

Longitude- 85°17'16.4825" to 85° 18' 04.3218 E

3. TOPOGRAPHY & SOIL TYPE

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is 750 meters and the lowest one is of 604 meters. Mendamaruni RF, Bhabanipahar RF, Karo RF of Bonai Forest Division are situated near the ML area. Soil type in the study area varies widely from hard rock to lateritic soil. Areas at higher elevations are usually hard rock consisting of laterite. The top soil is scanty in the area. Whatever top soil is available is thinly spread over all Soil profile in nature. The pH of the soil is slightly acidic in nature.

4. CLIMATE

The area of Chandiposhi block experiences humid tropical climate. During the summer days the area experiences very hot climate and the temperature shoots up to maximum of 47°C. The winter is also very cold and the minimum temperature goes down to a low of 1°C during the night time. It experiences very high rainfall during the monsoon period

5. DRAINAGE

In the Northern part of the block, the Teherai Nala is flowing through areas west of this block meets the Suna Nadi to the north of it. The general elevation difference in the area is 30m. The proposed working area lies at the hill & is well above the water table.

6. FLORA AND FAUNA

Sal (*Shorea robusta*), Sidha (*Lagerstroemia parviflora*), Kusum (*Schleichera oleosa*), Bara (*Ficus bengalensis*), Harida (*Terminalia chebula*), Bahada (*Terminalia bellerica*), Char (*Buchanania lanjan*), Jamu (*Syzygium cumini*), Asan (*Terminalia tomentosa*), Kendu (*Diospyros melanoxylon*), Mahul (*Madhuca indica*), Kumbhi (*Careya arborea*), Mango (*Mangifera indica*) etc. are major species among flora available in the applied area.

Fauna such as Elephant, Wild boar, Hanuman langur, Indian Hare, Indian Palm Squirrel, Jungle Cat, Rat and different types of Snakes and Birds got recorded from the applied area. Keeping the indigenous species in mind, species are to be preferred for planting either to check erosion from stream bank and/or creating special Afforestation programme.

7. **LOCATION OF STREAM TO BE TREATED**

The perennial stream flowing nearby Chandiposhi Mine have been mentioned in the Map enclosed vide Annexure-V.

8. **OBJECTIVE OF THE SCHEME**

1. To compliance the stipulated condition of Stage-I approval.
2. To protect the embankment of the streams in such a way that, soil erosion is restricted.
3. To increase the depth of ground water, which will be available for wildlife during peak summer.
4. To increase the ground water table through Soil & Moisture Conservation.
5. To provide a green clothing to the area by means of creating grassy land in order to reduce soil erosion.
6. The plantation so raised should include fruit and fodder species; grass etc. for the sustenance of the wildlife existing nearby.

9. **Soil & Conservation of Moisture Measures.**

The site selected for Soil Moisture Conservation is undulating, and gullies have been formed due to erosion. So, Soil Conservation Measures like Staggered Trench, Percolation Pit, Contour Trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke and WHS as per site requirement have been proposed. An area of 150 ha. land has been selected for SMC work within 2 KM outer periphery of the Mining Lease area. The cost norm of SMC is enclosed as Annexure-I.

10. **Plan for Construction of Check Dams**

After studying the drainage pattern it has been found total number of check dam required is 4 nos. along the River Bed (Outside ML boundary). The cost norm of Check Dam has been provided in Annexure-II.

11. **Plan for Stone patching along the river bed.**

After studying, 700 mtrs. has been proposed for stone patching along the river bed to protect the bank area from erosion. The cost norm of Stone patching has been provided in Annexure -III.

12. **Broadcasting of Bamboo seedball.**

Broadcasting of Bamboo seedball has been proposed over 20 ha. outside the Mining Lease area. The cost norm of the Bamboo seedball has been enclosed as Annexure-IV.

13. Executing Agency:

The User Agency shall execute the work under the supervision of the State Forest Department.

14. INSPECTION, MONITORING AND EVALUATION

For successful implementation of the present Scheme, intensive inspection and technical guidance from concerned technical wing is required. Sufficient fuel/ conveyance charges for the executing agency and technical experts shall be provided by the user agency for proper execution of this programme.

15. REQUIREMENT OF FUNDS

The total cost of the implementation of proposed scheme will be ₹1,17,30,000/- (Rupees One Crore Seventeen Lakhs Thirty Thousand) only details are as under.

Works to be executed by the User Agency.			
1.	Soil conservation measures structures like staggered trench, percolation pit, contour trench, graded earthen bund, LBCD, wire mesh, LBCD, Sub surface Dyke and Water Harvesting structures = 150 ha X ₹39,284/-.	₹	58,92,600.00
2.	Construction of 4 nos. of Check dam @ ₹3,78,279/- per each	₹	15,13,116.00
3.	Stone patching over 700 Mtr. with height 3 Mtr along the River bed @ ₹1141/- per SQM	₹	23,96,100.00
4.	Broadcasting of Bamboo seed Ball over 20 ha. @ ₹43,090/- per hectare.	₹	8,61,800.00
			1,06,63,616.00
		Total :-	₹ 1,06,63,616.00
5.	Entry Point Activities 10% of the cost	₹	10,66,362.00
		Total :-	₹ 1,17,29,978.00
			1,17,55,058.00
			Or 1,17,55,100.00
			₹ 1,17,30,000.00

(Rupees One Crore Seventeen Lakhs Thirty Thousand) only

Rupees one crore seventeen lakhs fifty five thousand one hundred only.

Divisional Forest Officer,
Bonai Division.

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

Annexure-1

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Annexure-11			
Cost Norms for creation of Compensatory Afforestation with Stabilization of Soil & Conservation of Moisture (1000)			
WAGE RATE Rs. 112/- PER DAY			
Sl.No	Item of Works	Feasible Period of Execution	Total Cost
1	1st Year (Pre-Planting Operation)		0
2	2nd Conservation measure structures like Staggered Terrace, Pencil type pit, Contour trench, Graded earth retention, L.O.C. Wire mesh (OCD), Sub surface type for WHS as per the shape & site requirement on LS	Apr/Sept	20,215
3	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
4	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
5	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
6	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
Total			32,343.0

Abstract					
Sl. No	Year	No. per ha days	Labour cost @ Rs. 112/- per day	Material Cost	Total cost (Rs.)
1	1st 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	32,343.0	32,343.0

Different types of SMC structures may be taken up as per the scope & requirements of the plantation site out of the design & specification of different structures annexed along this document.


A.P.C.F. Forest Division & N.D. FC, Aiz

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Matrix for (SMC)

Sl. No.	Commence ment Year	Base Year																			Total Cost	
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII			
1	2021-22	0	10215	3082	3052	3052	3082														35538	
2	2022-23		0	2187	3829	3829	3829	3829	3829	4254												37415
3	2023-24			0	2187	3829	3829	3829	3829	4254												38284
4	2024-25				0	2187	3829	3829	3829	4254												41248
5	2025-26					0	2187	3829	3829	4254												43320
6	2026-27						0	2187	3829	4254												45475
7	2027-28							0	2187	4254												47749
8	2028-29								0	4254												50136
9	2029-30									0												52642
10	2030-31										0											55274

In Rupees

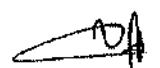
[Signature]
 A/CCE (Forest Diversion & NO, FC Act)

Annexure-II

Wage Rate- Rs 345.00 25200

Detail Estimate of Concrete Structure of Check Dam

SI No	Description of Items	No	Length	Width	Height	Qty	Rate	Amount in Rs.
1	2	3	4	5	6	7	8	9
1	Earthwork in hard soil in embankment roads with in 50 mtr initial lead & 1.50 mtr initial lift including rough dressing & breaking clods to Maximum 5.00c.m. to 7.00 c.m. & laying layers not exceeding 0.30 mtr depth as per specification approved by department along with proper compaction with H.R.R Excavation							
	Base	1	5.00	5.50	0.50	13.75		
	Wing Wall	4	2.00	0.50	0.50	2.00		
	Apron	2	3.00	5.00	0.20	6.00		
	Cut of wall	2	5.00	0.45	0.50	2.25		
						24.00	259.77	6234.48
2	Plain cement concrete (1:4:8)							
	Base	1	4.00	5.50	0.075	1.65		
	Wing Wall	4	2.00	0.50	0.08	0.30		
	Apron	2	3.00	5.00	0.08	2.25		
	Cut of wall	2	4.00	0.45	0.08	0.27		
						4.47	7546.17	33731.37
3	Cement concrete (1:2:4)							
	Below Ground Level							
	Base	1	4.00	5.50	0.40	8.80		
	Wing Wall	4	2.00	0.50	0.40	1.60		
	Apron	2	3.00	5.00	0.10	3.00		
	Cut of wall	2	4.00	0.45	0.50	1.80		
						15.20		
	Above Ground Level							
	Base	1	4.00	(2.00+5.00)/2	1.00	14.00		
	Wing Wall	4	2.00	0.40	1.00	3.20		
						Total	17.20	
						Grand Total	32.40	10441.75
							Total	338312.7
								378278.55
								Or,
								378279.00


 Divisional Forest Officer
 Bonai Division

Annexure -III

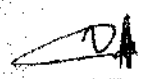
COST OF STONE PATCHING WITH THE RIVER BANK

Wage Rate Rs **345.00** 352.00

Analysis of Rates for Rough stone dry packing (15cm-30cm) and top layer grouting with cement mortar (1:6)

	Unit	Quantity	Rate	Amount
RATE FOR 1 SQM				
TAKE FOR PER 01 Cum				
Materials				
Rough stone	Cum	1	1850	1850
sand	Cum	0.35	802.99	281.0465
Cement	bags	15	350	525
Water	Ls	1	25	25
Labour				
For Bch preparation	Nos	1.5	350	525
Meson	Nos	1.17	600	702
Stone packer	Nos	0.35	450	157.5
Women Mulla	NOS	0.52	350	182
Male Mulla	Nos	0.52	350	182
			Total=	4429.5465
Over head Charges 10%				442.95
Sundries I & P 2%				88.59
			Total=	4961.09
			Round off Rs =	4961.00
Per SQM = 4961x0.23 =				1141.03
			Say Rs.	1141.00

(Rupees One Thousand one hundred forty one only)


 Divisional Forest Officer
 (S) Bonai Division


Annexure -IV

COST OF NORM FOR BAMBOO SEEDBALLS

Wage Rate Rs. 345.00 352.00

Plantation of Bamboo Seed Ball @ 1000 / ha						
Activities	Unit	Unit cost	No/ Qty	Mansday	Materials cost	Amount
Cost of seed	Kg	1200	7.5		9000	9000
Cost of CDM, Soil, Sand and insecticide					4110	4110
Preparation of soil Mixture	MD			8		2816 (2664) 2816
Preparation of Seed Ball	MD			2		704 (668) 704 (668)
Transportation of Seed Balls @ 10/- per seed ball					10000	10000
Throwing of seed balls 50 MD per ha	MD			50		17500 (16950) 17600
Total:						61800 (61800) 64230

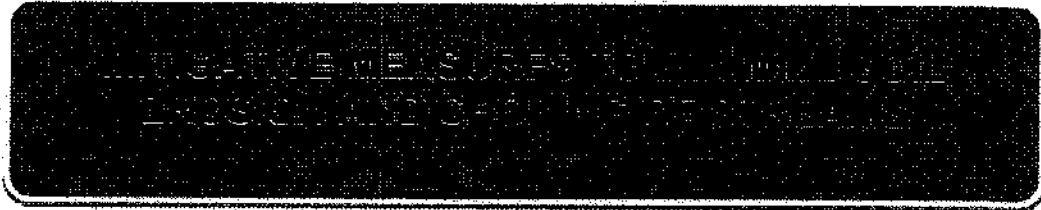
Pre ha @ 43000/- * 20 ha = 8,60,000/-
44230/-


Divisional Forest Officer
Bimal Division



Scheme

For



**Condition No.13(a) of
Stage-I Forest Clearance Granted
Vide Letter No. 8-01/2023-FC dated 18.05.2023
of Govt. of India, Ministry of Environment, Forest and
Climate Change, New Delhi
for
Diversion of 83.602 Ha. of forest Land
(including 2.529 Ha. of safety zone)
within
131.580 Ha. Lease Area
of
CHANDIPOSHI IRON ORE BLOCK
of
M/S RUNGTA MINES LTD.
under
Koira Tahasil, Bonai Sub-Divn., Dist.-Sundargarh, Odisha.**

MITIGATIVE MEASURES TO MINIMIZE SOIL EROSION AND CHOKING OF STREAMS

1. INTRODUCTION

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron Ore Block over an area of 131.580 Ha. for Iron Ore located in Koira Mining Circle, district Sundargarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MXIII(b) 48/2021/7741/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing No. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron Ore Block over 131.580 Ha for Iron Ore located at a distance of 8 km to the east of Koira town, Koira Tahasil, Sundargarh district on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (Fifty) years. Accordingly, M/s Rungta Mines Ltd. submitted the proposal to obtain approval of the Central Govt. over 83.602 hectare of forest land U/s-2 (ii) of the Forest (Conservation) Act'1980 within the above Mining Lease area.

Further, Stage-I approval over 83.602ha.of Forest Land for U/s-2 (ii) of F.C. Act'1980 has been granted by MoEF&CC, Govt of India, New Delhi vide their Letter No. 8-01/2023-FC dated 18.05.2023, wherein it has been stipulated as per **Condition No. 13 (a) for preparation and implementation of a plan containing appropriate mitigative measures to minimise soil erosion and choking of streams.**

2. LOCATION

Chandiposhi Iron ore Block of M/s Rungta Mines Ltd. is located in Sundargarh district of Odisha and can be approached throughout the year by road. It falls within the survey of India topo sheet No.73 G/5. The total mining lease hold area is 131.580.

Latitude- 21° 53' 20.7643" to 21° 54' 14.1285" N

Longitude- 85° 17' 16.4825" to 85° 18' 04.3218 E

3. TOPOGRAPHY

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is **750 meters** and the lowest one is of **604 meters**. Mendamaruni RF, Bhabanipahar RF, Karo RF of Bonai Forest Division are situated near the ML area.

4. SOIL TYPE

Soil type in the study area varies widely from hard rock to lateritic soil. Areas at higher elevations are usually hard rock consisting of laterite. The top soil is scanty in the area. Whatever top soil is available is thinly spread over all Soil profile in nature. The pH of the soil is slightly acidic in nature.

5. CLIMATE

The area of Chandiposhi block experiences humid tropical climate. During the summer days the area experiences very hot climate and the temperature shoots up to maximum of 47°C. The winter is also very cold and the minimum temperature goes down to a low of 1°C during the night time. It experiences very high rainfall during the monsoon period

6. DRAINAGE

In the Northern part of the block, the Teherai Nala is flowing through areas west of this block meets the Suna Nadi to the north of it. The general elevation difference in the area is 30m. The proposed working area lies at the hill & is well above the water table.

7. EXISTING VEGETATION

The area is characterized by growth of Sal, Sidha, Bara, Harida, Bahada, Char, Jamu, Asan, Kendu, Mahul, Kumbhi, Mango etc. with 0.5 density of vegetation (Eco value-class-I) .There is no protected area like National Park, Sanctuary in this region. The buffer zone (10Km radius) includes part of Uliburu, Lakharaghat, Sidhamatha, Baitami Reserve Forest area of Keonjhar Forest Division and Karo, Toda & Khajurdih Reserve Forest area of Bonai Forest Division.

8. LAND USE PATTERN

During the life of the mine, about 131.580 hectares will be utilized for mining, Minerals processing, Road, and green belt plantation in Safety Zone area etc. The details of land use pattern will be as follows:

SL. NO.	ITEM	REV. FOREST (IN HA)	DLC FOREST (IN HA)	TOTAL FOREST (IN HA)	TOTAL NON FOREST (IN HA)	GRAND TOTAL (IN HA)
1	MINIG (INCLUDING MOBILE CRUSHING AND SCREENING UNIT, TEMPORARY STACK YARD)	22.849	44.092	66.941	18.622	85.563
2	DUMPING OF OVERBURDEN	0.000	0.000	0.000	4.050	4.050
3	MINE ROAD	0.962	1.005	1.967	2.733	4.700
4	INFRASTRUCTURE (OFFICE, REST SHELTER, WEIGH BRIDGE, WORKSHOP ETC.)	0.008	0.010	0.018	1.112	1.130
5	ORE PROCESSINGSITE	0.000	4.536	4.536	2.495	7.031
6	MINERAL STACK YARD	0.000	5.687	5.687	2.795	8.482
	SUBTOTAL	23.819	55.330	79.149	31.807	110.956
7	SAFETY ZONE ALONG M.L. BOUNDARY	0.644	1.885	2.529	0.970	3.499
8	GREEN BELT (50 MTRS. ALONG THE NALA & 10 MTRS. ALONG THE VILLAGE ROAD)	1.924	0.000	1.924	9.081	11.005
9	AREA NOT TO BE USED (NALA, VILLAGE ROAD, PVT. LAND ETC.)	0.000	0.000	0.000	6.120	6.120
	GRANDTOTAL	26.387	57.215	83.602	47.978	131.580

9. FACTORS RESPONSIBLE FOR SOIL EROSION & CHOKING OF STREAMS

The mining activities and overburden dumps are the major source of drainage of soil and other substances for choking of any drainage system existing down below. The forms of erosion observed in this region include mainly rill and gully. The storm water runoffs from the uplands, mine faces and OB dump slope areas carry substantial quantity 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 down below in the stream bed. The other mode of sediment transportation is very negligible.

10. OBJECTIVES OF THE SCHEME

The objectives are as follows:-

- i) To fulfil Condition No.13 (a) of the Stage-I approval granted vide No. 8-01/2023-FC dated 18.05.2023 of MoEF& CC, Govt. of India to undertake **"Mitigative measure to minimize soil erosion & choking of stream shall be implemented within a period of 3 years with effect from the issue of Stage-II clearance in accordance with the approved plan in consultation with State Forest Department"**.
- ii) To prevent erosion of top soil.
- iii) To prevent obstruction of existing natural water course.
- iv) Proper Management of overburden deposited so as to prevent siltation in the down below streams.
- v) To prevent overflow of eroded soils from the mining areas to the natural streams.

11. 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 garland drain & critical points around O.B. dumps. 3 check dams and one catch drains have been proposed across the contour to arrest the sediment load arising from up-slopes of seasonal streams, and to prevent choking of streams followed by de-silting before onset of monsoon. The following activities are proposed to be taken up to mitigate soil erosion and choking of streams:

- a. There exists Teherai Nalla inside the lease area. The overall slope is towards North- and North-West. Rain water harvesting pond has been proposed to collect the rain water flown from mining pits, haul roads as well as areas devoid of vegetation. During monsoon heavy runoff carrying silt and sediments will reduce the velocity of water flown from overburden dump. So, one Catch drain, 3 nos. of check dam have been proposed, demarcated at suitable location and shown in the attached plan.
- b. Periodic Sediment/silt removal/De-silting etc. will also be undertaken in those proposed check dams as well as from garland drains and subsequently biological reclamation will be made.
- c. Along with the above sedimentation control measures, erosion from OB dump slopes areas will be controlled by additional, Retaining wall, garland drain, loose boulder structures, settling tanks etc. The main purpose is to control soil erosion from OB dump and mineral stock piles.

12. MEASURES TO BE ADOPTED

There is no Biological and Structural measures exist. It is a fresh mining lease and no mining activities have been taken place so far.

13. MEASURES PROPOSED

The details of proposed mitigative measures to minimize soil erosion and choking of streams in Chandposhi Iron Ore Block of M/s Rungta Mines Ltd. are given below:

a. Biological Measures

i) Plantation

Soil erosion is moderate since the forest canopy is having density of more than 0.4, and hence it needs protection from soil getting further eroded by drips and the natural binding of the soil due to the root system. Hence, it is proposed to undertake plantation over 3.00 ha. on the surface of the dump. Further it has been proposed to undertake plantation over 11.005 Ha (1.924 Ha in forest land + 9.081 Ha in non-forest land) Green belt (50 Mt along the two sides of the Nala and 10mt along the two sides of the village road). It is also proposed to plant Agave Plants in degraded and poor soils along the slope & toe of plantations over a length of 200 running meter for controlling soil erosion. Details of proposed plantation & Agave plantation is provided in the map.

The cost norm of Block Plantation and Agave Plantation has been provided in Annexure -I and II.

I (a) WATERING :

Watering of the plantation will be carried out aided by solar system with Borewell (1 system for 5 ha. plantation) fitted with Drip system. The cost norm is furnished as Annexure-X.

The list of species proposed for plantation is as follows

Sl. No.	Local Name	Botanical Name
1	Gamhar	<i>Gmelina arborea</i>
2	Mahula	<i>Madhuca indica</i>
3	Jamun	<i>Syzygium cumini</i>
4	Babul	<i>Acacia nilotica</i>
5	Neem	<i>Azadirachta indica</i>
6	Sissoo	<i>Dalbergia latifolia</i>
7	Sal	<i>Shorea robusta</i>
8	Karanja	<i>Pongamia pinnata</i>
9	Asan	<i>Terminalia tomentosa</i>
10	Mango	<i>Mangifera indica</i>
11	Guava	<i>Psidium guajava</i>
12	Jack fruit	<i>Artocarpus heterophyllus</i>
13	Bara	<i>Ficus bengalensis</i>
14	Aswastha	<i>Ficus religiosa</i>
15	Bamboo	<i>Dendrocalamus strictus</i>

Planting shall be done during July in pre-dug pits of size 45 cm X 45 cm X 45 cm. A basal dose of N.P.K fertiliser shall be applied at the time of planting, besides mixing with insecticides to prevent termites & insects. Fruit bearing trees and bamboo rhizomes shall not be planted in close proximity. A minimum distance of 2.5 mt X 2.5 mt shall be maintained on every fourth plants in planting either of the species. Care should be taken to complete the planting during July while rains are still on during first or second week of July.

ii) **Weeding**

For establishment and better growth of the planted seedlings, timely weeding, soil working and manuring are necessary. It is proposed to carry out two weedings, soil working and manuring during the first year and second year of plantation and one weeding and soil working during third year. During first year and second year, first weeding and manuring shall be carried out during August-September and the second one during October-November along with soil working. First weeding shall be around the plants and the second will be of strip weeding. The weeding of third year will be around the plants, which will be carried out during August.

After each weeding, soil working will be done around each plant at a radius of 0.5mtr, and manuring of each plant will be done @50grms of NPK/ Bio fertilizer per plant in ring form.

iii) **Application of Insecticides**

After planting of good healthy seedlings, the plantation site may cause influx of insects, which usually eat and damage the tender leaves and shoots of the plants. To get rid of such insect attack, application of insecticides will be taken up in required doses at desired intervals. Spraying of insecticides shall be done preferably in a sunny day in the forenoon as per requirement.

b. **Structural Measures**

Vegetative means of erosion control are the most feasible and economic measures. However, as the pressure on land is increasing, it is necessary to bring even highly eroded land underutilization. In these lands, vegetative measures are not adequate to keep down the erosion. Some structural measures are required to be taken before vegetative measures are adopted. Structural measures, therefore, 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.

i) **Plan for Construction of Loose Boulder Structure**

After studying the topography and the drainage pattern it has been found that there are 10 spots where the LBCD required and accordingly it has proposed to construct 25nos. of loose boulder structure of 4m span across the proposed garland drain along the dumps & in phase-2, settling pit will help in stabilization of silt & sediment as well as prevention of soil erosion & enrichment of vegetation & greenery development. The cost norm of LBCD has been provided in **Annexure –III**.



Loose Boulder Structures

ii) Plan for Construction of Garland drain

A shallow trench (1.0 m wide x 1.50m deep) will be dug for storage of runoff accumulated for draining surface water before it is released to the agriculture land or natural water course. Details of proposed Garland drain 725 m shall be constructed during the ensuing seven years period with location is shown in the map. The cost norm of Garland Drain has been provided in **Annexure -IV**



Garland Drain around Waste Dump

iii) Construction of Retaining wall

A retaining wall is a structure designed and constructed to resist the lateral pressure of soil when there is a change in ground elevation that exceeds the angle of repose

of the soil. The retaining walls are proposed for construction over 725m. Also, there is a provision for maintenance of the retaining wall for the next 4 years. The cost norm of Retaining wall has been provided in Annexure- V.



Retaining walls

iv) Terracing of OB Dump Slope

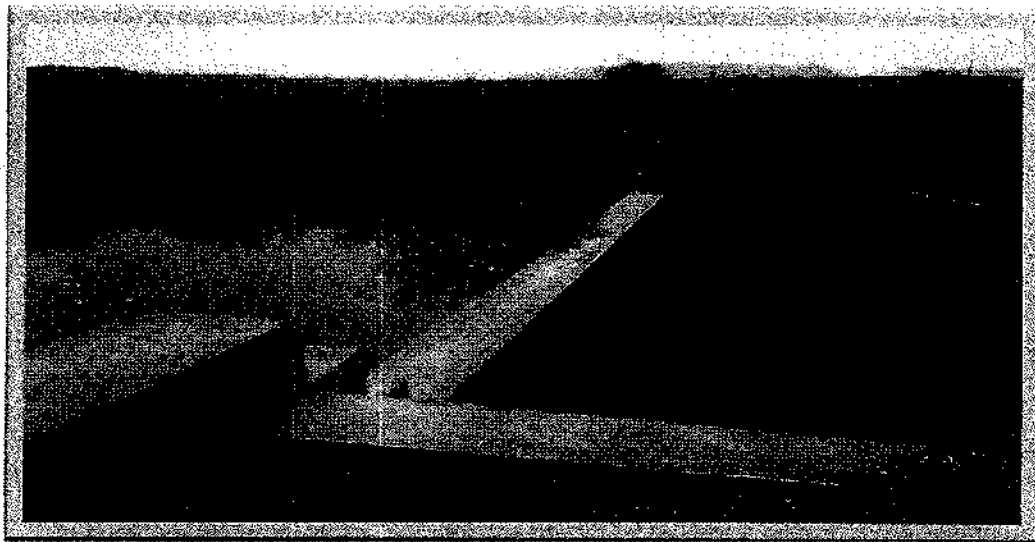
It is proposed to construct berm & terraces over a length of 450m on the proposed dump considering the volume of OB materials & the area earmarked for dumping. The slope of individual terrace should be within the permissible range considering the angle of repose of the soil and space available, thereby maintaining the angle of repose at less than 28° . The terracing will be done through the internal resources by deploying the operating mining equipment. All these operations will be carried out after sufficient deposition of OB. When OB dump will partially mature, the work will be executed. The cost norm of Terrace Development has been provided in Annexure-VI.



Terracing of OB Dumps

v) Plan for Construction of Check Dams

After studying the drainage pattern it has been found total number of check dam required is 3 and accordingly, 3 nos. of Check Dam will be constructed near the Teherai Nalla. During monsoon there is heavy on-rush of water as a runoff arising from up slope/higher elevation to lower elevation. Hence, attention is to be paid to reduce the flow velocity of runoff & settle the silts/sediments flown from over flow of the Nalla during Monsoon, overburden dumps, haul roads inside the mine and areas cleared of vegetation. Details of proposed Check Dams are furnished below and location is shown in the map. The cost norm of Check Dam has been provided in **Annexure –VII**



Check Dam to restrict Soil erosion & silt flow

vi) Plan for Construction of Settling Tanks

It is a process that involves separation of solid material from slurry. Sometimes, this process is called sedimentation. When waste water is treated, a large quantum of materials is filtered out of the liquid by physical barriers. Even then, the water will contain some solids which need to be removed. A settling tank is proposed to be used to protect the surface water. It has been proposed to construct one settling tank. Details of proposed settling tank are shown in the map. The cost norm of Settling Tank has been provided in **Annexure – VIII**.

vii) Plan for Construction of catch drain

A pyramid structure catch drain has been proposed to stream-line the flow of surface runoff from the dump to the foot of the dump, and stair of the catch drain will be placed inward to restrict flow of water. Catch drain is preferably made up of half concrete with number of stairs to reduce gully formation due to rain water wash off, so that runoff water will flow through each terrace of the dump & connect to the catch drain, the water of which goes

through catch drain via settling pit to the garland drain. The catch drain will be constructed after the proposed dump height exceeds 26m. One catch drain has been proposed. The cost norm of Catch Drain has been provided in **Annexure -IX**.



Catch Drains

viii) De-siltation

The de-silting works of the settling tank will be taken up at regular intervals to prevent sedimentation and choking of streams. This de-silting of settling tank will provide space and base to hold the sediment laden runoff thereby allowing settling and clear water to flow down. This de-silting work will be preferably undertaken once in a year before & after monsoon. The implementation of the plans will be site specific in nature depending upon the severity of the sedimentation and choking of stream.

14. 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.

15. MOTIVATION OF PEOPLE:

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Teherai, Sargigarh, Sanua and Bad-indupur are to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages. Thus, 15% of the plantation cost has been earmarked for expenditure on this score.

16. 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 co-ordination with the Forest Department.

SPECIALISED CELL

Sl. No.	Name	Educational Qualification	Designation	Expertise
1	Shri D.K. Parida	Mining Engineer	CGM (Mining)	20 Years experience in Mining operation projects
2	Shri, Jayanta Das	Surveyor	A.V.P (Survey)	30 Year's experience in mining Survey
2	Shri G.K. Pujari	M.Sc., M.Phil.	G.M (Env.)	23 Years experience with Pollution control & Environmental Management
3	Shri Indrajit Mukherjee	M.sc	AGM (Geology)	22 Years' experience In Mining and exploration field.

17. REQUIREMENT OF FUNDS

The total cost of implementation of mitigative measures will be **Rs.4,13,37,300.00 (Rupees Four Crore Thirteen Lakh Thirty Seven Thousand Three hundred) only**. The expenditure will be made during the next seven years period. This budget will be subject to increase in amount considering the increase in cost of materials and labour charges. The tentative annual expenditure planned for next seven years for the implementation of the mitigative measures is given in the following tables:

FINANCIAL FORECAST OF THE PROJECT (ML AREA=131.580 HA.)**Wage Rate Rs. 345.00**

Sl. No.	Description of the Work	Fund Required (inRs.)
1.	Biological Measures	
A.	Block Plantation (1600 no./ha.) on the dumps and pit to be reclaimed in future over 14.005 ha. @ Rs.3,41,903/- per ha.	4788352.00
B.	Agave Plantation at the toe of dump over a length of 200m. @ Rs.6,29,875/-for 1000 RMT	1,25,975.00
C.	Water provision to plantation: Solar system with Bore well (1 system for 5 Ha. Piantation) fitted with Drip system @ ₹2,45,476/- X 3 nos.	7,36,428.00
	Total (1)	56,50,755.00
2.	Structural Measures	
A.	25 nos. of Loose Boulder Structure of 4mt span @ Rs.43,577/- per each	10,89,425.00
B.	Construction of Garland drain over a length of 725m @ Rs.488/- per RMT	3,53,800.00
C.	Construction of retaining wall over 725 m @ Rs.1909.78 per RMT	13,84,591.00
D.	Terracing of OB dump over a length of 450 m. @ Rs.817/- per RMT	3,67,650.00
E.	Construction of 03 no. of check dam @ Rs.6599516/- per each	1,97,98,548.00
F.	Construction of 1 no. of settling tank @ Rs.14,612.00/- per each	14,612.00
G.	Construction of 1nos. of catch drain (26 m. at dump slope) @ Rs.2,95,148.00/- per each	2,95,148.00
	Total (2)	2,33,03,774.00
3.	De-siltation work for Garland drain, settling pond and check dam twice in a year on LS	500000.00
4.	Maintenance of retaining walls	500000.00
	Total (1+2+3+4)	2,99,54,529.00
5.	15% of the total cost for motivation of VSS / People involved	44,93,179.00
	Total (1+2+3+4+5)	3,44,47,708.00
	Price escalation @ 20%	68,89,542.00
	GRAND TOTAL	4,13,37,250.00 Or, 4,13,37,300.00

(Rupees Four Crore Thirteen Lakh Thirty Seven Thousand Three hundred) only**M/s Rungta Mines Limited do hereby undertake to execute the item of works mentioned in this scheme in a phased manner at the project cost.****M/s Rungta Mines Ltd.**

Hemachand
Director

Technically Approved

8/9/11
Regional Chief Conservator of Forests
Rourkela Circle

Countersigned

[Signature]
Divisional Forest Officer
Bonal Division

ANNEXURE-5

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs-311/- 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	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site preparation (Cleaning & removal of debris)	Nov/Dec	12	3732	0	3732
4	Creation of 4.00 mt wide inspection Path	Feb/Mar	1	311	0	311
5	Alignment and stacking	Feb/Mar	2	622	0	622
6	Digging of pits (45 cm x 45 cm X 45 cm) in hard and gravelly soil	Feb/Mar	64	19904	0	19904
7	Construction of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Jan/Mar	0	0	3500	3500
Total			82	25502	3600	29102
1st Year/Planting Year						
1	Refilling of pits by altering the dug-out soil of the pits, application of Organic compounds/ CDM/ FVM & mixing the same properly.	Jan/Jul	12	3732	8080	11732
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 Km) & Stocking 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	933	0	933
4	Conveyance of polypot seedlings on head land from the stacking site to individual dugout pits within the planting site, applying Insecticide, fertilizers & planting after covering the soil with other applied materials & prussing the soil properly around the planted seedlings.	Jul/Aug	36	11196	0	11196
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/Mn 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

**BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION)
@ 1600 PLANTS PER HECTARE (18 months old seedling)**

WAGE RATE Rs. 311/- 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
6	Casualty Replacement @ 10% (160 nos.)	Jul/Aug	4	1244	0	1244
7	1st weeding & Manuring	Aug/Sept	15	4665		4665
8	2nd Weeding, Soil working (1mt. diameter around the plants) and Manuring	Oct/Nov	20	6220	0	6220
9	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Aug-Mar	12	3732	0	3732
Total			105	12655	23360	56015
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	Casualty replacement- 10%	Jul	4	1244	0	1244
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. 446/-	Aug/Sept	0	0	4606	4606
4	Weeding (Complete weeding), Manuring & Soil working (1mt. diameter around the plants)	Sep/Oct	20	6220	0	6220
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr-Mar	10	5598	0	5598
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.				1000	1000
Total			45	13995	6566	20561

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BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs- 311/- PER MANDAY						
Sl. No	Items of work	Preferable Period of Executing	No of Mandays	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
1	2	3	4	5	6	7
3rd Year Maintenance						
3	Cost of Fertilizer/Urea/NPK/Bio-fertilizer/Vermicompost/Mo Khata/any other fertilizer	Sept/Oct	0	0	4406	4406
4	Weeding, Manuring & Soil working, (1m. diameter around the plants)	Sep/Oct	20	6220	0	6220
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	18	5598	0	5598
7	Maintenance of Temporary Labour Shed, Drinking water Facility and First-Aid etc.	Apr/Mar			1000	1000
Total			41	12751	5406	18237
4th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward	Apr-Mar	18	5598	0	5598
Total			21	6531	0	6531
5th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
6th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933.0
2	Pruning of branches, Singling out of multiple shoots	Jun/Mar	5	1555.00	0	1555.0
3	Watch & Ward	Apr/Mar	18	5598.00	0	5598.0
Total			26	8086	0	8086.0
7th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
8th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
9th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598

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BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1000 PLANTS PER HECTARE (18 months old seedling)							
WAGE RATE Rs. 311/- 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	
Total			21	6531	0	6531	
18th Year Maintenance							
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933	0	933	
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598	
Total			21	6531	0	6531	
Year wise Abstract of Cost Norm: (showing seedling cost separately)							
Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day (Rs)	Material Cost	Monitoring, Evaluation, Learning, Documentation and Other Contingency (5% of (4+5))	Cost of Seedlings @ Rs. 50.31 per seedling	TOTAL COST
1	2	3	4	5	6	7	8
1	0th year	82	25502	3600	1398.00	0	30500.00
2	1st year	195	32655	23360	2008.00	88346	147361.00
3	2nd year	45	13995	6566	1028.00	8050	29639.00
4	3rd year	41	12751	5486	911.00	0	19148.00
5	4th year	21	6531	0	326.00	0	6857.00
6	5th year	21	6531	0	326.00	0	6857.00
7	6th year	26	8086	0	404.00	0	8490.00
8	7th year	21	6531	0	326.00	0	6857.00
9	8th year	21	6531	0	326.00	0	6857.00
10	9th year	21	6531	0	326.00	0	6857.00
11	10th year	21	6531	0	326.00	0	6857.00
Total		423	132175	39012	8497	96596	276280

Notes:

- 1 Priority must be given to the indigenous local species available nearby to the site of plantation.
- 2 10% indigenous fruit bearing trees must be preferred to Plantation.
- 3 Site specific soil conservation work like LBCD, Gully Plugging, Staggered Trench, Contour Trench, Grazed Bund, etc. may be
- 4 Chain link fencing can be adopted in the CA plantation taken up outside the forest area and Bamboo swigs fencing may be
- 5 Watering facilities for procurement of water & watering may be adopted as per the availability of water.
- 6 The Cost Norm of various items can be changed with the approval of the concerned RCCPs keeping the overall cost norm fixed for each Financial Year


APCCP (Forest Division & NO, FC Act)

Matrix for Model-B Conversion of CA Partition (AQ 1000 plants per ha)

CA Conversion No. (Sheet No.)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	IJ	JK	KL	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TT	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YY	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX	ZY	ZZ
1	2015/22	2015/23	2015/24	2015/25	2015/26	2015/27	2015/28	2015/29	2015/30	2015/31	2015/32	2015/33	2015/34	2015/35	2015/36	2015/37	2015/38	2015/39	2015/40	2015/41	2015/42	2015/43	2015/44	2015/45	2015/46	2015/47	2015/48	2015/49	2015/50	2015/51	2015/52	2015/53	2015/54	2015/55	2015/56	2015/57	2015/58	2015/59	2015/60	2015/61	2015/62	2015/63	2015/64	2015/65	2015/66	2015/67	2015/68	2015/69	2015/70	2015/71	2015/72	2015/73	2015/74	2015/75	2015/76	2015/77	2015/78	2015/79	2015/80	2015/81	2015/82	2015/83	2015/84	2015/85	2015/86	2015/87	2015/88	2015/89	2015/90	2015/91	2015/92	2015/93	2015/94	2015/95	2015/96	2015/97	2015/98	2015/99	2016/00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

APCC (Forest Division & N.O. FC Act)

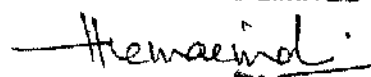
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COST NORM FOR AGAVE PLANTATION (FOR 5 ROWS & 40 MTRS)

Wage Rate : ₹345/day.

Sl. No.	Name of the work	Man-day	Labour cost (₹)	Material	Total
FIRST YEAR OPERATION.					
1	Site clearance alignment and stacking	2	690.00	-	690.00
2	Cost of lime materials including transportation	0		494.00	494.00
3	Digging pits and application of lime	6	2070.00		2070
4	Cost of 200 Ac. (sucker) including transportation			2,483.00	2,483.00
5	Carriage and planting	2	690.00	-	690.00
6	Soil working and application of fertilizers (twice) and lime	8	2760.00		2760.00
7	Cost of fertilizer			554.00	554.00
8	Contingency			554.00	554.00
	Total:-	18	6210.00	4085.00	10295.00
SECOND YEAR OPERATION					
1	Casualty replacement (20%) including cost of suckers and pitting	2	690.00	494.00	1184.00
2	Weeding and application of fertilizer and lime	6	2070.00		2070.00
3	Cost of fertilizer insecticides & lime			374.00	374.00
	Total:-	8	2760.00	868.00	3628.00
THIRD YEAR OPERATION					
1	Weeding, soil working and application of fertilizers	6	2070.00		2070.00
2	Cost of fertilizer and insecticides		-	374.00	374.00
3	Plant protection measures including material cost		-	374.00	374.00
	Total:-	6	2070.00	748	2818.00
FORTH YEAR OPERATION					
1	Weeding, cleaning, soil working and application of fertilizers	6	2070.00		2070.00
2	Cost of fertilizer and insecticides		-	374.00	374.00
3	Plant protection measures including material cost		-	374.00	374.00
	Total:-	6	2070.00	748	2818.00
FIFTH YEAR OPERATION					
1	Weeding, cleaning, soil working and application of fertilizers	6	2070.00		2070.00
2	Cost of fertilizer and insecticides		-	374.00	374.00
3	Plant protection measures including material cost		-	374.00	374.00
	Total:-	6	2070.00	748	2818.00
SIXTH YEAR OPERATION					
1	Weeding, cleaning, soil working and application of fertilizers	6	2070.00		2070.00
2	Cost of fertilizer and insecticides		-	374.00	374.00
3	Plant protection measures including material cost		-	374.00	374.00
	Total:-	6	2070	748	2818.00
	G.Total	50	17250.00	7945.00	25195.00
Cost norm for Agave fencing with five rows 01 km for 6 year		25195 40	x 1000 =	6,29,875.00	

For RUNGTA MINES LIMITED


 Director

Detail Estimate of Loose Boulder Structure (S.M.C)

Wage Rate- Rs.345

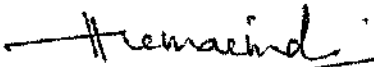
Span - 4 mtr. Ht.= 1.3 mtr

Slope- U/S :- 1:1.5 D/S slope :- 1:2.0

1.	Leveling the unshape surface of the selected site & layout the structure foundation L.S. 1 MD.			345.00
2.	Excavation of foundation in hard soil within initial lead of 50 mtr. including rough dressing and breaking of clods to maximum size 5 cm. to 7 cm. laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx. bund of loose boulder structure.			
	Base with apron- $1 \times 6.15 \times 5.00 \times 0.30 =$	9.225		
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.30 =$	0.30	9.525	
	@ 15134.79 per 100 cum.			1441.58
3.	Rough stone dry packing			
	up to GL			
	Base with apron- $1 \times 6.15 \times 5.00 \times 0.30 =$	9.225		
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.30 =$	0.30		
	Above GL			
	Super structure $1 \times 5.15 + 0.60 \times 1.30 \times 4.0 =$ -----2	14.95		
	Wing wall- $4 \times 0.50 \times 0.50 \times 0.50 =$	0.50		
	Side wall-			
i.	$2 \times 0.50 + 1.80 \times 1.95 \times 0.5 =$ -----2	2.24		
ii.	$2 \times 0.5 + 1.80 \times 2.6 \times 0.5 =$ -----2	2.99		
iii.	$2 \times 0.6 \times 1.8 \times 0.5 =$	1.08		
iv.	$2 \times 1.0 \times 0.5 \times 0.5 =$	0.50		
	@ 1314.77 per cum		31.785	41789.96
			G.Total:-	43576.54 Or 43577.00

(Rupees Forty Three Thousand Five Hundred Seventy Seven) only

For RUNGTA MINES LIMITED



Director

Annexure-IV

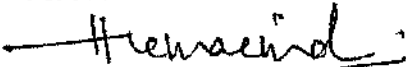
Wage Rate- Rs.345

Detail Estimate of construction of Garland Drain

SI No	Description of Items	No	Length	Width	Height	Qty	Unit	Rate	Amount
1	Cleaning of Jungles & bushes	1	200.00	7.00		1400.00	Sqm	9.314	13039.60
2	Earth work in hard soil in embankment roads with in 50 mtrintial lead &1.50 mtrintial lift including rough dressing &breaking clods to Maximum 5.00c.m. to 7.00 c.m. &laying layers not exceeding 0.30 mtr depth as per specification approved by department along with proper compaction with H.R.R Excavation	1	200.00	2.00	0.75	300.00	Cum	259.78	77934.00
3	Rough Stone Dry Packing with local boulder only labour charges (Local boulder will be Supplied by the Company through contractual manner)	2	3.00	2.00	0.30	3.60	Cum	1839.87	6623.53
									97597.13 Or, 97597.00

Rate/Running metre length – Rs.487.98 or 488/-

For RUNGTA MINES LIMITED


Director

Annexure-V

Wage Rate- Rs.345.00

Detail Estimate of Retaining wall of loose local Boulder with cement-Sand Patching over the surface of Boulder wall.

Sl. No.	Description of Items	No	Length	Width	Height	Qty	Unit	Rate	Amount
1	2	3	4	5	6	7	8	9	10
For one K.M.Length									
1	Rough Stone Dry Packing with local boulder only labour charges (Local boulder will be Supplied by our Company)	1	1000.00	(1.00+1.50)/2	1.20	1500.00	Cum		
		1	1000.00	1.50	0.30	450.00	Cum		
						1950.00	Cum	678.614	1323297.3
2	Irregular cement sand patches on the both side of the wall with 2" thick cement sand mortar(1:6) on top	1	1000.00	1.00		1000.00	Sqm		
		2	1000.00	1.20		2400.00	Sqm		
						3400.00	Sqm	172.5	586500.00
		Rate per one K.M. Length				Total			1912797.30
								Or	1912797.00

Cost for Running Meter length

1909.78

For RUNGTA MINES LIMITED

Hembindi
Director

Annexure-VI

Wage Rate-Rs.345.00

TERRACING OF THE DUMP SLOPE

Engagement of HEMM on the O/B dump slope for terracing

Location – Over Burden Dump

Work efficiency per hour – 3.38 running metre on the dump.

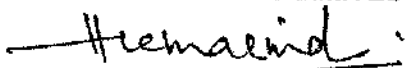
Width & height of the terrace – 5 m. & 5 m.

Rate for engagement of HEMM – Rs.2760.00/hr. i.e. Rs.2760.00/3.38 running meter i.e. Rate

X running metre = Rs.816.56/-

Therefore, terracing to be done over a length of RM is Rs.817/-

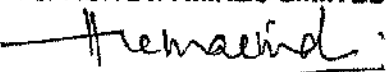
For RUNGTA MINES LIMITED


Director

Detail Estimate of Concrete Structure of Check Dam

SI No	Description of items	No	Length	Width	Height	Qty	Unit	Rate	Amount in
1	2	3	4	5	6	7		8	9
1	Earth work in Storey soil with in 50 mtr initial lead & 1.50 mtr initial lift including rough dressing & breaking clods to Maximum 5.00c.m. to 7.00 c.m. & laying layers not exceeding 0.30 mtr depth as per specification approved by department.								
	Base	1	46	5.000	2.500	576.000	Cum		
	Wing Wall	4	2	1.000	1.500	12.000	Cum		
	Apron	2	3	5.000	0.300	9.000	Cum		
	Cut of wall	2	5	0.450	1.500	6.750	Cum		
						692.750	Cum	123.45	74409.48
2	Plain cement concrete (1:3:6)								
	Base	1	46	4.000	0.200	36.800	Cum		
	Wing Wall	4	2	1.000	0.150	1.200	Cum		
	Apron	2	3	5.000	0.200	6.000	Cum		
	Cut of wall	2	4	0.450	0.100	0.360	Cum		
						44.360	Cum	4548.17	201688.10
3	Reinforced Cement concrete (1:1.5:3)								
	Below Ground Level								
	Base Raft	1	46.000	3.500	0.600	96.600	Cum		
	Wall	1	46.000	(1.80+2.00)/2	2.000	166.600	Cum		
	Wing Wall	4	2.000	0.500	0.400	1.600	Cum		
	Apron	2	46.000	5.000	0.200	92.000	Cum		
	Cut of wall	2	56.000	0.250	1.500	42.000	Cum		
						997.800	Cum		
	Above Ground Level						Cum		
	Wall	1	46.000	(0.60+1.600)/2	2.000	101.200	Cum		
	Wing Wall	4	2.000	0.400	2.000	8.400	Cum		
						Total	107.600	Cum	
						Grand Total	506.400	Cum	10441.75
4	Form Work using Steel Propees/ plate etc.					2021.600	Sqm.	517.50	1046178.00
	Total Cost for Construction of One No Check Dam. Length=46.00 mtr, H= 2.0mtr. above GL., Slope U/S=1:1.5 D/S=1:2								6599516.04

For RUNGTA MINES LIMITED



Director

ESTIMATE FOR PER RMT CONSTRUCTION OF SETTLING TANK
(Length: 1m., width: 3.0m. height: 1.5m.)

SI No	Description of Items	No	Length	Width	Height	Qty	Unit	Rate	Amount
1	Earth work in hard soil in embankment roads within 50 matintial lead & 1.50 mtrintial lift including rough dressing & breaking clods to Maximum 5.00c.m. to 7.00 c.m. & laying layers not exceeding 0.30 mtr depth as per specification approved by department along with proper compaction with H.R.R Excavation	1	4.00	3.00	1.50	18.00	Cum	259.77	4675.86
2	Rough Stone Dry Packing with local boulder only labour charges (Local boulder will be Supplied by our Company)	1	4.00	6.00	0.20	4.80	Cum	1839.87	8831.37
3	Transportation charges for 5.00 K.M. lead by truck load from quarry to work site with all cost of , labour, T. & P. etc. all complete in all respect as per specification and direction of	As same as Item No-2				4.80	Cum	230.10	1104.48
Rate per one No Settling tank									14611.71 Or, 14612.00

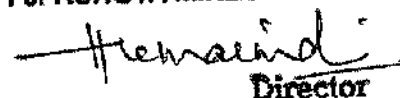
For RUNGTA MINES LIMITED

Hemaendra
Director

Details & Estimate for Construction of Catch Drain (26.00 Mtr.) at Dump Slope

Sl. No	Description of Items	No.	Length	Width	Height	Qty	Unit	Rate	Amount
1	Earth work excavation in F&P								
	Foundation								
	Side wall both sides	2	29.000	0.400	0.400	9.280	Cum		
	Between wall	1	29.000	3.000	0.300	26.100	Cum		
					Total	35.380	Cum	259.77	9190.66
2	Sand Filling	1.00	29.00	3.80	0.05	5.510	Cum	1690.50	9314.65
3	R R Stone Masonry with Local Boulder								
	Foundation								
	Side wall both sides	2	29.000	0.400	0.60	13.920	Cum	3857.42	53695.28
4	Rough stone Dry packing with top layer grouting								
	Floor	1	29.000	3.000		87.000	Sqm	469.19	40819.53
					Total=	100.920	Cum		
5	Earth Filling								
	Back filling (1/3 rd of earth work)					11.793	Cum		
					Total=	11.793	Cum	110.39	1301.82
6	20mm thick plastering in C.M (1.6)								
	Both sides wall	4	29.000	0.600		69.600	Sqm		
	Top	2	29.000	0.400		23.200	Sqm		
					Plastering work Total	92.800	Sqm	312.89	29036.19
7	C.C,work(1:2:4)								
	Wall	2.00	29.00	0.40	0.10	2.320	Cum		
	Floor	1	29.000	3.000	0.100	8.700	Cum		
					Total	11.02	Cum	10280.64	113292.65
							Total		256650.78
	Add 15% for Critical Area								38497.61
							Grand Total		295148.37
									Or
									295148.00

For RUNGTA MINES LIMITED



Director

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Watering Method (W)					
Watering system for plantation					
Solar system with bore well (system for 5000 plants) with drip system. Water rate @ Rs. 117/-					
Year of installation (0th Year)					
1	Cost of Borewell		2,50,000		
2	Installation of solar panel & other system		3,00,000		
3	Cost of G.E. HP submersible motor with accessories		50,000		
4	Water Storage Tanks / Flexible pipes		15,000		
5	Cost of laying Drip system including all accessories, fittings etc. with 120 GSY		3,02,431		
Total			9,17,431		
6	Cost of Water & watering per Ha. (Rs.17,431/5) = Rs. 1,63,486/-			1,63,486	
7 No maintenance required					
1st Year Watering				Total	
				0	
2nd Year Watering					
8 Maintenance of system @ 5% of initial cost of installation				Total	
				8,174	
3rd Year Watering					
9 Maintenance of system @ 5% of initial cost of installation				Total	
				8,174	
4th Year Watering					
10 Maintenance of system @ 5% of initial cost of installation				Total	
				8,174	
5th Year Watering					
11 Maintenance of system @ 5% of initial cost of installation				Total	
				8,174	
Abstract					
Sl. No	Year	No. person days	Labour cost @ Rs. 511/- per day	Material Cost	Total cost (Rs.)
1	0th year	0	0.0	1,63,486.0	1,63,486.0
2	1st year	0	0.0	0.0	0.0
3	2nd year	0	0.0	8,174.0	8,174.0
4	3rd year	0	0.0	8,174.0	8,174.0
5	4th year	0	0.0	8,174.0	8,174.0
6	5th year	0	0.0	8,174.0	8,174.0
Total		0	0.0	1,96,228.0	1,96,228.0

APCCF (Forest Division & NG, FC Act)

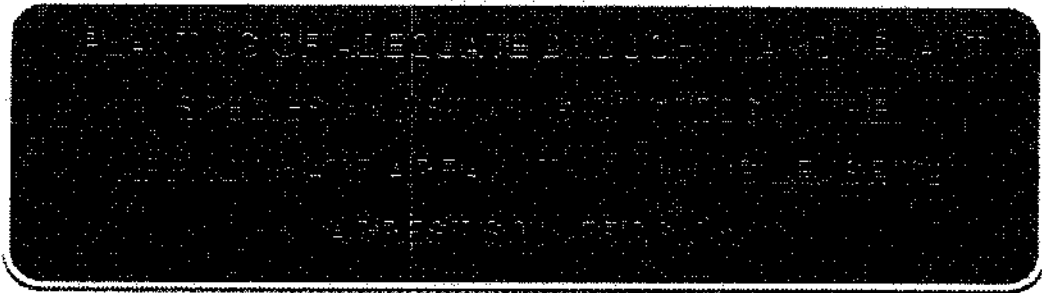
Matrix for Watering WI (Solar Borewell) fitted with Drip System (per ha)

Sl. No.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
Base Month		159446	0	6174	8174	8174	8174											IN Rupees
1	2021-22	169446	0	9011	9463	9935	30728											22653
2	2022-23		171660	0	9462	9996	10432	32296										293786
3	2023-24			180243	0	9935	10433	10954	35911									243476
4	2024-25				189755	0	10432	10956	11502	35607								257751
5	2025-26					198718	0	10954	11503	12077	37387							270639
6	2026-27						208654	0	11502	12078	12681	39256						284171
7	2027-28							219087	0	12077	12682	13315	41219					298380
8	2028-29								230041	0	12681	13316	13981	43280				312739
9	2029-30									241513	0	13315	13982	14680	45344			326954
10	2030-31										253620	0	13981	14681	15414	47716		341912

APCF (Forest Division B. NO. FC Act)



**Scheme
For**



**Condition No: 13(b) of
Stage-I Forest Clearance Granted
Vide Letter No. 8-01/2023-FC dated 18.05.2023
of Govt. of India, Ministry of Environment, Forest and Climate
Change, New Delhi
for
Diversion of 83.602 Ha. of forest Land
(including 2.529 Ha. of safety zone)
within
131.580 Ha. Lease Area
of
CHANDIPOSHI IRON ORE BLOCK
of
M/S RUNGTA MINES LTD.
under
Koira Tahasil, Bonai Sub-Divn., Dist.-Sundargarh, Odisha.**

SCHEME FOR PLANTING OF DROUGHT HARDY PLANT SPECIES AND SOWING OF SEEDS WITHIN MINING LEASE TO ARREST SOIL EROSION

1. INTRODUCTION

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron Ore Block over an area of 131.580 Ha. for Iron Ore located in Koira Mining Circle, district Sundargarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MXIII(b) 48/2021/7741/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing No. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron Ore Block over 131.580 Ha for Iron Ore located at a distance of 8 km to the east of Koira town, Koira Tahasil, Sundargarh district on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (Fifty) years. Accordingly, M/s Rungta Mines Ltd. submitted the proposal to obtain approval of the Central Govt. over 83.602 hectare of forest land u/s-2 (ii) of the Forest (Conservation) Act'1980 within the above Mining Lease area.

Further, Stage-I approval over 83.602 ha. of Forest Land for U/s-2 (ii) of F.C. Act'1980 has been granted by MoEF& CC, Govt. of India, New Delhi vide their Letter No. 8-01/2023-FC dated 18.05.2023, wherein it has been stipulated as per Condition No.13(b) to undertake plantation of adequate draught hardy plant species and sowing of seeds in the appropriate area within the mining lease to arrest soil erosion.

2. LOCATION

Chandiposhi Iron ore Block of M/s Rungta Mines Ltd. is located in Sundargarh district of Odisha and can be approached throughout the year by road. It falls within the survey of India Topo sheet No.73 G/5. The total mining lease hold area is 131.580.

Latitude- 21° 53' 20.7643" to 21° 54' 14.1285" N

Longitude- 85°17'16.4825" to 85° 18' 04.3218 E

3. TOPOGRAPHY

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is **750 meters** and the lowest one is of **604 meters**. Mendamaruni RF, Bhabanipahar RF, Karo RF of Bonai Forest Division are situated near the ML area.

4. SOIL TYPE

Soil type in the study area varies widely from hard rock to lateritic soil. Areas at higher elevations are usually hard rock consisting of laterite. The top soil is scanty in the area. Whatever top soil is available is thinly spread over all Soil profile in nature. The pH of the soil is slightly acidic in nature.

5. CLIMATE

The area of Chandiposhi block experiences humid tropical climate. During the summer days the area experiences very hot climate and the temperature shoots up to maximum of 47°C. The winter is also very cold and the minimum temperature goes down to a low of 1°C during the night time. It experiences very high rainfall during the monsoon period

6. DRAINAGE

In the Northern part of the block, the Teherai Nala is flowing through areas west of this block meets the Suna Nadi to the north of it. The general elevation difference in the area is 30m. The proposed working area lies at the hill & is well above the water table.

7. EXISTING VEGETATION

The area is characterized by growth of Sal, Sidha, Bara, Harida, Bahada, Char, Jamu, Asan, Kendu, Mahul, Kumbhi, Mango etc. with 0.5 density of vegetation (Eco value-class-I) .There is no protected area like National Park, Sanctuary in this region. The buffer zone (10Km radius) includes part of Uliburu, Lakharaghat, Sidhamatha, Baitarni Reserve Forest area of Keonjhar Forest Division and Karo, Toda & Khajurdih Reserve forest area of Bonai Forest Division.

8. LAND USE PATTERN

During the life of the mine, about 131.580 hectares will be utilized for mining, Minerals processing, Road, and green belt plantation in Safety Zone area ect. The details of land use pattern will be as follows:

SL. NO.	ITEM	REV. FOREST (IN HA)	DLC FOREST (IN HA)	TOTAL FOREST (IN HA)	TOTAL NON FOREST (IN HA)	GRAND TOTAL (IN HA)
1	MINIG (INCLUDING MOBILE CRUSHING AND SCREENING UNIT, TEMPORARY STACK YARD)	22.849	44.092	66.941	18.622	85.563
2	DUMPING OF OVERBURDEN	0.000	0.000	0.000	4.050	4.050
3	MINE ROAD	0.962	1.005	1.967	2.733	4.700
4	INFRASTRUCTURE (OFFICE, REST SHELTER, WEIGH BRIDGE, WORKSHOP ETC.)	0.008	0.010	0.018	1.112	1.130
5	ORE PROCESSINGSITE	0.000	4.536	4.536	2.495	7.031
6	MINERAL STACK YARD	0.000	5.687	5.687	2.795	8.482
	SUBTOTAL	23.819	55.330	79.149	31.807	110.956
7	SAFETY ZONE ALONG M.L. BOUNDARY	0.644	1.885	2.529	0.970	3.499
8	GREEN BELT (50 MTRS. ALONG THE NALA & 10 MTRS. ALONG THE VILLAGE ROAD)	1.924	0.000	1.924	9.081	11.005
9	AREA NOT TO BE USED (NALA, VILLAGE ROAD, PVT. LAND ETC.)	0.000	0.000	0.000	6.120	6.120
	GRANDTOTAL	26.387	57.215	83.602	47.978	131.580

9. PLANTATION PLANNING DURING THE LEASE PERIOD

Planning for plantation is done with the following objectives:

Planning for plantation is done keeping in view the following objective:

- (i) To meet the stipulation no. 13 (b) of stage –I Forest clearance accorded vide letter No. 8-01/2023-FC dated 18.05.2023 by MoEF&CC, Govt of India. One of the condition is "planting of adequate drought hardy plant species & showing of seeds within mining lease to arrest soil erosion."
- (ii) To compensate the loss to vegetation due to operation of the mine.
- (iii) To prevent spread of fugitive dust generated due to mining and allied activities.
- (iv) To attenuate noise generated by the mine.
- (v) To reduce soil erosion.
- (vi) To stabilize the slope of external over-burden dumps.
- (vii) To increase the green cover and to improve aesthetics.
- (viii) To attract the birds, which are addressed as litmus of nature.
- (ix) To provide recreational value to colony inhabitants.

- (x) Attract Animals to re-colonize the area where the Mine is abandoned.

Development of plantation in the available areas would be carried out in a phased manner. Saplings would be planted at the rate of 1600 trees /ha in Block plantation mode. The cost norm of Block Plantation is enclosed at **Annexure-I**. Post planting care would be taken to replace casualties, remove dead, dying, diseased and top broken trees etc.

The details of proposed afforestation programme within M/s Rungta Mines Ltd. are given below:

Proposed Location	Area
Block Plantation	1.05 Ha
Grass seedlings	1.10 Ha

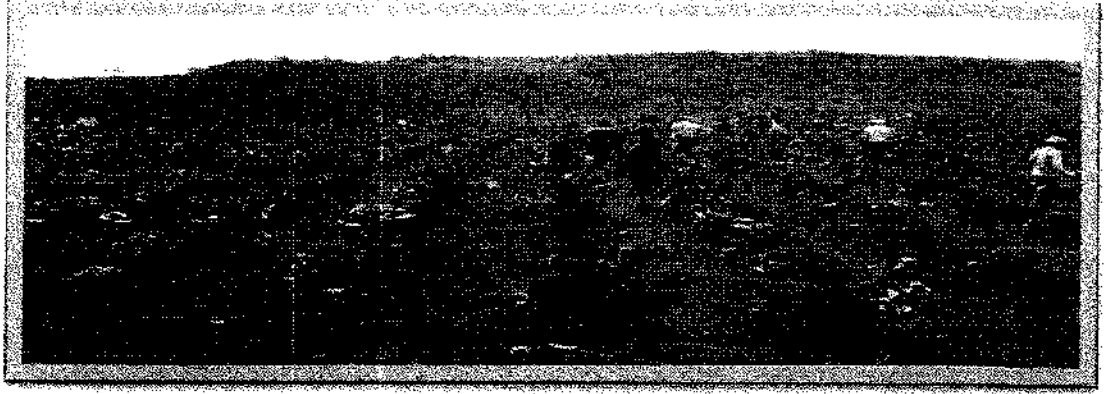
The choice of species is based on the following parameters: (i) Drought hardy and (ii) it should prevent soil erosion. Selection of the plant species is based on the inventory of the local forest species like *Neem (Azadirachta indica)*, *Karanja (Pongamia pinnata)*, *Asan (Terminalia aalata)*, *Kusum (Schleichera oleosa)*, *Amla (Emblica officinalis)*, *Mundi (Mitragyna parviflora)* etc. and some soil binding grasses like *Vetiveriazizanioides* will be introduced. The cost norm of grass seeding is enclosed at **Annexure-III**. The species for green belt development will be selected in consultation with the State Forest Department.

10. METHODOLOGY

It is proposed to plant the Seedlings in pits(30cmx30cmx30cm) at spacing of 2.5 m along contours. The pits shall be filled with a mixture of good quality soil and organic manure (cow dung, agricultural waste, kitchen waste). The saplings shall be planted just after commencement of the monsoon to ensure maximum survival.

11. PLANTATION

Plantation on the large Over Burden dumps can not be started till dumping activities have ceased at least in a part of the dump and the site is prepared for plantation. Once dumping is completed, a path would be cleared to the particular area so that the basic inputs (water, manure, and seedlings) can be carried to the site. Next, a layer of top soil has to be spread over the area and roughly leveled. Grass seeds would be broadcasted on the soil layer to stabilize the dump. Trenches of size 30 cm X 30 cm would be dug out on the flat top of the dumps, and the excavated materials used to form a bund on the deep side of the trenches to trap maximum water in the trenches during rains. 30 cm X 30 cm pits would be dug in the contour trenches at 2.5 m intervals. The pits would be filled with a mixture of top-soil, organic manures and phosphoric fertilizers. Saplings would be planted in these pits after monsoon has commenced in order to ensure optimum survival of the saplings.



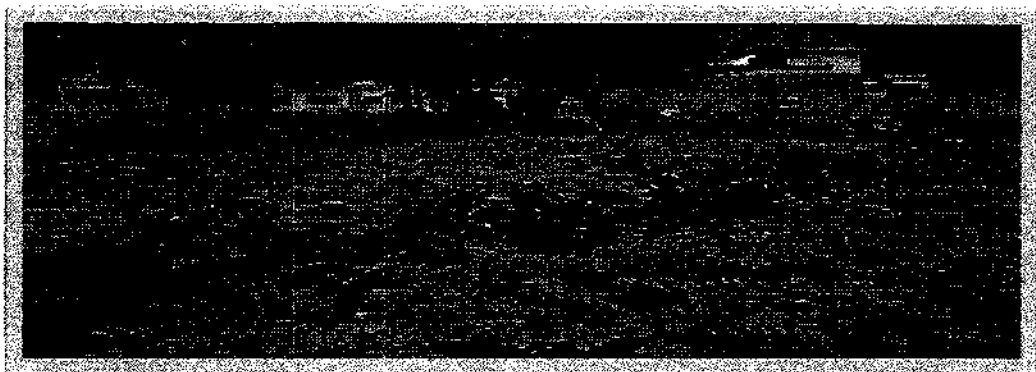
PROPOSED PLANTATION OVER DEAD WASTE DUMP

a. Pre-Planting and Planting Operation

Different operations that will be taken up for plantation are as follows:

i) Raising of nursery

Seedlings required for plantation shall be raised in a temporary nursery nearer to the planting site and water sources. Nursery work will be started one and half year before the year of plantation so that one and half year old seedlings will be available for plantation. 20% extra seedlings shall be raised besides the actual requirement to compensate the casualties. Seedlings will be raised in polythene bags of 10" x 6" size following standard nursery practice.



RAISING OF NURSERY PROPOSED WITHIN M.L.AREA

ii) Alignment and pitting

Alignment and pitting will be taken up in the month of March-April, Pits of size 30cm X 30cm X 30cm will be dug maintaining a spacing of 2.5mtr X 2.5mtr.

iii) Actual Planting

The seedling would be planted in the dugout pits of size 30cm x 30cm x 30cm with a spacing of 2.5mtr x 2.5mtr. Plantation will be taken up after first regular shower of monsoon and will be completed by the end of July. Species will be planted as per suitability of the soil condition. NPK fertilizer @50gms per plant will be applied as basal dosage 5 gm of anti-termite insecticide will also be applied to each pit while planting. Casualties, if any noticed, shall be replaced with the extra seedlings raised for the purpose. During second year also, casualty replacement will be done for which seedlings shall be raised.

iv) Weeding, Soil working & Manuring

For establishment and better growth of the planted seedlings, timely weeding, soil working and manuring are necessary. It is proposed to carry out two weedings, soil working and manuring during the first year and second year of plantation and one weeding and soil working during third year. During first year and second year, first weeding and manuring shall be carried out during August-September and the second one during October-November along with soil working after rains. First weeding shall be around the plants and the second one will be done in strip. In the third year, the weeding will be done around the plants, which will be carried out during August.

After each weeding, intensive soil working will be done around each plant at a radius of 0.5mtr, followed by manuring of @50gms NPK per plant in ring form.

v) Application of insecticides

The plantation site, after planting with good and healthy seedlings, may cause influx of insects, which usually eat and damage the tender leaves and shoots of the plants. To get rid of such insect attack, application of insecticides will be taken up in required doses at desired intervals. Spraying of insecticides shall be done preferably in a sunny day in the forenoon as per requirement.

b. Post Plantation Care

Post Plantation care shall be adopted to ensure maximum survival of the plants. Funds would be provided for maintenance of the plants for ten years (i.e. nine years) after the year of plantation. In the present Scheme, provision of fund would be made immediately after planting the seedlings. Watering would be done at regular interval during the dry spell. In the dry season, watering would be regularly done especially during February to June. Watering in one year planted saplings would be more frequent (10 days in a month). Manuring would be done by using organic manure (cow dung, agricultural waste, kitchen

waste, etc.). Diseased and dead plants would be uprooted, destroyed and replaced by fresh saplings. Growth and survival of saplings would be regularly monitored and remedial actions would be undertaken as required.

Plantation on slope of the dumps would commence as soon as the first terrace is ready. The terraces on the slopes would be sloped inward. 30 cm X 30 cm pits would be dug at 2.5 m intervals and filled with a mixture of top soil and organic manure. Before the commencement of the monsoon, the slopes and terraces would be covered with a layer of soil and sprinkled with water. The cost norm of Block Plantation and Agave Plantation has been provided in **Annexure –I and II**.

12. INSPECTION, MONITORING AND EVALUATION

For successful implementation of the above measures under the instant Scheme, 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.

13. MOTIVATION OF PEOPLE

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Teherai, Sargigarh, Sanua and Bad-indupur are to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages. Thus, 15% of the plantation cost has been earmarked for expenditure on this score.

14. 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 co-ordination with the Forest Department.

SPECIALISED CELL

Sl. No.	Name	Educational Qualification	Designation	Expertise
1	Shri D.K. Parida	Mining Engineer	CGM (Mining)	20 Years experience in Mining operation projects
2	Shri Jayanta Das	Surveyor	A.V.P (Survey)	30 Year's experience in mining Survey
2	Shri G.K.Pujari	M.Sc., M.Phil.	G.M (Env.)	23 Years experience with Pollution control & Environmental Management
3	Shri Indrajit Mukherjee	M.sc	AGM (Geology)	22 Years' experience In Mining and exploration field.

15. REQUIREMENT OF FUNDS

The total cost of the implementation of will be Rs. 10,58,627.00 (Rupees Ten Lakh Fifty Eight Thousand Six Hundred Twenty Seven) Only. The above expenditure would be made over the next seven years period. Therefore, budget provision has been kept by the user agency for implementation of the above plantation program over a period of next ten years. This budget would be subjected to increase in amount considering the increase in material cost and labour charges.

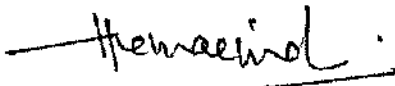
TOTAL COST OF THE PROJECT**Wage Rate Rs. 345/-**

Sl. No.	Description of the work	Funds Required (in Rs.)
1	Block Plantation 1.050 ha. @ Rs.341903/-	3,58,998.00
2.	Agave Plantation at the toe of dump over a length of 550m @ Rs.6,29,875/-for 1000 RMT	3,46,431.00
3.	Grass seeding over 1.10 ha. @ Rs.56084/- per ha.	61,692.00
	Total :-	7,67,121.00
3.	15% of the total cost for motivation of VSS / People involved	1,15,068.00
	Sub Total	8,82,189.00
4.	Price escalation @ 20%	1,76,438.00
	Grand Total	10,58,627.00

(Rupees Ten Lakh Fifty Eight Thousand Six Hundred Twenty Seven) only

M/s Rungta Mines Limited do hereby undertake to execute the Item of works mentioned in this scheme in a phased manner at the project cost.

Rungta Mines Limited


Director

Countersigned**COUNTERSIGNED**


Divisional Forest Officer
Divisional Forest Officer
15 - Bonal Division

Technically Approved


Regional Chief Conservator of Forests
Rourkela Circle

ANNEXURE-5

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs. 311/- 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 PHLR posting	Nov/Dec	2	622	0	622
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	311	100	411
3	Site preparation (Cleaning & removal of debris)	Nov/Dec	12	3732	0	3732
4	Creation of 4.00 mt wide Inspection Path	Feb/Mar	1	311	0	311
5	Alignment and stacking	Feb/Mar	2	622	0	622
6	Digging of pits (45 cm x 45 cm X 45 cm) in hard and gravelly soil	Feb/Mar	64	19904	0	19904
7	Construction of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Jan/Mar	0	0	3500	3500
Total			82	25502	3600	29102
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	3732	8000	11732
2	Transportation of 18 months old polypot seedlings in hired truck/tractor from the permanent/Muga nursery to planting site including Loading & unloading. (Average lead of 10 Km) & 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	933	0	933
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	11196	0	11196
5	Cost of Fertilizer & Insecticide (a) NPK/Bio-fertilizer @ 50 gms/plant as basal dose = 80kg @ Rs.30/- per kg = Rs. 2400.00 (b) Urea/Vermicompost/Mu 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

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BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs. 311/- 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
6	Causality Replacement @ 10% (160 nos.)	Jul/Aug	4	1244	0	1244
7	1st weeding & Manuring	Aug/Sept	15	4665		4665
8	2nd Weeding, Soil working (1mt. diametre around the plants) and Manuring	Oct/Nov	20	6220	0	6220
9	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
10	Watch & Ward including watering as per requirement	Aug-Mar	12	3732	0	3732
Total			105	92655	23360	56015
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	1244	0	1244
3	<u>Cost of Fertilizer & Insecticide:</u> A) Cost of Insecticide/ Bio-pesticide @ 5 gms/plant = 0.4 Kg @ Rs.150/- per kg = Rs.120/- B) Urea/NPK/Bio-fertilizer/Vermicompost/Mo (Qata)/any other fertilizer @Rs. 4486/-	Aug/Sept	0	0	4606	4606
4	Weeding (Complete weeding), Manuring & Soil working (1mt. diametre around the plants)	Sep/Oct	20	6220	0	6220
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr-Mar	18	5598	0	5598
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.				1000	1000
Total			45	13995	6566	20561

BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)						
WAGE RATE Rs- 311/- 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
3rd Year Maintenance						
3	Cost of Fertilizer/Urea/NPK/Di-fertilizer/Vermicompost/Mu Khata/any other fertilizer	Sept/Oct	0	0	4486	4486
4	Weeding, Manuring & Soil working (1mt. diameter around the plants)	Sep/Oct	20	6220	0	6220
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
6	Watch & Ward including watering as per requirement	Apr/Mar	18	5598	0	5598
7	Maintenance of Temporary Labour Shed, Drinking water facility and First-Aid etc.	Apr/Mar			1000	1000
Total			41	12751	5486	18237
4th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward	Apr-Mar	18	5598	0	5598
Total			21	6531	0	6531
5th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
6th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933.0
2	Pruning of branches, Snedding out of multiple shoots	Jan/Mar	5	1555.00	0	1555.0
3	Watch & Ward	Apr/Mar	18	5598.00	0	5598.0
Total			26	8086	0	8086.0
7th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
8th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598
Total			21	6531	0	6531
9th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/Mar	18	5598.00	0	5598

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BASE COST NORM FOR COMPENSATORY AFFORESTATION (BLOCK PLANTATION) @ 1600 PLANTS PER HECTARE (18 months old seedling)							
WAGE RATE Rs-311/- 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	
Total			21	6531	0	6531	
10th Year Maintenance							
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933	0	933	
3	Watch & Ward	Apr/Mar	18	5598.00	0	5598	
Total			21	6531	0	6531	
Year wise Abstract of Cost Norms (showing seedling cost separately)							
Sl. No	Year	No. person days	Labour cost @ Rs. 311/- per day (Rs)	Material Cost	Monitoring, Evaluation, Learning, Documentation and Other Contingency (5% of (4+5))	Cost of Seedlings @ Rs. 0.31 per seedlings	TOTAL COST
1	2	3	4	5	6	7	8
1	0th year	82	25502	3600	1390.00	0	30592.00
2	1st year	105	32655	23360	2800.00	895.46	147361.00
3	2nd year	48	13998	6565	1828.00	8050	20639.00
4	3rd year	41	12751	5466	911.00	0	19148.00
5	4th year	21	6531	0	326.00	0	6857.00
6	5th year	21	6531	0	326.00	0	6857.00
7	6th year	26	8086	0	404.00	0	8490.00
8	7th year	21	6531	0	326.00	0	6857.00
9	8th year	21	6531	0	326.00	0	6857.00
10	9th year	21	6531	0	326.00	0	6857.00
11	10th year	21	6531	0	326.00	0	6857.00
Total		428	132175	39012	8497	96596	276288

Note:

- 1 Priority must be given to the indigenous local species available nearby to the site of plantation.
- 2 10% indigenous fruit bearing trees must be preferred to Plantation.
- 3 Site specific Soil conservation work like L.SCD, Gully Plugging, Staggered Trench, Contour Trench, Graded Bund, etc. may be
- 4 Chain link fencing can be adopted in the CA plantation taken up outside the forest area and Bamboo twigs fencing may be
- 5 Watering facilities for procurement of water & watering may be adopted as per the availability of water.
- 6 The Cost Norms of various items can be changed with the approval of the concerned RCCFs keeping the overall cost norm fixed for each Financial Year

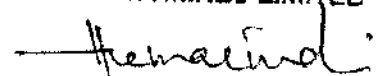

APCCF (Forest Division & NO, FC Act)

COST NORM FOR AGAVE PLANTATION (FOR 5 ROWS & 40 MTRS)

Wage Rate : ₹345/day.

Sl. No.	Name of the work	Man-day	Labour cost (₹)	Material	Total
FIRST YEAR OPERATION.					
1	Site clearance alignment and stacking	2	690.00	-	690.00
2	Cost of lime materials including transportation	0		494.00	494.00
3	Digging pits and application of lime	6	2070.00		2070
4	Cost of 200 Ac. (sucker) including transportation			2,483.00	2,483.00
5	Carriage and planting	2	690.00	-	690.00
6	Soil working and application of fertilizers (twice) and lime	8	2760.00		2760.00
7	Cost of fertilizer			554.00	554.00
8	Contingency			554.00	554.00
	Total:-	18	6210.00	4085.00	10295.00
SECOND YEAR OPERATION					
1	Casualty replacement (20%) including cost of suckers and pitting	2	690.00	494.00	1184.00
2	Weeding and application of fertilizer and lime	6	2070.00		2070.00
3	Cost of fertilizer insecticides & lime			374.00	374.00
	Total:-	8	2760.00	868.00	3628.00
THIRD YEAR OPERATION					
1	Weeding, soil working and application of fertilizers	6	2070.00		2070.00
2	Cost of fertilizer and insecticides		-	374.00	374.00
3	Plant protection measures including material cost		-	374.00	374.00
	Total:-	6	2070.00	748	2818.00
FORTH YEAR OPERATION					
1	Weeding, cleaning, soil working and application of fertilizers	6	2070.00		2070.00
2	Cost of fertilizer and insecticides		-	374.00	374.00
3	Plant protection measures including material cost		-	374.00	374.00
	Total:-	6	2070.00	748	2818.00
FIFTH YEAR OPERATION					
1	Weeding, cleaning, soil working and application of fertilizers	6	2070.00		2070.00
2	Cost of fertilizer and insecticides		-	374.00	374.00
3	Plant protection measures including material cost		-	374.00	374.00
	Total:-	6	2070.00	748	2818.00
SIXTH YEAR OPERATION					
1	Weeding, cleaning, soil working and application of fertilizers	6	2070.00		2070.00
2	Cost of fertilizer and insecticides		-	374.00	374.00
3	Plant protection measures including material cost		-	374.00	374.00
	Total:-	6	2070	748	2818.00
	G.Total	50	17250.00	7945.00	25195.00
	Cost norm for Agave fencing with five rows 01 km for 6 year	$\frac{25195}{40}$	x 1000 =	6,29,875.00	

For RUNGTA MINES LIMITED



Director

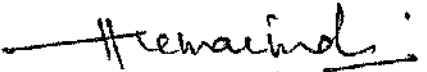
Annexure - III

COST OF GRASS SEED SOWING

Wage Rate Rs.345.00

Sl No	Purpose	No of Labour / Quantity of materials	Rate (Rs.)	Amount (Rs.)
1	Spreading of good top soil	03 Nos	345 / labour	1035.00
2	Adding FYM and good earth	2 TL FYM	1149.87 /TL FYM	4599.48
		2TL good earth	1149.87 /TL Good earth	
3	Cost of grass seed 500Kg/ per ha.		94/kg	47,000.00
4	Broadcasting	10 nos.	345.00/ labour	3,450.00
Total				56,084.48 Or, 56,084.00

For RUNGTA MINES LIMITED


Director



**Scheme
For**



**Condition No.13 (c) of
Stage-I Forest Clearance Granted
Vide Letter No. 8-01/2023-FC dated 18.05.2023
of Govt. of India, Ministry of Environment, Forests and Climate
Change, New Delhi
for
Diversion of 83.602 Ha. of forest Land
(including 2.529 Ha. of safety zone)
within
131.580 Ha. Lease Area
of
CHANDIPOSHI IRON ORE BLOCK
of
M/S RUNGTA MINES LTD.
under
Koira Tahasil, Bonai Sub-Divn., Dist.-Sundargarh
Odisha.**

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

1. INTRODUCTION

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron Ore Block over an area of 131.580 Ha. for Iron Ore located in Koira Mining Circle, district Sundargarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MXIII(b) 48/2021/7741/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing No. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron Ore Block over 131.580 Ha for Iron Ore located at a distance of 8 km to the east of Koira town, Koira Tahasil, Sundargarh district on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (Fifty) years. Accordingly, M/s Rungta Mines Ltd. submitted the proposal to obtain approval of the Central Govt. over 83.602 hectare of forest land U/s-2 (ii) of the Forest (Conservation) Act'1980 within the above Mining Lease area.

Further, Stage-I approval over 83.602 ha. of Forest Land for U/s-2 (ii) of F.C. Act'1980 has been granted by MoEF & CC, Govt. of India, New Delhi vide their Letter No. 8-01/2023-FC dated 18.05.2023, wherein it has been stipulated as per Condition No.13. (c) for construction of Check Dams, Retention/Toe walls etc. to arrest sliding down of the excavated material along the contour.

2. LOCATION

Chandiposhi Iron ore Block of M/s Rungta Mines Ltd. is located in Sundargarh district of Odisha and can be approached throughout the year by road. It falls within the survey of India topo sheet No.73 G/5. The total mining lease hold area is 131.580.

Latitude- 21° 53' 20.7643" to 21° 54' 14.1285" N

Longitude- 85°17'16.4825" to 85° 18' 04.3218 E

3. TOPOGRAPHY

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is **750 meters** and the lowest one is of **604 meters**. Mendamaruni RF, Bhabanipahar RF, Karo RF of Bonai Forest Division are situated near the ML area.

4. SOIL TYPE

Soil type in the study area varies widely from hard rock to lateritic soil. Areas at higher elevations are usually hard rock consisting of laterite. The top soil is scanty in the area. Whatever top soil is available is thinly spread over all Soil profile in nature. The pH of the soil is slightly acidic in nature.

5. CLIMATE

The area of Chandiposhi block experiences humid tropical climate. During the summer days the area experiences very hot climate and the temperature shoots up to maximum of 47°C. The winter is also very cold and the minimum temperature goes down to a low of 1°C during the night time. It experiences very high rainfall during the monsoon period.

6. DRAINAGE

In the Northern part of the block, the Teherai Nala is flowing through areas west of this block meets the Suna Nadi to the north of it. The general elevation difference in the area is 30m. The proposed working area lies at the hill & is well above the water table.

7. OBJECTIVE OF THE SCHEME

The main objective of the present scheme is to fulfill the **Condition No. 13 (c)** which provides for **preparation of a plan for construction of Check Dams, Retention/Toe walls etc. to arrest sliding down of the excavated material along the contour in accordance with the approved scheme**. The different steps proposed to be adopted are as under:

- a) To prevent erosion of sediment due to surface runoff.
- b) To prevent of obstruction of natural water sources.
- c) To complete construction activities efficiently before surface soil is exposed.
- d) To prevent overflow of eroded soil from the mining areas to the natural streams and habitations.

8. PROPOSED METHODOLOGY

To achieve the above objectives, it has been proposed to take up both biological and structural works for soil and water conservation. In this Scheme, considering the topography and contours of the lease area, emphasis has been given to arrest sliding down of excavated materials along the contour by constructing catch drain, settling tank, retention / toe walls, garland drain at specified locations within the mining lease. Locations have been properly selected within the leasehold and plans are listed in the following tables & maps.

a) The Salient features of the drainage management plan/scheme

The overall drainage Planning has been made in such a manner which follows the existing drainage pattern the block area in order to prevent silt and sediments, a number of measures have been proposed.

The major part of the mining activities is confined to the southern and central part of the lease hold area. Runoff water near the dump area will be channellized by garland drain so that solid waste and the force of run-off which will be restricted by a loose boulder structure and settling tank.

b) The drainage pattern of overburden dump

The runoff water will flow through the dump surface along the bund which will be developed as the edge of the dump . The dump surface needs to be terraced so that runoff can flow smoothly to meet the garland drain at the end for proper flow of water. Similarly, runoff from different terrace will be channelized from both sides into the proposed catch drains so that from each terrace of the dump the runoff will flow through the dump surface following the contour and will be deposited in the proposed catch drain shown in enclosed plan. Finally, the water will flow from the catch drain to the settling pit which has been proposed at the foot of the catch drain. After settling down, over flow water will go through weep holes of retaining wall & finally join the garland drain. Loose boulder structures have been proposed in the garland drain of Dumps which will help to arrest the solid waste intermittently. Ultimately, part of runoff water of ore stack yard that will be released, will also be channelized up to the garland drain. The rain water from proposed storing yard and dumps will drain down to the garland drain of proposed dumps which will help to arrest the solid waste by means of boulder structures across the garland drain as well as settling pits. The channelized proposed garland drain, and runoff water will accumulate in the proposed settling tank. The loose boulder structures have been proposed in the garland drain of proposed settling- pit which will help to arrest the solid waste.

c) Slope of the Proposed Dump

Proposal had been given for waste generation from the proposed quarry and subsequent dumping on Dump site during the plan period as per approved scheme of mining as mentioned below.

Year	Volume of Waste Generation (m ³) from quarry
	Total (m ³)
2024-2025	NIL
2025-2026	NIL
2026-2027	261025
2027-2028	47250
2028-2029	nil

The proposed generation of waste will be dumped on dump till the end of 2028-2029. Further Dumping of waste material will be done as per approved Mining plan. In the conceptual period the area of the over burden dump will be 4.050 Ha. The slope of the conceptual dump will be maintained at an angle of 28°.

Management

Re-treating fashion will be adopted to dump the total waste material generated during planned period. Terrace will be formed during planned period of 5 years in proposed dump.

Terrace will have inward slope with catch drain at inward side of the terrace. The catch drain of the terrace will be connected to the garland drain outside the periphery of the dump. These catch drain will preferably have half concrete open pipe followed by settling tank to avoid wash offs. Terrace will have a provision of berms at the outer end to reduce gully formation due to rain water wash offs.

To control erosion in the proposed waste dumps, regular compaction, development of terraces and vegetation are proposed to be done. Also, the retaining wall and garland drain for the proposed waste dump will be constructed to arrest wash-offs from the dump. It is proposed to construct both the retaining wall and garland drain at the end of 5th year plan period. No proposal has been given for the rehabilitation of the dump during planned period of five (5) years.

9. MEASURES ALREADY ADOPTED

There is no Biological and Structural measures exist. It is a fresh mining lease and no mining activities have been taken place so far.

10. MEASURES PROPOSED TO BE ADOPTED

a. Structural Measures

Vegetative means of erosion control are the most feasible and economic measures. However, as the pressure on land is increasing, it is necessary to bring even highly eroded land underutilization. In these lands, vegetative measures are not adequate to keep down the erosion. Some structural measures are required to be taken before vegetative

measures are adopted. Structural measures, therefore, 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.

i) Plan for Construction of Loose Boulder Structure

After studying the topography and the drainage pattern it has been found that there are 10 spots where the LBCD required and accordingly it has proposed to construct 25 nos. of loose boulder structure of 4m span across the proposed garland drain along the dumps & in phase-2, settling pit will help in stabilization of silt & sediment as well as prevention of soil erosion & enrichment of vegetation & greenery development.



Loose Boulder Structures

ii) Plan for Construction of Garland drain

A shallow trench (1.0 m wide x 1.50 m deep) will be dug for storage of runoff accumulated for draining surface water before it is released to the agriculture land or natural water course. Details of proposed Garland drain 725 m shall be constructed during the ensuing seven years period with location is shown in the map.



Garland Drain around Waste Dump

iii) Construction of Retaining wall

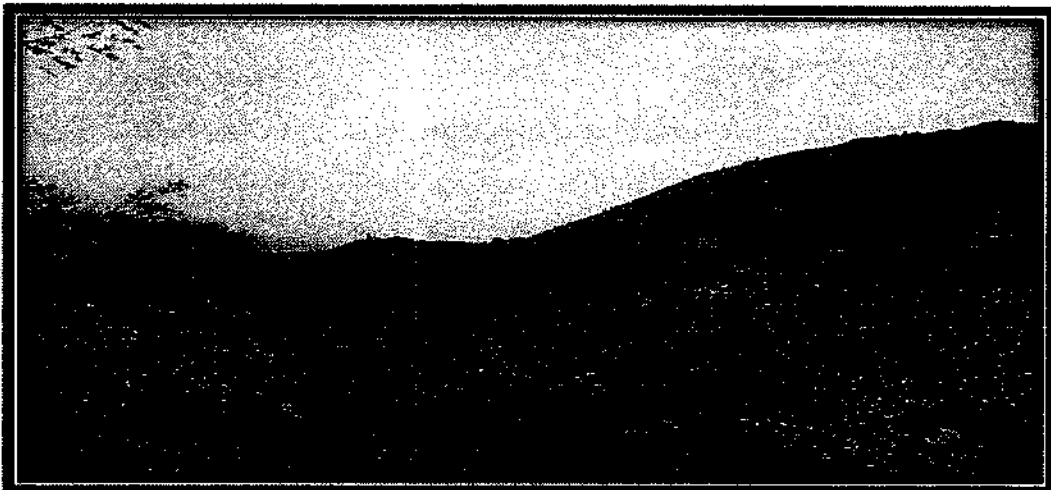
A retaining wall is a structure designed and constructed to resist the lateral pressure of soil when there is a change in ground elevation that exceeds the angle of repose of the soil. The Retaining walls are proposed for construction over **725 m**. Also, there is a provision for maintenance of the retaining wall for the next 4 years.



Retaining walls

iv) Terracing of OB Dump Slope

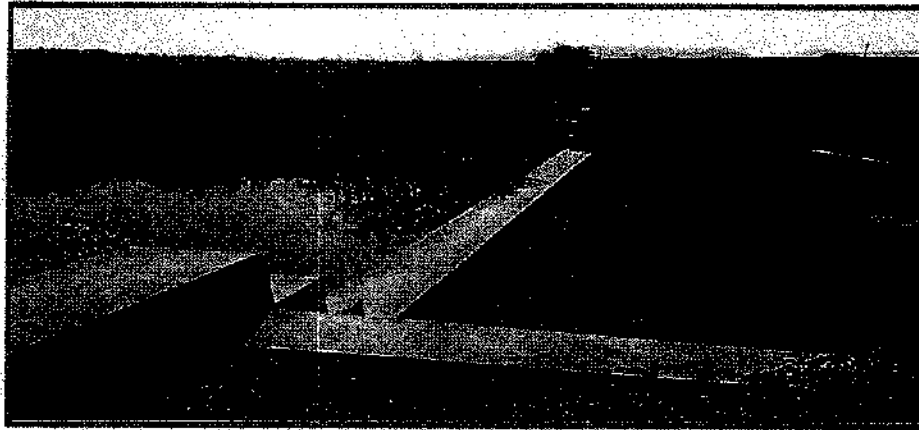
It is proposed to construct berm & terraces over a length of **450m** on the proposed dumps considering the volume of OB materials & the area earmarked for dumping. The slope of individual terrace should be within the permissible range considering the angle of repose of the soil and space available, thereby maintaining the angle of repose at less than 28° . The terracing will be done through the internal resources by deploying the operating mining equipment. All these operations will be carried out after sufficient deposition of OB. When OB dump will partially mature, the work will be executed.



Terracing of OB Dumps

v) Plan for Construction of Check Dams

After studying the drainage pattern it has been found total number of check dam required is 3 and accordingly, 3 nos. of Check Dam will be constructed near the Teherai Nalla. During monsoon there is heavy on-rush of water as a runoff arising from up slope/higher elevation to lower elevation. Hence, attention is to be paid to reduce the flow velocity of runoff & settle the silts/sediments flown from over flow of the Nalla during Monsoon, overburden dumps, haul roads inside the mine and areas cleared of vegetation. Details of proposed Check Dams are furnished below and location is shown in the map



Check Dam to restrict Soil erosion & silt flow

vi) Plan for Construction of Settling Tanks

It is a process that involves separation of solid material from slurry. Sometimes, this process is called sedimentation. When waste water is treated, a large quantum of materials is filtered out of the liquid by physical barriers. Even then, the water will contain some solids which need to be removed. A settling tank is proposed to be used to protect the surface water. It has been proposed to construct one settling tank. Details of proposed settling Tank are shown in the map.

vii) Plan for Construction of catch drain

A pyramid structure catch drain has been proposed to stream-line the flow of surface runoff from the dump to the foot of the dump, and stair of the catch drain will be placed inward to restrict flow of water. Catch drain is preferably made up of half concrete with number of stairs to reduce gully formation due to rain water wash off, so that runoff water will flow through each terrace of the dump & connect to the catch drain, the water of which goes through catch drain via settling pit to the garland drain. The catch drain will be constructed after the proposed dump height exceeds 26 m. One catch drain has been proposed.



Catch Drains

viii) Desiltation

The de-silting works of the settling tank will be taken up at regular intervals to prevent sedimentation and choking of streams. This de-silting of settling tank will provide space and base to hold the sediment laden runoff thereby allowing settling and clear water to flow down. This de-silting work will be preferably undertaken once in a year before & after monsoon. The implementation of the plans will be site specific in nature depending upon the severity of the sedimentation and choking of stream.

11. 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.

12. MOTIVATION OF PEOPLE:

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Teherai, Sargigarh, Sanua and Bad-indupur are to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages. Thus, 15% of the plantation cost has been earmarked for expenditure on this score.

13. 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 co-ordination with the Forest Department.

SPECIALISED CELL

Sl. No.	Name	Educational Qualification	Designation	Expertise
1	Shri D.K. Parida	Mining Engineer	CGM (Mining)	20 Years experience in Mining operation projects
2	Shri Jayanta Das	Surveyor	A.V.P (Survey)	30 Year's experience in mining Survey
2	Shri G.K. Pujari	M.Sc., M.Phil.	G.M (Env.)	23 Years experience with Pollution control & Environmental Management
3	Shri Indrajit Mukherjee	M.sc	AGM (Geology)	22 Years' experience In Mining and exploration field.

14. REQUIREMENT OF FUNDS:

The financial forecast for construction of Check Dams, Retention/ Toe Walls to arrest sliding down of the excavated material along the contour by Construction of Check Dam, Retaining wall, Catch Drain, Settling Tank and Loose Boulder Structure of 4m span has already been provided in the Scheme for **mitigative measures to minimize soil erosion and choking of streams & draught hardy plantation** as per Condition No. 13 (a)&(b) of Stage-I approval granted by MoEF&CC, Govt. of India, New Delhi in their letter Dt.18.05.2023. The financial forecast of the project has been furnished in the table below:

FINANCIAL FORECAST OF THE PROJECT (ML AREA=131.580 HA.)


Wage Rate Rs. 345.00

1.	Biological Measures	Fund Required (in Rs.)
A.	Block Plantation (1600 no./ha.) on the dumps and in green belt over 15.055 ha. @ Rs.3,41,903/- per ha.	The financial forecast has already been provided in the earlier scheme prepared in compliance with Condition No. 13 (a) & 13 (b) So, no budgetary provision has been suggested.
B.	Agave Plantation at the toe of dump over a length of 750 m. @ Rs.6,29,875/- for 1000 RMT	
	Total	
2.	Structural Measures	
A.	25 nos. of Loose Boulder Structure of 4mt span @ Rs.43,577/- per each	
B.	Construction of Garland drain over a length of 725 m @ Rs.488/- per RMT	
C.	Construction of retaining wall over 725 m @ Rs.1909.78 per RMT	
D.	Terracing of OB dump over a length of 450 m. @ Rs.817/- per RMT	
E.	Construction of 03 no. of check dam @ Rs.3,78,279.00/- per each	
F.	Construction of 1 no. of settling tank @ Rs.14,612.00/- per each	
G.	Construction of 1nos. of catch drain (26 m. at dump slope) @ Rs.2,95,148.00/- per each	
	TOTAL	
3.	De-siltation work for Garland drain, settling pond and check dam twice in a year on LS	
4.	Maintenance of retaining walls	
	Sub Total	
5.	15% of the total cost for motivation of VSS / People involved	
	Total	
	Price escalation @ 20%	
	GRAND TOTAL	

M/s Rungta Mines Limited do hereby undertake to execute the item of works mentioned in this scheme in a phased manner at the project cost.

M/s Rungta Mines Ltd.

Director



Technically Approved



8/9/2019
Regional Chief Conservator of Forests
Rourkela Circle

Countersigned

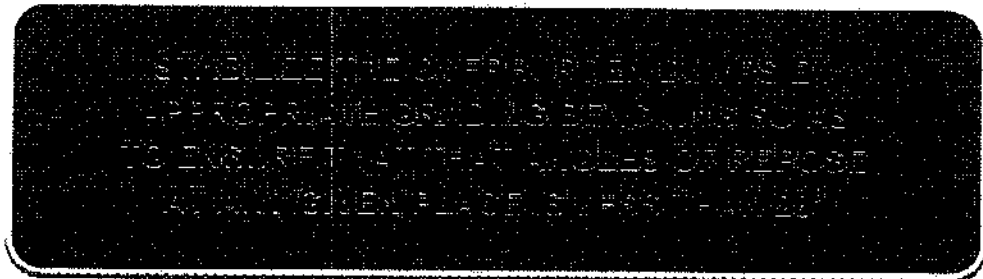
COUNTERSIGNED



Divisional Forest Officer
Bonai Division



*Scheme
For*



**Condition No.13(d) of
Stage-I Forest Clearance Granted
Vide Letter No. 8-01/2023-FC dated 18.05.2023
of Govt. of India, Ministry of Environment, Forest and Climate
Change, New Delhi
for
Diversion of 83.602 Ha. of forest Land
(including 2.529 Ha. of safety zone)
within
131.580 Ha. Lease Area
of
CHANDIPOSHI IRON ORE BLOCK
of
M/S RUNGTA MINES LTD.
under
Koira Tahasil, Bonai Sub-Divn., Dist.-Sundargarh, Odisha.**

SCHEME FOR STABILIZE THE OVERBURDEN DUMPS BY APPROPRIATE GRADING/BENCHING SO AS TO ENSURE THAT THE ANGLES OF REPOSE AT ANY GIVEN PLACE IS LESS THAN 28^o

1. INTRODUCTION

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron Ore Block over an area of 131.580 Ha. for Iron Ore located in Koira Mining Circle, district Sundargarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MXIII(b) 48/2021/7741/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing No. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron Ore Block over 131.580 Ha for Iron Ore located at a distance of 8 km to the east of Koira town, Koira Tahasil, Sundargarh district on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (Fifty) years. Accordingly, M/s Rungta Mines Ltd. submitted the proposal to obtain approval of the Central Govt. over 83.602 hectare of forest land U/s-2 (ii) of the Forest (Conservation) Act'1980 within the above Mining Lease area.

Further, Stage-I approval over 83.602ha.of Forest Land for U/s-2 (ii) of F.C. Act'1980 has been granted by MoEF&CC, Govt. of India, New Delhi vide their Letter No. 8-01/2023-FC dated 18.05.2023, wherein it has been stipulated as per Condition No. 13(d) for stabilization of over burden dumps by appropriate grading/benching so as to ensure that the angle of repose at any given place is less than 28^o.

2. LOCATION

Chandiposhi Iron ore Block of M/s Rungta Mines Ltd. is located in Sundargarh district of Odisha and can be approached throughout the year by road. It falls within the survey of India topo sheet No.73 G/5. The total mining lease hold area is 131.580.

Latitude- 21° 53' 20.7643" to 21° 54' 14.1285" N

Longitude- 85° 17' 16.4825" to 85° 18' 04.3218 E

3. TOPOGRAPHY

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is **750 meters** and the lowest one is of **604 meters**. Mendamaruni RF, Bhabanipahar RF, Karo RF of Bonai Forest Division are situated near the ML area.

4. SOIL TYPE

Soil type in the study area varies widely from hard rock to lateritic soil. Areas at higher elevations are usually hard rock consisting of laterite. The top soil is scanty in the area. Whatever top soil is available is thinly spread over all Soil profile in nature. The pH of the soil is slightly acidic in nature.

5. CLIMATE

The area of Chandiposhi block experiences humid tropical climate. During the summer days the area experiences very hot climate and the temperature shoots up to maximum of 47°C. The winter is also very cold and the minimum temperature goes down to a low of 1°C during the night time. It experiences very high rainfall during the monsoon period.

6. DRAINAGE

In the Northern part of the block, the Teherai Nala is flowing through areas west of this block meets the Suna Nadi to the north of it. The general elevation difference in the area is 30m. The proposed working area lies at the hill & is well above the water table.

7. EXISTING VEGETATION

The area is characterized by growth of Sai, Sidha, Bara, Harida, Bahada, Char, Jamu, Asan, Kendu, Mahul, Kumbhi, Mango etc. with 0.5 density of vegetation (Eco value-class-I). There is no protected area like National Park, Sanctuary in this region. The buffer zone (10Km radius) includes part of Uliburu, Lakharaghat, Sidhamatha, Baitarni, reserve forest area of Keonjhar Forest Division and Karo, Toda & Khajurdih Reserve forest area of Bonai Forest Division.

8. PHASE WISE MINING ACTIVITY AND MANAGEMENT OF OVERBURDEN DUMP

As per the Geological report provided by the Directorate of Mines, Steel & Mines Department, Government of Odisha, the net insitu iron ore resources of Chandiposhi Iron Ore Block is 47.07 million tonnes (Fe content >55% and Fe content between 55% and 45%). This ore body needs to be judiciously exploited in view of systematic mining with

optimum exploitation of ore to meet the growing demand of raw materials for indigenous steel plant, sponge iron plant, pellet plants etc. for ultimate production of Steel and also for export to earn foreign exchange for development of our country.

9. WASTE GENERATION

Proposal had been given for waste generation from the proposed quarry and subsequent dumping on Dump site during the plan period as per approved scheme of mining as mentioned below.

Year	Volume of Waste Generation (m ³) from quarry
	Total (m ³)
2024-2025	NIL
2025-2026	NIL
2026-2027	261025
2027-2028	47250
2028-2029	nil

The proposed generation of waste will be dumped on dump till the end of 2028-2029. Further Dumping of waste material will be done as per approved Mining plan. In the conceptual period the area of the over burden dump will be 4.050 Ha. The slope of the conceptual dump will be maintained at an angle of 28°.

The salient features of OB/waste dump management practices

1. The total waste generation will be will be stacked on the proposed dump in dry state.
2. Retaining wall and garland drain will be provided around the proposed dumps.
Precautionary measures to be adopted during waste disposal are as follows: -
 - i) The ultimate dump slope to be maintained around 28°.
 - ii) Terrace should have inward slope with a provision of catch drain.
 - iii) The dump edge will be covered with bund. A garland drain will be constructed adjacent to proposed dump, following the contour & different terrace will be connected to the catch drain. The drainage pattern should be such that the runoff will be channelized to the catch drain before releasing to the garland drain outside the periphery of dump. Catch drain will be made up of concrete with number of cemented stairs to check the heavy flow of water as well as to reduce gully formation due to constant run off.

10. THE OBJECTIVES OF THE PROPOSED PLAN

The objectives of the proposed plan are as follows:

1. To fulfill the stipulation i.e., Condition no. 13 (d) imposed in the Stage-I approval granted vide Letter No. 8-01/2023-FC dated 18.05.2023, to prepare plan for **Stabilization of Over burden dump by appropriate grading/benching so as to ensure that angle of repose at any given place is less than 28°.**
2. To adopt proper Management and scheduling of overburden materials so as to minimize external dumping.
3. To provide methodologies and implement the proposed works in time bound manner to prevent slope failures there by providing stable OB dump slopes.
4. To stabilise the over burden dumps by plantation.
5. To prevent overflow of eroded soils from the fines, OB dump areas leading to siltation in the streams natural streams.

In order to stabilize over burden dump, the user agency will implement some mitigative measures which are given as below:

11. MEASURES ALREADY ADOPTED

There is no Biological and Structural measures exist. It is a fresh mining lease and no mining activities have been taken place so far.

12. PROPOSED METHODOLOGY

Due to the geological feature of the mining lease area, the dumps would be higher than the adjoining ground level. Top soils from the slopes of the dump are likely to flow during heavy rains and disturb the topography of its adjoining land, till the dump surface is completely stabilized by biological means. In order to curb this situation, retaining walls of minimum one & half meter height have been planned all along the peripheral contour of the dumps to arrest the possibility material running down on the slopes. Waste dumping has been planned in such a manner that backfilling can be done with a view to reclaim the degraded land.

The methods to be adopted for stabilization of OB dumps are as follows:

a. Vegetative methods (Biological Measures)

- Plantation would be done on the OB dump surface, along with sowing of seeds of *Stylohamata* etc.(broadcast)

b. Bio-engineering Measures

- Plantation of *Agavesisilana* or terraces as a soil conservation measure.

c. Structural measures

- Terracing of slopes, plugging of gullies by construction of catch drain
- Construction of Garland drains, Check dam, Settling tank, Loose Boulder Structure etc. sub-grade dump meant for dumping sub-grade ore.

To give an ideal shape to the dump, appropriate slope has to be maintained for which terraces to be made in dumps to maintain the slope. The angle of repose of the terrace would be around 28°. Backfilled areas would be biologically reclaimed. Terraces would be developed having maximum height of 10m in dumps keeping in view the gradual progress of dump and area available for minimum utilisation of virgin land. The details of dumps and terraces to be made have been summarized as follows:

a. **Biological Measures**

i) **Plantation on OB dumps**

It is proposed to undertake plantations over the dump. Green coverage of the dump area will be developed by raising plantation at the rate 1600 plants per hectare through block plantation. Taking into consideration the site specific soil condition, indigenous species growing naturally are proposed to be planted. It is also proposed to plant hardy species such as Agave as it can survive in degraded and poor soils along the slope & toe of O.B. dump and prove to be most useful for controlling soil erosion.

Sl.No.	Item	Location	Area
1	Plantation	Dump	4.050

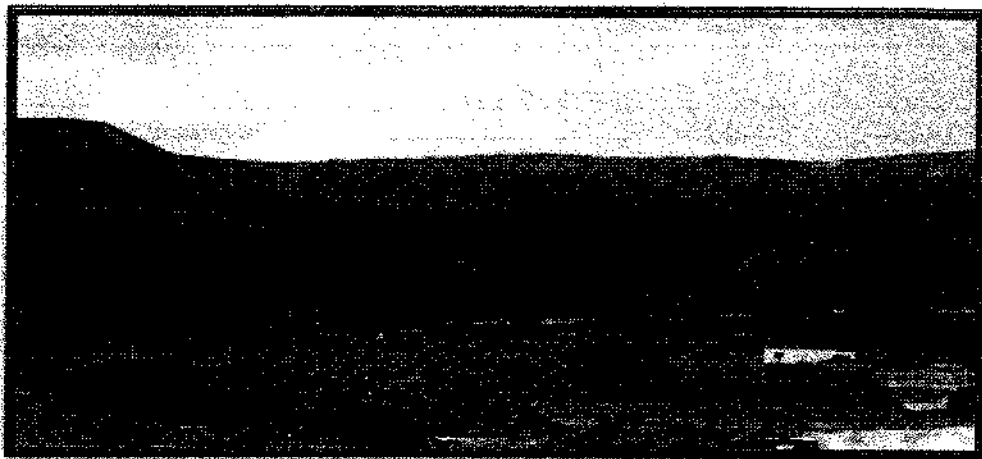
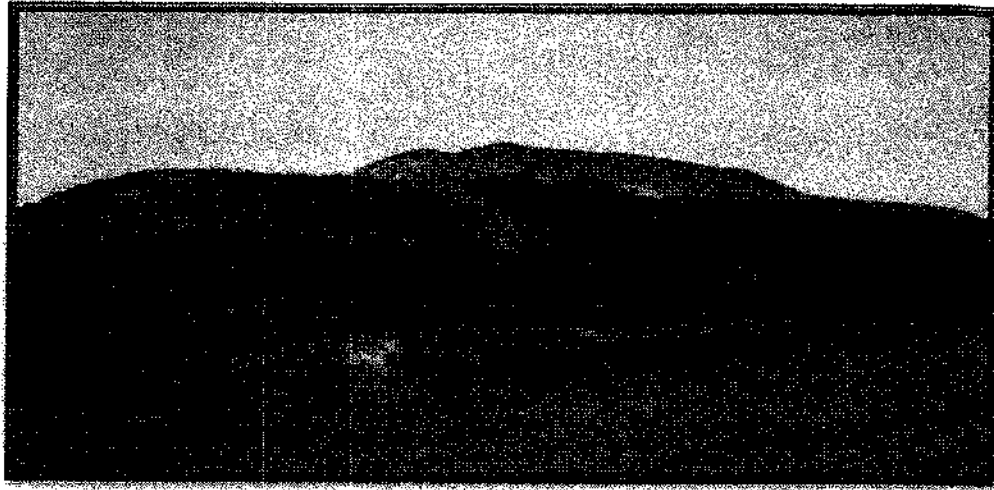
The list of species to be adopted for the plantation is as follows:

Sl. No.	Local Name	Scientific Name
1	Amla	<i>Emblica officinalis</i>
2	Karanj	<i>Pongamia glabra</i>
3	Asan	<i>Terminalia alata</i>
4	Pahadi sissoo	<i>Dalbergia latifolia</i>
5	Simaruba	<i>Simarubaglauca</i>
7	Siris	<i>Albizzia lebbek</i>

Broadcasting of grass Seeds: It is suggested to broadcast grass seeds on the slope of terrace & at other barren place for preservation of top soil. The grass recommended is as follows:

Name of Species	Usage	Habitat / Soil
<i>Stylohamata</i>	Non- Fodder	Eroded soil

Sl. No.	Item	Location	Area
1	Sowing of Grass seeds	Dump	1.10 Ha



Plantation over OB Dumps

ii) **Soil Treatment & Planting Activities**

The topsoil which is encountered during mining operation would be preserved for utilization during plantation on OB dump areas. Planting shall be done during onset of monsoon in earlier-dugout pits of size 30cmX30cmX30cm. A basal dose of (N.P.K) fertiliser shall be applied at the time of planting, besides mixing with insecticides to prevent termites & insects. A minimum distance of 2.5 mt X 2.5 mt shall be maintained. Care should be taken to complete the planting during July. The proposed biological measures along with the maintenance works will also be executed with internal resources by the user agency in consultation with local Forest Dept. field executives. Provision of vehicle for technical experts (Internal) for proper supervision of these works by the Executing Agency shall also be made available to them.



Block Planting Activities

b. Structural Measures

i) Plan for Construction of Loose Boulder Structure

After studying the topography and the drainage pattern it has been found that there are 10 spots where the LBCD required and accordingly it has proposed to construct 25 nos. of loose boulder structure of 4m span across the proposed garland drain along the dumps & in phase-2, settling pit will help in stabilization of silt & sediment as well as prevention of soil erosion & enrichment of vegetation & greenery development.

ii) Plan for Construction of Garland drain

A shallow trench (1.0 m wide x 1.50 m deep) will be dug for storage of runoff accumulated for draining surface water before it is released to the agriculture land or natural water course. Details of proposed Garland drain 725 m shall be constructed during the ensuing seven years period with location is shown in the map

iii) Construction of Retaining wall

A retaining wall is a structure designed and constructed to resist the lateral pressure of soil when there is a change in ground elevation that exceeds the angle of repose of the soil. The Retaining walls are proposed for construction over 725 m. Also, there is a provision for maintenance of the retaining wall for the next 4 years.

iv) Terracing of OB Dump Slope

It is proposed to construct berm & terraces over a length of 450m on the proposed dumps 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 at less than 28°. The terracing will be done through the internal resources by deploying the operating mining equipment. All these operations will be carried out after sufficient deposition of OB. When OB dump will partially mature, the work will be executed.

v) Plan for Construction of Check Dams

After studying the drainage pattern it has been found total number of check dam required is 3 and accordingly, 3 nos. of Check Dam will be constructed near the Teherai Nalla. During monsoon there is heavy on-rush of water as a runoff arising from up slope/higher elevation to lower elevation. Hence, attention is to be paid to reduce the flow velocity of runoff & settle the silts/sediments flown from over flow of the Nalla during Monsoon, overburden dumps, haul roads inside the mine and areas cleared of vegetation. Details of proposed Check Dams are furnished below and location is shown in the map.

vi) Plan for Construction of Settling Tanks

It is a process that involves separation of solid material from slurry. Sometimes, this process is called sedimentation. When waste water is treated, a large quantum of materials is filtered out of the liquid by physical barriers. Even then, the water will contain some solids which need to be removed. A settling tank is proposed to be used to protect the surface water. It has been proposed to construct **one settling tank**. Details of proposed settling Tank are shown in the map.

vii) Plan for Construction of catch drain

A pyramid structure catch drain has been proposed to stream-line the flow of surface runoff from the dump to the foot of the dump, and stair of the catch drain will be placed inward to restrict flow of water. Catch drain is preferably made up of half concrete with number of stairs to reduce gully formation due to rain water wash off, so that runoff water will flow through each terrace of the dump & connect to the catch drain, the water of which goes through catch drain via settling pit to the garland drain. The catch drain will be constructed after the proposed dump height exceeds 26 m. **One catch drain** has been proposed.

viii) De-siltation

The de-silting works of the settling tank will be taken up at regular intervals to prevent sedimentation and choking of streams. This de-silting of settling tank will provide space and base to hold the sediment laden runoff thereby allowing settling and clear water to flow down. This de-silting work will be preferably undertaken once in a year before & after monsoon. The implementation of the plans will be site specific in nature depending upon the severity of the sedimentation and choking of stream.

13. 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.

14. MOTIVATION OF PEOPLE:

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Teherai, Sargigarh, Sanua and Bad-indupur are to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages. Thus, 15% of the plantation cost has been earmarked for expenditure on this score.

15. 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 co-ordination with the Forest Department.

SPECIALISED CELL

Sl. No.	Name	Educational Qualification	Designation	Expertise
1	Shri D.K. Parida	Mining Engineer	CGM (Mining)	20 Years experience in Mining operation projects
2	Shri, Jayanta Das	Surveyor	A.V.P (Survey)	30 Year's experience in mining Survey
2	Shri G.K.Pujari	M.Sc., M.Phil.	G.M (Env.)	23 Years experience with Pollution control & Environmental Management
3	Shri Indrajit Mukherjee	M.sc	AGM (Geology)	22 Years' experience In Mining and exploration field.

16. REQUIREMENT OF FUNDS

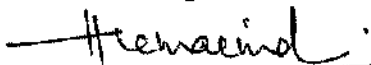
The financial forecast for construction of Stabilization of over burden Dumps, Retention/ Toe Walls to arrest sliding down of the excavated material along the contour by means of, Construction of Check Dam, Retaining wall, Catch Drain, Settling Tank and Loose Boulder Structure of 4m span has already been provided in the Scheme for mitigative measures to minimize soil erosion and choking of streams and plantation of draught hardy species as per condition No.13(a)&(b) of Stage-I approval granted by MoEF&CC, Govt. of India, New Delhi in their letter dt. 18.05.2023. So, in order to avoid repetition of financial forecast, no budgetary provision has been furnished here.

FINANCIAL FORECAST OF THE PROJECT (131.580 HA.)**Wage Rate Rs. 345.00**

Sl. No.	Description of the Work	Fund Required (in Rs.)
1.	Biological Measures	The financial forecast has already been provided in the earlier scheme prepared in compliance with Condition No. 13 (a) & 13 (b) So, no budgetary provision has been suggested.
A.	Block Plantation (1600 no./ha.) on the dumps and pit to be reclaimed in future over 15.055 ha. @ Rs.3,41,903/- per ha.	
B.	Agave Plantation at the toe of dump over a length of 725 m. @ Rs.6,29,875/- for 1000 RMT	
	Total	
2.	Structural Measures	
A.	25 nos. of Loose Boulder Structure of 4mt span @ Rs.43,577/- per each	
B.	Construction of Garland drain over a length of 725 m @ Rs.488/- per RMT	
C.	Construction of retaining wall over 725 m @ Rs.1909.78 per RMT	
D.	Terracing of OB dump over a length of 450 m. @ Rs.817/- per RMT	
E.	Construction of 03 no. of check dam @ Rs.3,78,279.00/- per each	
F.	Construction of 1 no. of settling tank @ Rs.14,612.00/- per each	
G.	Construction of 1 nos. of catch drain (26 m. at dump slope) @ Rs.2,95,148.00/- per each	
	Total	
3.	De-siltation work for Garland drain, settling pond and check dam twice in a year on LS	
4.	Maintenance of retaining walls	
	Sub Total	
5.	15% of the total cost for motivation of VSS / People involved	
	Total	
	Price escalation @ 20%	
	GRAND TOTAL	

M/s Rungta Mines Limited do hereby undertake to execute the item of works mentioned in this scheme in a phased manner at the project cost.

M/s Rungta Mines Ltd.


Director

Countersigned

COUNTERSIGNED


Divisional Forest Officer
Bona Division

Technically Approved


Regional Chief Conservator of Forests
Rourkela Circle

SCHEME FOR

FENCING, PROTECTION AND REGENERATION

OF THE SAFETY ZONE OVER 3.499 HA.

(FOREST-2.529 HA. (+) NON-FOREST-0.970 HA.)

ALL ALONG THE OUTER BOUNDARY OF THE

PROPOSED DIVERSION AREA OF 83.602 HA.

WITHIN ML AREA OF 131.58 HA.

FOR CHANDIPOSHI IRON ORE BLOCK

OF

M/S RUNGTA MINES LTD.

IN

BONAI FOREST DIVISION

SCHEME FOR FENCING, PROTECTION AND REGENERATION OF THE SAFETY ZONE OVER 3.499 HA. (FOREST-2.529 HA. (+) NON-FOREST-0.97 HA.) ALL ALONG THE OUTER BOUNDARY OF THE PROPOSED DIVERSION AREA OF 83.602 HA. WITHIN ML AREA OF 131.58 HA. FOR CHANDIPOSHI IRON ORE BLOCK OF M/S RUNGTA MINES LTD. IN BONAI FOREST DIVISION

1. INTRODUCTION:

Ministry of Environment, Forest and Climate Change, Govt. of India granted Stage-I approval vide Letter No.8-01/2023-FC dt.18.5.2023 for diversion of 83.602 ha. of forest land including 2.529 ha. of Safety Zone area in favour of M/s Rungta Mines Ltd. within Chandiposhi Iron Ore Block area in Bonai Forest Division, subject to some conditions. As per condition No.14 of the Stage-I approval order, the fencing, protection and regeneration of the Safety Zone area shall be done at the project cost. The total Safety zone area with a width of 7.5 mtrs along ML boundary comes to 3.499 ha. (Forest-2.259 ha. (+) Non-forest-0.970 ha.). The location of the Safety zone area has shown in the map enclosed as Annexure-V.

2. LOCATION :

The mining lease area is covered in the Survey of India Toposheet No.F45N5 (73 G/5) and situated between the latitudes 21° 53' 20.7643" to 21° 54' 14.1285" N North and longitudes 85°17'16.4825" to 85° 18' 04.3218 East.

3. TOPOGRAPHY AND SOIL:

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is 750 meters and the lowest one is of 604 meters.

4. CLIMATE

The area experiences Sub-tropical climate. It is characterized by very hot summer and cool winter. Maximum temperature during summer rises upto 44^o Celsius and the minimum goes down to 8^o Celsius. The area gets rain from South-East Monsoon, which breaks during second fortnight of June and continues upto last week of September. The annual rainfall varies from 780 to 1880mm. The annual average rainfall is 1500mm. The bulk of precipitation occurs during July-August. During April-May, occasional rainfall occurs along with thunder storm.

5. EXISTING VEGETATION.

The crop composition of the Safety Zone area is Sal, Kasi, Kusum, Kendu, Mahul, Bara, Jamun, Char, Tentuli. Asan, Bahada, Harida, Kumbhi etc.

6.OBJECTIVES OF THE SCHEME:

The objectives of the proposed scheme are as mentioned under :-

- i) To restock the degraded forest land within the Safety Zone by planting suitable species.
- ii) To improve the micro-edaphic conditions by undertaking suitable soil and moisture conservation measures.
- iv) To protect the area against encroachment, illicit felling, fire occurrence, grazing etc., so as to check further degradation of the area.

7. PROPOSED TECHNIQUE:

To achieve the above aims and objectives, basing on field survey it has been proposed to take up AR plantation over 3.499 ha. @ 1000/ ha. at a spacing of 2.5 mtr X 2.5 mtr., in the safety zone of the lease hold area of M/s Rungta Mines Ltd. under Koira Range of Bonai Forest Division. The Plantation work will be done in the 1st year followed by maintenance during 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th and 10th year. The detailed expenditure statement of AR Plantation is enclosed as Annexure-I.

(A) Survey & Demarcation.

The M.L. area has been surveyed and demarcated in the field by the User Agency at their cost by erecting 4 feet high reinforced cement concrete pillars inscribed with its serial number, forward and back bearing and distance from pillar to pillar after due consultation with the Range Officer, Koira. The length of outer periphery of Safety Zone area is 4696.499 mt. The inner perimeter comes to 4636.391 mt. The total perimeter, i.e., outer perimeter and inner perimeter comes to 9332.89 MT (4696.499 mt. + 4636.391 mt.).

(B). REGENERATION, CLEANING AND TENDING OPERATION:

The operation aims at tending the existing crop silviculturally for better growth. It involves removal of inferior and diseased tree growth. During this operation, weeds, climber and other unwanted & species which interferes with the growth of the existing crop are to be cut. This operation helps saplings to grow better and faster. The site clearance is to be done by cutting and removing of Eupatorium and all other unwanted growth.

Detailed activities to be taken up are as discussed below.

- i) Cutting back of individual inferior poles interfering with the growth of better ones.
- ii) Cutting back of malformed and diseased individuals.
- iii) Singling of coppice shoots & retaining healthier ones.
- iv) Cutting of climbers.
- v) Cutting back of high live stumps flush to the ground.
- vi) Pruning the branches of the promising poles up to hand reach height.

During 0th year operation, climber cutting, high stump cutting and cutting back of malformed and diseased plants will be done. Followed by next three years, i.e, (1st, 2nd, 3rd year), cutting back of unwanted individuals and singling of economically important species will be done.

(C) Plantation.

The safety zone area will be planted with the species mentioned below. Some existing forest growth is available over 3.499 ha. for which AR Plantation @ 1000 seedlings per ha. at a spacing of 2.5 mtr X 2.5 mtr. has been proposed. So, 3499 nos. of seedlings will be required for AR plantation @1000 plants per hectare. As far as possible, species suitable for the site shall be planted as detailed below;

1. *Pongamia pinnata* (Karanja)
 2. *Ficus religiosa* (Jari)
 3. *Psidium guajava* (Guava).
 4. *Azadirachta indica* (Neem).
 5. *Syzizium cumuni* (Jamun).
 6. *Mangifera indica* (Mango).
 7. *Artocarpus heterophyllus* (Panas).
 8. *Ficus bengalensis* (Bara).
 9. *Aegle marmelos* (Bela).
- and other indigenous species.

The following items of work will be taken up for planting the area.

(i) Raising of Nursery :-

Seedlings required for plantation shall be raised in a temporary nursery nearer to the planting site and water sources. Nursery work will be started 18 months prior to the year of plantation so that quality seedling stock will be available for plantation. The seedlings shall be raised 10% extra besides the actual requirement to compensate the casualties. Seedlings will be raised in polythene bags of 9" x 5" size following standard nursery practice.

(ii) Site Clearance:

The miscellaneous unwanted growth in the Safety Zone area will be cleared before taking up pitting work.

iii) Alignment and pitting.

Alignment and pitting will be taken up in March-April. Pits of size 45 cm x 45 cm x 45 cm will be dug, maintaining a spacing of 2.5 mtr. X 2.5 mtr. in the safety zone area.

iv) Actual planting.

The seedlings will be planted @ 1000 seedlings per ha. in the dug out pits of size 45cm x 45cm x 45cm with a spacing of 2.5mtr x 2.5mtr. Plantation shall be taken up after first regular shower of monsoon and completed by the end of July. Species will be planted as per suitability of the soil condition. NPK/ Bio fertilizer @50gms per plant shall be applied as basal dosage. Anti-termite insecticide shall also be applied to each pit while planting. Casualties if any noticed shall be replaced with the excess seedlings raised for the purpose. During second year also, casualty replacement will be done for which seedlings shall be raised.

v) Weeding, Soil working and Manuring.

For establishment and better growth of the planted seedlings, timely weeding, soil working and manuring are necessary. It is proposed to carry out two weedings, soil working and manuring during the first year and second year of plantation and one weeding and soil working during third year. During first year and second year, first weeding and manuring shall be carried out during August-September and the second one during October-November along with soil working. First weeding shall be around the plants and the second will be of strip weeding. The weeding of third year will be around the plants, which will be carried out during August.

After each weeding, soil working will be done around each plant at a radius of 0.5mtr, and manuring of each plant will be done @50grms of NPK/ Bio fertilizer per plant in ring form.

(vi) Application of Insecticides.

After planting of good healthy seedlings, the plantation site may cause influx of insects, which usually eat and damage the tender leaves and shoots of the plants. To get rid of such insect attack, application of insecticides will be taken up in required doses at desired intervals. Spraying of insecticides shall be done preferably in a sunny day in the forenoon as per requirement.

(vii) Fire line tracing and maintenance.

Fire causes heavy loss to the forest & plantation during fire season. To prevent incidence of fire, the area shall be divided in to suitable blocks by tracing fire lines. Boundaries of the plantation patches and these block lines will be scrapped of the growth to a width of 2.0mtr during February-March and the cut back materials and the dry leaves stacked along these lines will be burnt under strict supervision. This operation shall be carried out for three years.

(D) Soil Conservation Measures.

The site selected for Safety Zone Afforestation is undulating, and gullies have been formed due to erosion. So, Soil Conservation Measures like Staggered Trench, Percolation Pit, Contour Trench, Graded earthen bund, LBCD, Wire mesh LBCD, Sub surface Dyke and WHS as per site requirement have been proposed. The cost norm of SMC is enclosed as **Annexure-II**.

(E) Fencing.

To protect the AR plantation from biotic interference, Barbed wire fencing is proposed over the Safety Zone area of 3.499 ha. The length of outer periphery of Safety Zone area is 4696.499 mt. The inner perimeter comes to 4636.391 mt. The total perimeter, i.e., outer perimeter and inner perimeter comes to 9332.89 MT (4696.499 mt. + 4636.391 mt.) are required to be fenced with Barbed wire fencing.

The cost norm of Barbed wire fencing is enclosed as **Annexure-IV**

(F) Protection.

The Safety Zone area is exposed to biotic interference. The User Agency shall deploy 2 nos. of special watchers for protection of the Plantation under the supervision of the Forest Department.

(G). WATERING :

Watering of the plantation will be carried out aided by solar system with Borewell (1 system for 5 ha. plantation) fitted with Drip system. The cost norm is furnished as **Annexure-III**.

(H) Motivation of People from adjoining villages:

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Teherai, Sargigarh, Sanua and Bad-indupur are to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages. Thus, 15% of the plantation cost has been earmarked for expenditure on this score.

(I) Executing Agency:

The User Agency shall execute the work under the supervision of the State Forest Department.

FINANCIAL FORECAST

For implementation of all the prescriptions outlined above ₹ 1,27,85,800/- (Rupees One Crore Twenty Seven Lakh Eighty Five Thousand Eight Hundred only) will be required as detailed below.

Works to be executed by the User Agency.			
1.	AR Plantation @1000 plants per hectare over 3.499 ha. @ ₹ 2,58,777/- per ha.	₹	9,05,461.00
2.	Soil conservation measures structures like staggered trench, percolation pit, contour trench, graded earthen bund, LBCD, wire mesh, LBCD, Sub surface Dyke and Water Harvesting structures = 3.499 ha X ₹39,284/-.	₹	1,37,455.00
3.	Water provision to plantation: Solar system with Bore well (1 system for 5 Ha. Plantation) fitted with Drip system @ ₹2,45,476/- X 1 nos.	₹	2,45,476.00
4.	Special plantation watcher 2 Nos. (2 x 10350 x 12 x 10 years).	₹	24,84,000.00
5.	Cost of Barbed wire Fencing over 9332.89 RMT (Outer periphery-4696.499 Rmt. (+) Inner Periphery-4636.391 Rmt), (Or, 9333 RMT = 9.333 Km) @823/- per RMT with 3 years maintenance of 3 years (3 rd , 6 th & 9 th) year.	₹	76,81,059.00
6.	2 nos. of fire blower (₹60,000/- x 2 nos.) with POL (₹5,000/- x 5 years x 2 nos.).	₹	1,70,000.00
		Total :-	₹ 1,16,23,451.00
5.	Entry Point Activities 10% of the cost	₹	11,62,345.00
		Total :-	₹ 1,27,85,796.00 Or ₹ 1,27,85,800.00

(Rupees One Crore Twenty Seven Lakh Eighty Five Thousand Eight Hundred only).

Technically Approved

Regional Chief Conservator of Forests
Rourkela Circle

Divisional Forest Officer,
Bonai Division.

ANNEXURE-I

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ANNEXURE-4							
BASE COST WORK FOR COMPREHENSIVE AFForestation (BLOCK PLANTATION)							
@ 1000 PLANTS PER HECTARE (10 months old seedling)							
WAGE RATE Rs. 31/- PER MANDAY							
Sl. No	Items of work	Probable 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	622	0	622	
2	Preparation of Fertilizers Map (Initial Map)	Nov/Dec	1	311	0	311	
3	Site preparation (Clearing & removal of debris)	Nov/Dec	12	3732	0	3732	
4	Excision of 4.00 m wide inspection Path	Feb/Mar	1	311	0	311	
5	Alignment and stacking of pits	Feb/Mar	1	311	0	311	
6	Dugging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly soil	Feb/Mar	10	12400	0	12400	
7	Construction of Temporary Labour Shed, Drinking water facility and First Aid etc.	Jan/Mar	0	0	3500	3500	
Total				57	17727	3600	21327
1st Year/Planting Year							
1	Refilling of pits by altering the dugout soil of the pits, application of organic compounds/COM/ FYM & mixing the same properly	Jun/Jul	7.5	2332.50	3000	7332.50	
2	Transportation of 10 months old polythene bag seedlings in hired truck/tractor from the Nurseries/Mega nursery to planting site including loading & unloading. (Average load of 1000 nos) & stacking the seedling @ Rs. 6/- per seedling (1300 nos.)	Jul/Aug	0	0	6000	6000	
3	Watering polythene seedlings at planting site	Jul/Aug	2	622	0	622	
4	Conveyance of polythene seedlings in load from the stacking site to individual dugout pits within the plantation site, applying insecticide, fertilizers & planting after scooping the soil with other applied materials & pressing the soil perfectly around the planted seedlings.	Jul/Aug	22.5	6997.50	0	6997.50	
5	Cost of Fertilizer & Insecticide: (a) NPK/Bio-fertilizer @ 50 gms./plant as basal dose @ 50kg @ Rs.30/- per kg = Rs. 15000/- (b) Urea/Vermicompost/Bio-K/any other fertilizer in two subsequent doses @ Rs. 7500/- (c) Insecticide/ Bio-pesticide @ 5 gms./plant @ Rs.150/- per kg = Rs. 7500/-	Jul/Aug	0	0	30000	30000	
6	Cowdung Replacement @ 10% (100 nos.)	Jul/Aug	2.5	777.5	0	777.5	
7	1st weeding & Manuring	Aug/Sept	1.4	3732	0	3732	
8	2nd Weeding, Soil working (1 mt. diameter around the plants) & Manuring	Oct/Nov	15	4665	0	4665	
9	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933	
10	Watch & Ward including watering as per requirement	Apr/Mar	12	3732	0	3732	
Total				76.50	23701.50	14600.00	38301.50
2nd Year maintenance							
1	Transportation of 100 seedlings from Nursery to plantation site including loading, unloading & conveyance by Tractor @ Rs. 6/- per seedling	Jul	0	0	600	600	
2	Cowdung replacement- 10%	Jul	2.5	777.5	0	777.5	
3	Cost of Fertilizer & Insecticide: A) Cost of Insecticide/ Bio-pesticide @ 5 gms./plant = Rs. 5 @ Rs.150/- per kg = Rs.750/- B) Urea/NPK/Bio-fertilizer/Vermicompost/Bio-K/any other fertilizer @ Rs. 7500/-	Jul/Aug	0	0	2875	2875	
4	Weeding (Complete weeding), Manuring & Soil working (1 mt. diameter around the plants)	Sep/Oct	15	4665	0	4665	
5	Fire line tracing (2 m. wide fire line over 400 m long) including maintenance of inspection path	Feb/Mar	3	933	0	933	
6	Watch & Ward including watering as per requirement	Apr/Mar	18	5598	0	5598	
7	Maintenance of Temporary Labour Shed, Drinking water facility and First Aid etc.	Apr/Mar	0	0	1800	1800	
Total				38.5	11973.5	4475	16448.5

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Sl. No	Items of work	Preferable Period of Execution	No of Man-days	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)
1	2	3	4	5	6	7
3rd Year Maintenance						
1	Cost of Fertilizer (Urea/NPK/Phos. Fertilizer/Vermicompost/Min. etc./any other fertilizer)	July/Aug	0	0	2800	2800
2	Weeding (Complete weeding), Manuring & Soil working (1 m. diameter around the plants)	Sep/Oct	15	4665	0	4665
3	Fire line tracing (2 m. wide fire line over 400 m length) including maintenance of inspection path	Feb/Mar	3	933	0	933
4	Watch & Ward including watering, as per requirement	Apr/May	18	5598	0	5598
5	Maintenance of Temporary Labour Shed, Drilling water facility and First Aid etc.	Apr/May	0	0	1000	1000
Total			36.0	11196	3800	14996
4th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length) including maintenance of inspection path	Feb/Mar	3	933	0	933
2	Watch & Ward including maintenance of vegetative benches	Apr/May	18	5598	0	5598
Total			21	6531	0	6531
5th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/May	18	5598.00	0	5598
Total			21	6531	0	6531
6th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933.00
2	Pruning of branches, Singling out of multiple stems	Jan/Feb	3	933.00	0	933.00
3	Watch & Ward	Apr/May	18	5598.00	0	5598.00
Total			24	7404	0	7404.00
7th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/May	18	5598.00	0	5598
Total			21	6531	0	6531
8th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/May	18	5598.00	0	5598
Total			21	6531	0	6531
9th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933.00	0	933
2	Watch & Ward	Apr/May	18	5598.00	0	5598
Total			21	6531	0	6531
10th Year Maintenance						
1	Fire line tracing (2 m. wide fire line over 400 m length)	Feb/Mar	3	933	0	933
2	Watch & Ward	Apr/May	18	5598.00	0	5598
Total			21	6531	0	6531

Year wise abstract of Cash items (Following seeding cost separately)

Sl. No	Years of work	Preferable Method of Execution	No. of Man-days	Labour Cost (In Rs.)	Material Cost (In Rs.)	Total cost (In Rs.)	
Sl. No	Year	No. of Man-days	Labour cost (In Rs.)	Material Cost (In Rs.)	Monitoring, Evaluation, Learning, Documentation and Other Contingency (5% of (4+5))	Cost of Seedlings @Rs.50.00 per seedlings	TOTAL COST (In Rs.)
1	0th year	22.0	1722.0	3808.0	932.00	0.00	2230.00
2	1st year	76.5	23241.5	14000.0	5910.50	50341.00	25557.00
3	2nd year	30.5	11993.5	4025.0	3821.50	50313.00	22301.00
4	3rd year	36.0	11196.0	3800.0	2890.00	0.00	15746.00
5	4th year	21.0	6531.0	0.0	326.00	0.00	6857.00
6	5th year	21.0	6531.0	0.0	326.00	0.00	6857.00
7	6th year	24.0	7464.0	0.0	373.00	0.00	7837.00
8	7th year	21.0	6531.0	0.0	326.00	0.00	6857.00
9	8th year	21.0	6531.0	0.0	326.00	0.00	6857.00
10	9th year	21.0	6531.0	0.0	326.00	0.00	6857.00
11	10th year	23.0	6531.0	0.0	326.00	0.00	6857.00
	Total	380.0	111230.0	26675.0	9791.0	68322.0	204076.0

Note:

- 1 Priority must be given to the indigenous local species available nearby to the site of plantation.
- 2 10% indigenous fruit bearing trees must be preferred to plantation.
- 3 Site specific soil conservation works like LACD, Gully Plugging, Staggered Terrace, Contour Trench, Graded Mud, etc. may be taken up.
- 4 Chain link fencing can be adopted in the GA plantation taken up outside the forest area and Bamboo fence fencing may be preferred.
- 5 Watering facilities for procurement of water & watering may be adopted as per the availability of water.
- 6 The Cost Norm of various items can be changed with the approval of the concerned R/C/PC keeping the overall cost norm fixed for each Financial Year.


 APCCF (Forest Division & NC, FC Act)

Method of Method 2, Conversion of Pounds (Lb) to Kilograms (Kg)

Sl. No.	Chemical Name	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	Total Cost (10 Years)
1	2021-22	21502	25653	23202	15205	18276	20215	20602	9628	20225	20227	11625												234715
2	2022-23																							204454
3	2023-24																							280777
4	2024-25																							212716
5	2025-26																							245507
6	2026-27																							295527
7	2027-28																							344526
8	2028-29																							392525
9	2029-30																							440524
10	2030-31																							488523

APCCF (FORBID DIVISION & NO. FC AC)

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Annexure-II

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Annexure-III			
Cost Norms for creation of Compulsory Afforestation with Stabilization of Soil & Conservation of Waters (1000)			
WAGE RATE Rs-311/- PER DAY			
Sl.No	Item of Works	Proposable 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 murr, LBGD, Wire mesh LBGD, Sub surface Dye & DMS 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			
6	Maintenance of SMC structures @ 15 % of initial year cost	Apr/Jul	3,032
Total			33,343.0

Abstract					
Sl. No	Year	No. person days	Labor cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
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	33,343.0	33,343.0

Different types of SMC structures may be taken up as per the slope & requirements of the plantation site out of the design & specification of different structures annexed along this document.


M.V. Rao
AFCCF (Forest Division & MO, FC Act)

Matrix for (SMC)

Sl. No.	Continued from Year	In Rupees														Total Cost			
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV		XV	XVI	
	Base Norm	0	20215	3092	3092	3092	3092												
1	2021-22	0	7175	3942	3510	3585	3870												35693
2	2022-23		0	22287	2429	2888	3069	4082											37415
3	2023-24			0	25201	3831	3870	4082	4267										39284
4	2024-25				2	21721	5868	4661	4385	5820									41248
5	2025-26						25820	4861	4267	5820	4267								43310
6	2026-27						0	0	4267	4267	4267								45475
7	2027-28						0	22443	4679	4267	4267								47249
8	2028-29							0	29902	8701	4267								50136
9	2029-30							0	37280	3382	5159								52642
10	2030-31								0	4208	723								53724

APCCF (Forest Division & NO, FC Act)

ANNEXURE-III

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Watering Details				
Watering programme in CA Plantation				
Solar system with Bore well (1 system for 5 Ha plantation) fitted with Drip system; Water rate @ Rs.311/-				
Year of installation (1st Year)				
1	Cost of Borewell			1,50,000
2	Installation of Solar panel & other systems			3,00,000
3	Cost of 0.3 HP submersible motor with accessories			30,000
4	Water Storage Tanks/ Flexible pipes			15,000
5	Cost of laying Drip system including all accessories, Drains etc. with 12% GST			1,02,431
Total				6,00,431
6	Cost of Water & watering per Ha (8,17,331/3) @ Rs. 1.63/litre		1st Year Watering	1,05,486
7	No maintenance required			0
Total				1,05,486
2nd Year Watering				
8	Maintenance of system @ 5% of initial cost of installation			5,274
Total				5,274
3rd Year Watering				
9	Maintenance of system @ 5% of initial cost of installation			5,274
Total				5,274
4th Year Watering				
10	Maintenance of system @ 5% of initial cost of installation			5,274
Total				5,274
5th Year Watering				
11	Maintenance of system @ 5% of initial cost of installation			5,274
Total				5,274

Abstract					
Sl. No.	Year	No. persons days	Labour cost @ Rs. 311/- per day	Material Cost	Total cost (Rs.)
1	1st year	0	0.0	1,02,431.0	1,02,431.0
2	2nd year	0	0.0	0.0	0.0
3	3rd year	0	0.0	16,240.0	16,240.0
4	4th year	0	0.0	16,240.0	16,240.0
5	5th year	0	0.0	16,240.0	16,240.0
6	5th year	0	0.0	16,240.0	16,240.0
Total		0	0	1,35,151.0	1,35,151.0

Matrix for Watering W1 (Solar Borewell) fitted with Drip System (per Ha)

Sl. No.	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	Total Cost
	Base North	163486	0	8174	8174	8174	8174	8174										
1	2021-22	163486	0	8011	9463	8935	30798											222653
2	2022-23		171560	0	9462	9536	10432	32295										237845
3	2023-24			18723	0	9933	10433	10964	33921									249476
4	2024-25				10755	0	10487	10954	11502	34620								257751
5	2025-26					18674	0	10964	11503	12077	37482							270639
5	2026-27						10964	0	11502	12076	12661	39256						284171
7	2027-28							12661	0	12677	13262	41119						296180
8	2028-29								13262	0	13832	43116						313299
9	2029-30									14423	0	45044						328954
10	2030-31										15014	0	46981					345412

APCCF (Forest Division & NO, FC Act)

ESTIMATE FOR BARBED WIRE FENCING

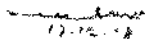
ANNEXURE-37


ESTIMATE FOR BARBED WIRE FENCING


01).	02 ply barbed wire (5 Rmt per kg) 2 straight strand x 1000 Mt	=7000Mt	
	2 Diagonal strand = $2 \times \sqrt{(6.5')^2 + (9.2')^2} = 2 \times 10.50$ ft =21.00 ft x 400 nos=8400 ft or	=2560Mt	
		=9560Mt	
	Requirement of Barbed wire per Km Cost per KM=9560/5=1912 Kg @ Rs.80/Kg		Rs.1,52,960.00
02).	Construction of RCC pillars of size- Length—8ft, Bottom width 6"x6", Top width-4"x4" Reinforced with 6mm rods with proper curing		
	$\left\{ \frac{8' \times 6' + 4'}{2} \right\} \times \frac{6' + 4'}{2} = 1.34$ cft or 0.038 cum		
	ij Cost of c.c. work 1.24=0.038 cum @5262.57/cum	= 199.98	
	ii) Cost of rod including cutting, bending & binding 0.038x0.9qt=0.0342 qtl@ Rs. 10,595.80/qt	= 362.36	
	iv) Contingency (15%) including Curing, stacking, provision of hooks etc.	= 81.05	
			Rs.643.41 or Rs. 644/-
	<u>Requirement of pillars per Km-</u> Spacing=2.5mtx2.5mt Requirement=1000mt/2.5mt = 400 Strut pillar in every 10 th pillar=(400/10)x2 = 80 ----- 480 Nos		
	Cost of pillars per Kilometer= 480@ 644/-		Rs.3,09,120.00
03).	Fitting fixing of RCC pillars in position with hbg metal (4cm) in C.M (1:4:8)		
	i) Digging of pits 1.5'x1.5'x1.5'=3.375cft/pit for 480 pits, 480x3, 375=1620 cft or 45.86 cum @ Rs. 12,040/100cum	= 5521.54	
	ii) Fixing of pillars with 4cm hbg metals in C.M 1:4:8 pit size-1.5'x1.5'x1.5' =3.375 cft Deduct 1/3 rd of butt of pillar i.e. 3.375/3 =(-) 1.125 cft Total c.c. work per pillar = 2.25cft		
	For 480 pillars=480x2.25= 1080cft or 30.577 cum @ Rs. 3629.46/cum		Rs. 1,10,978.00
04).	Labour for straightening the barbed wire and fixing & clipping with pillars 70M.d per km@280/-	=	Rs.19,600.00
05).	Carriage of Barbed wire & pillars to work site @Rs. 1000/tl. and cost of loading & unloading within 5 km distance Approximately 10 tld @ 800/tld	=	Rs.18,000.00
06).	Provision of one Iron Gate of size (4' x 5') on LS	=	Rs. 7,500.00
		Total	= Rs.6,23,680.00
		Labour Cess 1%	= Rs. 6,237.00
	Expenditure per 1 km of barbed wire fencing Or say, Rs.629.91/- or Rs.630/- per meter		Rs.6,29,917.00


U7). Expenditure towards maintenance for 3 years (3rd, 6th & 9th year)
@ 2% of cost per rkm = $3 \times 2\% \times \text{Rs. } 6,29,917/-$ = Rs. 37,795.00
Expenditure per 1 km of barbed wire fencing including maintenance = Rs. 6,67,712.00

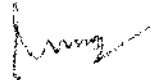
So, expenditure per running meter for fencing = Rs. 667.71/Mtr. or say Rs. 668/-Mtr.
(Rupees Six hundred sixty eight) only



Addl. PCCF (FB&A)



Addl. PCCF (Nodal & FC)



Addl. PCCF (PP&A)


Addl. PCCF (ME & IV)


CCF (CAMPA)


RCCF, Bhubaneswar


Dy. CF (Affn.)


Principal CCF, Odisha

@ 280.00 per MD = Rs. 667.71 / Mtr.

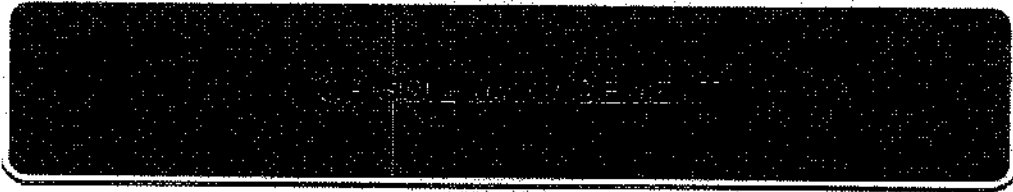
Now @ 345.00 per MD = Rs. 822.71 (Or, say 823.00 / Mtr.)


Divisional Forest Officer,
Bonai Division.



Scheme

For



Condition No.15

of

Stage-I Forest Clearance Granted

Vide Letter No. 8-01/2023-FC dated 18.05.2023

**of Govt. of India, Ministry of Environment, Forest and Climate Change,
New Delhi**

for

**Diversion of 83.602 Ha. of forest Land
(including 2.529 Ha. of safety zone)**

within

131.580 Ha. Lease Area

of

CHANDIPOSHI IRON ORE BLOCK

of

M/S RUNGTA MINES LTD.

under

Koira Tahasil, Bonai Sub-Divn., Dist.-Sundargarh, Odisha.

SCHEME FOR TOP SOIL MANAGEMENT

1. INTRODUCTION

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron Ore Block over an area of 131.580 Ha. for Iron Ore located in Koira Mining Circle, district Sundargarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MXIII(b) 48/2021/7741/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing No. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron Ore Block over 131.580 Ha for Iron Ore located at a distance of 8 km to the east of Koira town, Koira Tahasil, Sundargarh district on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (Fifty) years. Accordingly, M/s Rungta Mines Ltd. submitted the proposal to obtain approval of the Central Govt. over 83.602 hectare of forest land U/s-2 (ii) of the Forest (Conservation) Act'1980 within the above Mining Lease area.

Further, Stage-I approval over 83.602 ha.of Forest Land for U/s-2 (ii) of F.C. Act'1980 has been granted by MoEF & CC, Govt of India, New Delhi vide their Letter No 8-01/2023-FC dated 18.05.2023, wherein it has been stipulated as per Condition No.15, that "No damage shall be caused to the top soil and the user agency will follow the top soil management plan."

2. LOCATION

Chandiposhi Iron ore Block of M/s Rungta Mines Ltd. is located in Sundargarh district of Odisha and can be approached throughout the year by road. It falls within the survey of India Topo sheet No.73 G/5. The total mining lease hold area is 131.580.

Latitude- 21° 53' 20.7643" to 21° 54' 14.1285" N

Longitude- 85° 17' 16.4825" to 85° 18' 04.3218 E

3. TOPOGRAPHY

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is **750 meters** and the lowest one is of **604 meters**. Mendamaruni RF, Bhabanipahar RF, Karo RF of Bonai Forest Division are situated near the ML area.

4. SOIL TYPE

Soil type in the study area varies widely from hard rock to lateritic soil. Areas at higher elevations are usually hard rock consisting of laterite. The top soil is scanty in the area. Whatever top soil is available is thinly spread over all Soil profile in nature. The pH of the soil is slightly acidic in nature.

5. CLIMATE

The area of Chandiposhi block experiences humid tropical climate. During the summer days the area experiences very hot climate and the temperature shoots up to maximum of 47°C. The winter is also very cold and the minimum temperature goes down to a low of 1°C during the night time. It experiences very high rainfall during the monsoon period

6. DRAINAGE

In the Northern part of the block, the Teherai Nala is flowing through areas west of this block meets the Suna Nadi to the north of it. The general elevation difference in the area is 30m. The proposed working area lies at the hill & is well above the water table.

7. PLAN FOR TOP SOIL MANAGEMENT

This 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 the 131.580 hectares mining lease of Chandiposhi Iron Ore block in Sundargarh District of Odisha by M/s Rungta Mines Ltd. Topsoil is to be stripped in areas proposed to be disturbed, i.e., 6.340Hect. of virgin forest land for mining operation. 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 to 10 cm varying from site to site, which is very difficult to slice down and is stored separately for use during future reclamation. However, grass seed will be broadcasted over this area to prevent erosion of the top soil.

8. OBJECTIVES

The objectives of Top soil management to be executed are as follows:

- To fulfill the stipulation (Condition no.15 i.e strict adherence to the top soil management imposed by the MoEF&CC, GOI vide their letter No.8-01/2023-FC dated 18.05.2023 during approval of Stage-I forest clearance.
- To identify top soil resources, and to follow stripping guidelines for optimum recovery.
- To identify stockpile locations and dimensions.
- To identify surface areas suitable for stripping (to minimize over clearing).
- To manage and conserve the top soil reserves.
- To provide sufficient stable topsoil material for rehabilitation work of dumps, back filled areas and degraded lands.

9. PLAN FOR MANAGEMENT OF TOP SOIL TO BE GENERATED FROM MINING

The top soil inside 131.580 hectares of ML area is scanty and present in extremely thin layer. Whatever top soil is available will be excavated during the development of unbroken patch within the mining lease. Precautionary measures will be taken so that this valuable resource is not wasted. This excavated top-soil will be utilized for concurrent plantation works in the mine as per this plan. Some of the top soil will be stored temporarily until it can be used for plantation works / dump reclamation. The details of collection of Top soil are given below.

Area of top soil stock yard=75mtr. X 50mtr. = 3750 m²

Volume will be stacked =3750m³

This Topsoil Management Plan has provision for soil stripping and stockpiling procedures to minimize top soil degradation and maximize availability of suitable soil for future rehabilitation.

10. FUTURE TOP SOIL GENERATION FROM MINING ACTIVITIES

Soil studies have shown that the average thickness of topsoil in the unbroken areas will be around 5 cm - 10 cm. The quantity of topsoil to be stripped in a phased manner from the site will be used during first 5 years to rehabilitate the existing OB dumps, areas.

Prior to stripping, the area will be cleared by removing the unwanted growth. The proposed procedure for soil handling is given below which includes soil handling measures in order to optimize retention of soil characteristics (in terms of nutrients and micro-organisms) conducive to growth of plant.

11. METHODOLOGY

In accordance with the above objective of providing sufficient stable soil material for rehabilitation and to optimize soil recovery, the following strategies have to be followed:

- Topsoil stockpiles are to be identified outside quarry area.
- Stripping off the topsoil by dozers rather than scrapers to minimize structural degradation;
- Construction of stockpiles with a "rough" surface condition to reduce erosion hazard.
- Improvement of drainage and promotion of re-vegetation.
- Re-vegetation of stockpiles with appropriate fertilizer etc, to maintain soil organic matter levels, soil structure and microbial activity and maximize the vegetative cover of the stockpile, and
- To utilize stripped top soil as soon as possible for rehabilitation in a phased manner in accordance with the rehabilitation plan as prescribed in Mining Plan.

12. PLAN FOR MANAGEMENT OF EXCAVATED TOPSOIL

To minimize the detrimental effects of long-term storage of topsoil in stockpiles, the following procedures will be ensured prior to stripping activities.

Appropriate delineation of areas for storage of top soil: A small area has been planned & accordingly the area is demarcated for storage of top soil within Chandiposhi Iron ore Block of M/s Rungta Mines Limited (Copy of the Plan enclosed). Though in the land use pattern, no area has been earmarked for storage of top soil, as per the stipulation of the Stage-I approval order the storage area has been earmarked within the lease area.

- Dry stone wall to a length of 270mt. will be constructed around the stockpile followed by grass seeding on the inner side. The cost norm of Toe wall construction has been provided in Annexure-2.
- The topsoil stripping will be completed using bulldozers and tippers of smaller capacity in case of good quantum. In areas where the topsoil is relatively thin, the topsoil will be removed in such a way to prevent mixing of topsoil and sub soils.
- Stockpiles will have erosion control measures by constructing loose boulder wall with cement sand patching.
- Permanent measures include establishment of vegetation (bushes & shrubs) and broadcasting of seeds of local shrubs / grasses will mitigate soil erosion and dust emissions. The total area for sowing of grass seeds comes to 0.375ha. The cost norm of Grass seedling has been provided in Annexure-1.

- Prior to use of the topsoil for reclamation, sample of the topsoil will be collected and chemical analysis including nitrogen, organic content and pH value will be done.
- Re-spreading of topsoil will be undertaken in the areas requiring reclamation, so as to approximate pre-plantation thickness of 2 -3 cm by manual means.
- The top soil inside 131.580 hectares of ML area is scanty and present in extremely thin layer. Whatever top soil is available will be excavated during the development of unbroken patch within the mining lease. Precautionary measures will be taken so that this valuable resource is not wasted. This excavated top-soil will be utilized for concurrent plantation works in the mine as per this plan. Some of the top soil will be stored temporarily until it can be used for plantation works / dump reclamation. The details of collection of Top soil are given below.

Name of the proposed quarry	Total surface Area(Sq.m)	Average thickness(m)	Volume of top Soil(Cu.m.)
	855630	0.3	256689

- This Topsoil Management Plan has provision for soil stripping and stockpiling procedures to minimize top soil degradation and maximize availability.

13. PLAN FOR CONSERVATION OF TOP SOIL IN BARREN LANDS

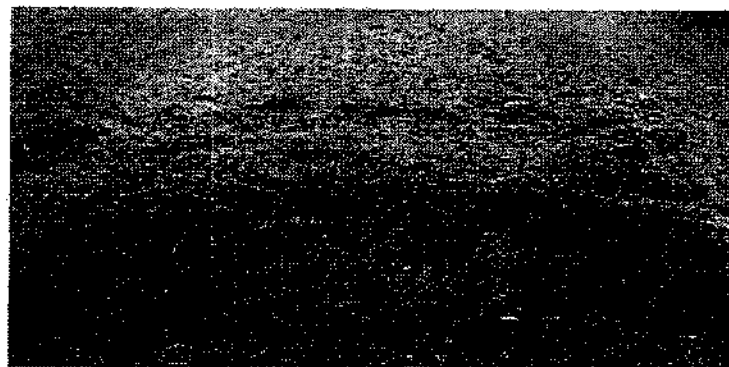
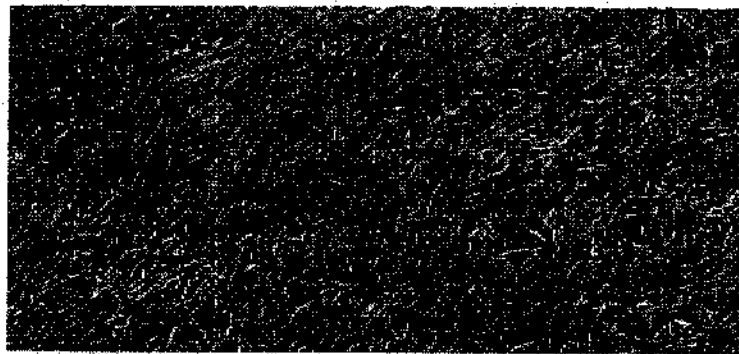
The forest land of the region is prone to soil erosion as the entire landscape is affected due to mining activity in the vicinity. Soil erosion problem varies from area to area within the lease, depending on the topography, soil types, vegetation, and management interactions of the catchment. Hence, it is very important to control erosion of top soil from the area, which will result in enhancement of in-situ moisture conservation by enrichment of water table profile for more availability of water so that the top soil is conserved for supporting the growth of trees.

14. TOP SOIL CONSERVATION PLAN

The Top soil will be collected and stored preferably at one place and the top surface will be broadcasted with grass seeds so that a mat of grass turf is made over the surface of the top soil and this will prevent erosion of the top soil by rain water and/or weathering conditions like blow of wind.

TOP SOIL CONSERVATION PLAN

Area from which top soil will be collected	Topsoil Spreading on Safety Zone, Green Belt, Gap plantation areaetc	Top soil spreading on OB Dump
85.563 Ha.	54.449 Ha	4.050Ha.



CONSERVATION OF TOP SOIL THROUGH SOWING OF GRASS SEEDS

15. 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.

16. MOTIVATION OF PEOPLE:

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Teherai, Sargigarh, Sanua and Bad-indupur are to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages. Thus, 15% of the plantation cost has been earmarked for expenditure on this score

17. 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 co-ordination with the Forest Department.

SPECIALISED CELL

Sl. No.	Name	Educational Qualification	Designation	Expertise
1	Shri D.K. Parida	Mining Engineer	CGM (Mining)	20 Years experience in Mining operation projects
2	Shri Jayanta Das	Surveyor	A.V.P (Survey)	30 Year's experience in mining Survey
2	Shri G.K.Pujari	M.Sc.,M.Phil.	G.M (Env.)	23 Years experience with Pollution control & Environmental Management
3	Shri Indrajit Mukherjee	M.sc	AGM (Geology)	22 Years' experience In Mining and exploration field.

18. REQUIREMENT OF FUNDS

The total cost of implementation of measures for Top Soil Management will be Rs.2,90,53,247.00 (Rupees Two Crores Ninety Lakhs Fifty Three Thousand Two Hundred Forty Seven) only. This budget will be subject to increase in amount considering the increase in material cost and labour charges.

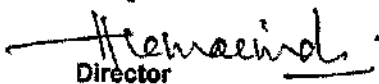
TOTAL COST OF TOP SOIL MANAGEMENT

Sl. No.	Description of the work	Funds Required (in ₹)
1.	Unbroken / Virgin area from where top soil can be collected =83.563 Ha. A. Stripping cost:-0.5ha./hr. @ ₹ 4071.00 Therefore -83.563 Ha. Cost =167 hrs. +2 hrs. marching =169 hrs x Rs.4071.00= ₹ 687999 B. Loading & Transportation cost from site to top soil stockpile comes to be= 256689m ³ (tonnage factor 1.6)= 410702 mt. @ ₹ 46.576/Mt.=Rs.19128856. C. Cost of levelling with 2000 manpower @ ₹ 345.00 i.e. ₹ 690000/- Hence total cost A+B+C = Rs.2,05,06,855.00	2,05,06,855.00
2.	Cost for sowing of grass seeds over 0.375 ha @ ₹ 56084.00/ha.	21032.00
3.	Cost for erection of 275 m dry toe wall around top soil stock pile @ ₹ 1909.78 RML	525190.00
	TOTAL :-	2,10,53,077.00
4.	Inspection, Monitoring & Evaluation 15% of the total project cost.	31,57,962.00
	TOTAL	2,42,11,039.00
	Price escalation @ 20%	48,42,208.00
	Grand Total	2,90,53,247.00

(Rupees Two crores Ninety lakhs fifty Three thousand Two hundred forty seven)only

M/s Rungta Mines Ltd. do hereby undertake to execute the item of works mentioned in this scheme in a phased manner at the project cost.

Rungta Mines Limited


Director

Countersigned
COUNTERSIGNED


Divisional Forest Officer
Divisional Forest Officer
Bonai Division

Technically Approved


31/11/2022
Regional Chief Conservator of Forests
Rourkela Circle

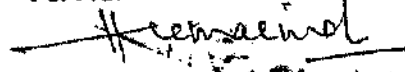
Annexure- 1

COST OF GRASS SEED SOWING

Wage Rate Rs.345.00

Sl No	Purpose	No of Labour / Quantity of materials	Rate (Rs.)	Amount (Rs.)
1	Spreading of good top soil	03 Nos	345 / labour	1035.00
2	Adding FYM and good earth	2 TL FYM	1149.87 /TL FYM	4599.48
		2TL good earth	1149.87 /TL Good earth	
3	Cost of grass seed 500Kg/ per ha.		94/kg	47,000.00
4	Broadcasting	10 nos.	345.00/ labour	3,450.00
Total				56,084.48 Or, 56,084.00

For RUNGTA MINES LIMITED


Director

Top Soil

Annexure-2

Wage Rate- Rs.345.00

Detail Estimate of Retaining wall of loose local Boulder with cement-Sand Patching over the surface of Boulder wall.

Sl. No.	Description of Items	No	Length	Width	Height	Qty	Unit	Rate	Amount
1	2	3	4	5	6	7	8	9	10
For one K.M. Length									
1	Rough Stone Dry Packing with local boulder only labour charges (Local boulder will be Supplied by our Company)	1	1000.00	(1.00+1.50)/2	1.20	1500.00	Cum		
		1	1000.00	1.50	0.30	450.00	Cum		
						1950.00	Cum	678.614	1323297.3
2	Irregular cement sand patches on the both side of the wall with 2" thick cement sand mortar(1:6) on top	1	1000.00	1.00		1000.00	Sqm		
		2	1000.00	1.20		2400.00	Sqm		
						3400.00	Sqm	172.5	586500.00
		Rate per one K.M. Length				Total			1912797.30 Or 1912797.00

Cost for Running Meter length

1909.78

For RUNGTA MINES LIMITED

Handwritten Signature
Director



Scheme

for



**Condition No.16 of
Stage-I Forest Clearance Granted
Vide Letter No. 8-01/2023-FC dated 18.05.2023
of Govt. of India, Ministry of Environment, Forests and Climate
Change, New Delhi
for
Diversion of 83.602 Ha. of forest Land
(including 2.529 Ha. of safety zone)
within
131.580 Ha. Lease Area
of
CHANDIPOSHI IRON ORE BLOCK
of
M/S RUNGTA MINES LTD.
under
Koira Tahasil, Bonai Sub-Divn., Dist.-Sundargarh, Odisha.**

**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

Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015 as amended from time to time, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron Ore Block over an area of 131.580 Ha. for Iron Ore located in Koira Mining Circle, district Sundargarh, Odisha. The e-auction process was conducted in accordance with the tender document for the said mineral block on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MXIII(b) 48/2021/7741/DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.

Accordingly, pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha is pleased to issue Letter of Intent (LOI) bearing No. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron Ore Block over 131.580 Ha for Iron Ore located at a distance of 8 km to the east of Koira town, Koira Tahasil, Sundargarh district on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (Fifty) years. Accordingly, M/s Rungta Mines Ltd. submitted the proposal to obtain approval of the Central Govt. over 83.602 hectare of forest land U/s-2 (ii) of the Forest (Conservation) Act'1980 within the above Mining Lease area.

Further, Stage-I approval over 83.602 ha. of Forest Land for U/s-2 (ii) of F.C. Act'1980 has been granted by MoEF& CC, Govt of India, New Delhi vide their Letter No 8-01/2023-FC dated 18.05.2023, wherein it has been stipulated as per Condition No. 16 to undertake desilting 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.

2. LOCATION

Chandiposhi Iron ore Block of M/s Rungta Mines Ltd. is located in Sundargarh district of Odisha and can be approached throughout the year by road. It falls within the survey of India topo sheet No.73 G/5. The total mining lease hold area is 131.580.

Latitude- 21° 53' 20.7643" to 21° 54' 14.1285" N

Longitude- 85°17'16.4825" to 85° 18' 04.3218 E

3. TOPOGRAPHY

The area is represented by sloppy area with gentle undulation, resembling a relict type of topography. The highest contour is **750 meters** and the lowest one is of **604 meters**. Mendamaruni RF, Bhabanipahar RF, Karo RF of Bonai Forest Division are situated near the ML area.

4. SOIL TYPE

Soil type in the study area varies widely from hard rock to lateritic soil. Areas at higher elevations are usually hard rock consisting of laterite. The top soil is scanty in the area. Whatever top soil is available is thinly spread over all Soil profile in nature. The pH of the soil is slightly acidic in nature.

5. CLIMATE

The area of Chandiposhi block experiences humid tropical climate. During the summer days the area experiences very hot climate and the temperature shoots up to maximum of 47°C. The winter is also very cold and the minimum temperature goes down to a low of 1°C during the night time. It experiences very high rainfall during the monsoon period.

6. DRAINAGE

In the Northern part of the block, the Teherai Nala is flowing through areas west of this block meets the Suna Nadi to the north of it. The general elevation difference in the area is 30m. The proposed working area lies at the hill & is well above the water table.

7. RAINFALL

There is a wide variation of rainfall in the catchment area and around 10 kms radius of buffer zone of this mine. The average annual rainfall of this mine area is affected by steep hills, forest cover etc. The average annual rainfall of last 10 years comes to 1216.405 mm.

Table 1: Monthly Rainfall Data of Koira Block (in mm)
Average Rainfall = 1216.405 mm

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
2009	0.00	0.00	0.00	0.00	84.30	75.70	317.20	100.80	103.00	41.30	40.00	0.00	762.30
2010	11.00	3.00	0.00	0.00	14.00	95.00	134.50	159.50	111.50	18.30	0.00	25.50	572.30
2011	47.00	11.00	17.00	113.50	88.00	247.80	146.30	335.00	480.00	57.00	0.00	0.00	1542.40
2012	21.00	8.00	0.00	60.00	0.00	68.00	303.00	397.50	223.00	36.00	14.00	1.00	1131.50
2013	3.00	0.00	5.00	60.50	46.00	192.00	436.10	288.00	212.00	351.00	0.00	0.00	1593.60
2014	0.00	40.00	78.00	0.00	29.00	141.00	484.00	488.00	166.00	62.00	0.00	0.00	1488.00
2015	2.00	0.00	0.00	51.00	5.00	347.00	449.00	154.00	113.00	0.00	0.00	16.00	1137.00

2016	0.00	27.00	4.00	0.00	70.00	76.10	267.70	383.40	267.40	35.40	0.00	0.00	1131.00
2017	0.00	0.00	0.00	0.00	56.00	201.25	546.00	132.00	90.00	107.00	9.00	0.00	1141.25
2018	0.00	0.00	1.00	44.00	152.00	106.40	482.00	379.30	334.00	53.00	0.00	113.0	1664.7
Average	8.4	9	10.5	32.9	54.43	155.005	356.56	281.75	209.99	76	6.3	15.55	1216.405

8. 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 land mass, 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 de-silted to recover. The best practice against siltation is to de-silt the bottom of the pond at regular intervals as well as taking adequate preventive measures.

9. SELECTION OF PONDS

For the purpose as mentioned in Condition No. 16 of the Stage-I approval letter, a survey of ponds within the buffer area of 5 Kms from the lease boundary was made. List of Village tanks and ponds are enclosed as **Annexure-4**. Topomap showing the location of ponds is enclosed as Plate No-1. **After discussion with the Block Development Officer, Koira and Sarpanch of Patmunda Gram Panchayat, total 2 numbers of following Government ponds were selected for de-siltation within 5 km vicinity of the lease area.**

Information about the ponds proposed for desilting

Sl. No.	Name of village	Name of water bodies	GPS reading	Dimension of the pond
1.	Patmunda	Pond	(a) 0325227E, 2420023N (b) 0325252E, 2420012 (c) 0325242E, 2419986N (d) 0325215E, 2419994N	GP-1 Length=31Mt Width= 28 Mt DE siltation depth= 1.00 Mt
2.	Ranisal	Pond	(a) 0324916E, 2420974N (b) 0324941E, 2420955N, (c) 0324925E, 2420923N (d) 0324895E, 2420937N	GP-2 Length=44 Mt Width= 32 Mt DE siltation depth= 1.00 Mt

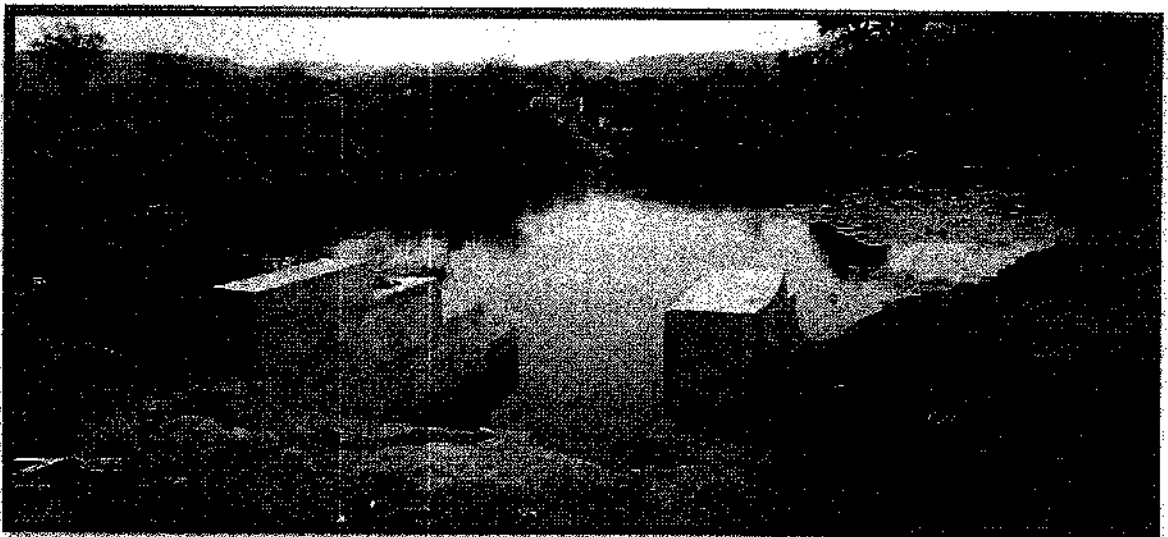
Matrix to indicate the benefits to be derived by individual Villagers from Pond renovation.

Name of the village with water bodies	Population benefited	Cattle to benefited	Irrigation to be derived	Pisciculture benefit
Patmunda	***	**	*	*
Ranisa!	***	**	*	*

*** = Maximum benefit, **= Average benefit, *= Low benefit



PATMUNDA WATER BODY (POND) PROPOSED FOR DE-SILTATION



RANISAL WATER BODY (POND) PROPOSED FOR DE-SILTATION

10. POSSIBILITY OF SILTATION OF THE VILLAGE PONDS/WATER BODIES DUE TO MINING ACTIVITIES

The sub water shed where the mining lease falls is drained mainly by Teherai River which is flowing inside and outside the lease area. The area has a natural slope from NW to SE with well drained topography.

As far as village ponds in the proximity of the lease are concerned, it is observed that the identified village ponds are not affected from the surface runoff carrying any silt from the lease area, as these are located either far away from the working pits.

However, siltation in these identified village tanks may occur due to possible soil erosion outside the lease area beyond the sub watershed boundary. Hence, de-silting of these village ponds may be considered in subsequent phases.

11. METHODOLOGY

It is proposed to carry out the total de-siltation of the selected ponds as above every five years during summer when the ponds shall dry up exposing the silts. The dried silt shall be removed manually or mechanically based on the ground condition. In case of mechanical removal of silt, small excavators such as back-hoe / small hydraulic shovels or pay loader, depending upon the quantity of silt accumulation shall be used. For the purpose of evaluation of work required for de siltation, an estimate of de siltation in the individual ponds was made, which has been summarized in **Annexure-1**.

The work shall comprise:-

- a) Total de-siltation in the five year period.
- b) Implementing preventive measures during the following four years to minimize re-siltation of the ponds.
- c) To prevent or slowdown future siltation, the embankment stabilization by grass turfing /stone pitching , plantation of suitable species and constructing bathing ghat is also included in the de-silting and improvement plan.

It is proposed that the ponds having accumulation of over 1000 m³ shall be de-silted by mechanical means and the rest shall be handled manually. It is proposed to deploy one 0.9 m³ back hoe with one 10 tonne tipper for de-silting of the pond in a period of two-three days. The machines shall be deployed in a planned manner to complete the work in a shortest time frame. Necessary advice of BDO, Koira & Panchayat Sarpanch will be taken into account.

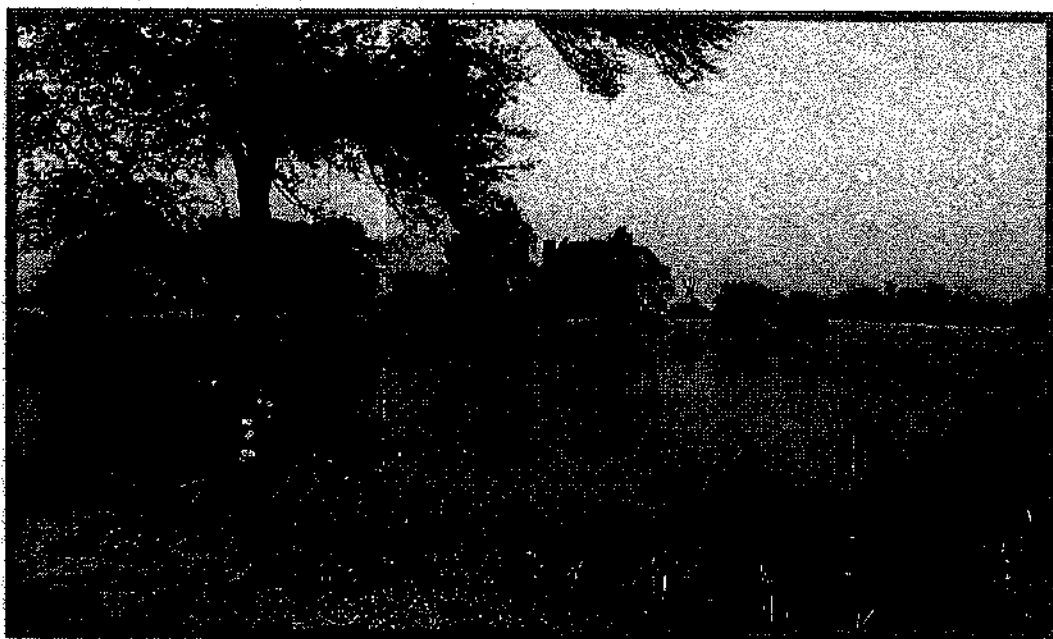
In case of smaller ponds, where the accumulation of silt is very small, the de-siltation operation shall be done manually by engaging sufficient manpower.

The ponds shall be allowed to dry up completely during the early summer i.e. during March and April followed by de-siltation in the above described manner.

a) 1st Year Plan & Management:

The first year work shall also comprise the following preventive measures to minimize siltation.

- Providing embankment to the ponds where ever necessary.
- Strengthening the existing pond embankment to check external flow of surface run-off in to the pond.
- Regular removal of aquatic weed sand polythene bags /bottle thrown by villagers.
- Plantation of trees on the top of the embankment and stone pitching on the slopes to prevent bank erosion.
- Plantation of selected species like Bara, Aswatha, Lemon, Custard Apple, Guava, Papaya, Mango will be taken up.



Plantation of trees on the top of the embankment

- b) **Subsequent 2 Years Plan and Management:** In the subsequent 2 years, the rate of siltation shall be negligible, which can be dealt by manual methods using the local labourers. This will also otherwise help in employment generation.
- c) **Preventive Measures & Maintenance:** It is essential to take up preventive measures in order to minimize re-siltation of the ponds. Activities like pond bank strengthening and stabilization by way of earth work with stone patching, grass seeding and plantation of appropriate species shall be taken up in the first year followed by their maintenance in successive four years.
- d) **Dewatering of village pond:** This will be carried out by engaging dewatering pump.
- e) **De-silting:** After pumping out the water from the pond, silts are to be removed either manually by deploying labour or excavator & dumper combination.
- f) **Earthwork Excavation:** Wherever required, soil has to be removed for deepening the pond to increase water holding capacity of the pond.
- g) **Bathing Ghat (separately for men and women):** In the above Ponds, separate arrangement will be made for bathing by male and female of the Villages. Since the villagers are conscious from mythological point of view, a Tulsi (*Ocimum sanctum*) Chaura (Platform) has also to be provided where the villagers after bath can offer water to Sun God. The Detailed estimate is enclosed as **Annexure-2**.



Bathing Ghats

- h) **Sitting Platform on the embankment of the Pond(s)** – In each Pond, a masonry platform will be provided where the villagers (age old persons and youth) can sit during summer evening. This platform will also serve the purpose of puja / karma.
- i) **Planting all along the embankment of the Pond** – According to availability of land all along the pond (s), plantation of Bela, Pipal, Champa, Baula etc. will be made to form a Green belt. This Green belt will also give an aesthetic view to the area and villagers can collect leaf, fruit, flower etc. for spiritual purposes. The detailed estimate of plantation programme is enclosed in **Annexure- 3**.



Plantation along the Ponds

12. INSPECTION AND MONITORING

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.

13. MOTIVATION OF PEOPLE:

As per Govt. resolution of 2011, the villagers of the adjoining village, i.e. Teherai, Sargigarh, Sanua and Bad-indupur are to be involved in protection and management of plantation. Before execution of the work, a meeting will be conducted in the above villages and resolution regarding support to plantation activities will be made. To motivate the people in this direction, they will be provided with incentives in shape of different community articles, buildings, and different community amenities of fixed and movable type through entry point activities (EPA). Health camps shall also be organized in the villages. Thus, 15% of the plantation cost has been earmarked for expenditure on this score.

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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 co-ordination with the Forest Department.

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3	Shri Indrajit Mukherjee	M.sc	AGM (Geology)	22 Years' experience In Mining and exploration field.

REQUIREMENT OF FUNDS

The total cost of this Scheme for de-silting and improvement of the selected pond in Patmunda and Ranisal village is **Rs.69,19,931.00** (Rupees Sixty nine Lakh Nineteen Thousand Nine hundred thirty one) only

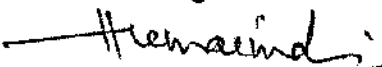
TOTAL COST OF THE PROJECT

Wage Rate Rs.345.00				
Sl. No	Description of Job	Estimate for Pond of village Patmunda	Estimate for Pond of village Ranisal	Total fund required (Rs.)
1	Excavation, loading, unloading & carriage by mechanical means of all kinds of soil including stoneyearth, gravel & morrumetc inter spread with boulders upto 1/2 cum size with all lifts & delifts including trimming of slopes & bed to design section & depositing the excavated materials away from work site as per the specification & directed by EIC with an initial lead of 1.00 KM from the place of excavation complete. Providing rough stone (15cm-30cm) dry packing in apron & all top four sides berm with our local boulder (boulder supplied by management). Construction of bathing ghat with local boulder Room near bathing ghat for change of clothes by women. Construction of Bench on the embankment for sitting	2709341.00		2709341.00
2	TulsiChaura	23161.00	23161.00	46,322.00
3	Preparation of ramp on one side of the pond with slope for the village cattle to go near the water body on L.S. @ ₹ 25,000/- per pond	25,000.00	25,000.00	50,000.00
4	Provision for plantation on all three sides to control Soil erosion (plant will be supplied by management) and resting place of villagers coming for bathing	200 Plant 10,24,390	200 Plant 10,24,390	20,48,780.00
5	Provision for annual maintenance of pond for cleaning aquatic weeds from pond & cutting, of bushes from apron & berms on LS.	80,000.00	80,000.00	1,60,000.00
		Total		5014443.00
6	15% of the total cost for motivation of VSS / People involved			752166.00
		Total		5766609.00
		Escalation 20%		1153322.00
		Grand Total		6919931.00

(Rupees Sixty nine Lakh Nineteen Thousand Nine hundred thirty one) only

M/s Rungta Mines Limited do hereby undertake to execute the item of works mentioned in this scheme in a phased manner at the project cost.

M/s Rungta Mines Ltd.


Director

Technically Approved


Regional Chief Conservator of Forests
Rourkela Circle

Countersigned

COUNTERSIGNED


Divisional Forest Officer
Bona Division

Annexure-1

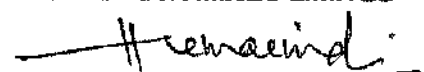
De-silting the Pond, Construction of Bathing Ghat & bench at Patmunda and Ranisal Pond by M/s Rungta Mines Ltd. @ Rs.345.00 per MD.

Sl. No.	Items	Location	No	L	B	H	Qty	unit	Rate	Amount
1	Pumping of water by diesel pump incl. splying diesel & lubricant						15	hours	575.11	8626.59
2	Desilting the pond	Ranisal	1	44.00	32.00	1.00	1408	cum		
		Patmunda	1	31.00	28.00	1.00	868.00	cum		
							2276.00	cum	690.0	1570440.00
3	Removing weeds & bush from the bund of the pond	Ranisal	4	40.00	4.00		640.00	sqm	12.747	8158.10
4	Removing amary from the pond	Patmunda	4	30.00	7.00		840.00	sqm	35.523	29839.65
5	Rough stone masonry for bathing ghat	Ranisal	4	10.00	0.60	0.45	10.80			
			2	10.00	2.50	0.45	22.50			
		Patmunda	4	10.00	0.60	0.45	10.80			
			2	10.00	2.50	0.45	22.50			
							66.60	cum	5061.10	337071.98
6	20mm c p 1:4	Ranisal	1	10.00	3.20		32.00			
		Patmunda	1	10.00	3.20		32.00			
		step face	40	2.50	0.20		20.00			
		change room floor	2	5.00	2.00		20.00			
							104.00	sqm	231.14	24038.65
7	Neat cement punning	Ranisal	1	10.00	3.20		32.00			
		Patmunda	1	10.00	3.20		32.00			
		step face	40	2.50	0.20		20.00			
		change room floor	2	5.00	2.00		20.00			
							104.00	sqm	28.974	3013.25
8	Earth work in excavation	Change room								
		Ranisal	1	3.00	0.40	0.40	0.48			
			2	1.25	0.40	0.40	0.40			
			1	2.00	0.40	0.40	0.32			
			1	6.00	0.40	0.40	0.96			
		Patmunda	1	3.00	0.40	0.40	0.48			
			2	1.25	0.40	0.40	0.40			
			1	2.00	0.40	0.40	0.32			
			1	6.00	0.40	0.40	0.96			
		Bench	12	2.50	0.40	0.40	4.80			
						9.12	cum	345.00	3146.4	

Sl. No.	Items	Location	No	L	B	H	Qty	unit	Rate	Amount		
9	C C 1:3:6	Change room										
			Ranisal	1	3.00	0.40	0.10	0.12				
					2	1.25	0.40	0.10	0.10			
					1	2.00	0.40	0.10	0.08			
					1	6.00	0.40	0.10	0.24			
			Patmunda		1	3.00	0.40	0.10	0.12			
					2	1.25	0.40	0.10	0.10			
					1	2.00	0.40	0.10	0.08			
					1	6.00	0.40	0.10	0.24			
				Bench	12	0.50	0.40	0.10	0.24			
				Flooring	2	5.00	2.00	0.10	2.00			
									3.32	cum	7594.8	25214.80
10	C C 1:2:4	Bathing ghat	4	10.00	2.50	0.05	5.00	cum	7360.6	36802.82		
11	B W 1:6	Change room										
			Ranisal	1	3.00	0.24	3.20	2.30				
					2	1.25	0.24	3.20	1.92			
					1	2.00	0.24	3.20	1.54			
					1	6.00	0.24	3.20	4.61			
			Patmunda		1	3.00	0.24	3.20	2.30			
					2	1.25	0.24	3.20	1.92			
					1	2.00	0.24	3.20	1.54			
					1	6.00	0.24	3.20	4.61			
				Bench	12	0.50	0.24	0.80	1.15			
									21.89	cum	9660.0	211457.4
		12	12mm c p 1:6	Change room								
Ranisal	1				3.00		3.00	9.00				
					2	1.25		3.00	7.50			
					1	2.00		3.00	6.00			
					1	6.00		3.00	18.00			
	Patmunda				1	3.00		3.00	9.00			
					2	1.25		3.00	7.50			
					1	2.00		3.00	6.00			
					1	6.00		3.00	18.00			
				Bench	12	0.50		0.10	0.60			
									81.60	sqm	195.61	15961.46
13	20mm c p 1:6			Change room								
		Ranisal	1		3.00		3.00	9.00				
					2	1.25		3.00	7.50			
					1	2.00		3.00	6.00			
					1	6.00		3.00	18.00			
			Patmunda		1	3.00		3.00	9.00			
					2	1.25		3.00	7.50			
					1	2.00		3.00	6.00			
					1	6.00		3.00	18.00			
				Bench	12	0.50		0.10	0.60			
									81.60	sqm	207.0	16891.2

Sl. No.	Items	Location	No	L	B	H	Qty	unit	Rate	Amount
14	Lift charge for B W 1:6	Change room								
		Ranisal	1	3.00	0.24	2.40	1.73			
			2	1.25	0.24	2.40	1.44			
			1	2.00	0.24	2.40	1.15			
			1	6.00	0.24	2.40	3.46			
		Patmunda	1	3.00	0.24	2.40	1.73			
			2	1.25	0.24	2.40	1.44			
			1	2.00	0.24	2.40	1.15			
			1	6.00	0.24	2.40	3.46			
							15.55	cum	231.14	3594.24
15	Lift charge for C p	Change room								
		Ranisal	2	3.00		2.40	14.40			
			4	1.25		2.40	12.00			
			2	2.00		2.40	9.60			
			2	6.00		2.40	28.80			
		Patmunda	2	3.00		2.40	14.40			
			4	1.25		2.40	12.00			
			2	2.00		2.40	9.60			
			2	6.00		2.40	28.80			
							129.60	sqm	12.747	1652.01
16	Roofing with GCI sheet		2	5.00	3.00		15.00	sqm	231.14	3467.11
17	Carrying cutting to size & erecting strl steel		2	3.00	5.00	4.50	135.00	kg		
							0.135	MT	6900.0	931.50
18	White wash 3 coats on new surface	Change room								
		Ranisal	2	3.00		2.40	14.40			
			4	1.25		2.40	12.00			
			2	2.00		2.40	9.60			
			2	6.00		2.40	28.80			
		Patmunda	2	3.00		2.40	14.40			
			4	1.25		2.40	12.00			
			2	2.00		2.40	9.60			
			2	6.00		2.40	28.80			
							129.60	sqm	27.598	3576.66
									Sub Total	2303884.00
19	Cement						11	MT	13339.42	146733.66
20	Angle						0.135	MT	91997.89	12419.68
									Total	2463037.00
									Contingency @ 10%	246304.00
									Grand Total	2709341.00

For RUNGTA MINES LIMITED

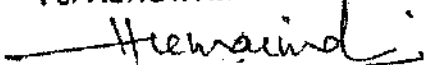

Director

CONSTRUCTION OF TULSICHAURA ON THE BATHING GHAT @ Rs.345.00

Sl. No.	Description of Items	Unit	Nos	L	B	H	Quantity	Rate	Amount
1	Earthwork in excavation	M3	1	6	0.4	0.3	0.63	244.59	154.09
2	Plain cement concrete 1:3:6	M3	1	6	0.35	0.1	0.21		
							0.21	7929.12	1665.11
3	Brick Work (1:6) (Above G.LIn Super Structure)	M3	1	6	0.25	1.5	2.25	7736.61	17407.37
4	12 mm thick plaster	M2	1	6		1.5	9		
							9	180.07	1620.63
5	Applying Lime Wash	M2			Same qty as item no 4		9	23.10	207.90
Sub total									21055.10
Contingency 10 %									2105.51
Total Amount (Rs.)									23160.61 Or, 23161.00

(Rupees Twenty Three Thousand One hundred sixty one) only.

For RUNGTA MINES LIMITED



Director

**COST NORM FOR PLANTATION OF FRUIT BEARING SPECIES ALONG THE
POND EMBANKMENT @ Rs.345.00 per MD
400 Plants per Km. in 2 rows**

SI No.	Item of work	Mandays	Labour rate @ 345.00	Material cost in Rs.	Total (Rs.)
0 th year advance work/pre-planting/ 1st Yr. plant.					
1	Site preparation & alignment	2	690.00		690.00
2	Pitting 45 cm cube	25	8625.00		8625.00
3	Cost of 400 nos. of 1 yr. old seedling @ Rs.141/- per seedling	0	0	56400	56400
4	Carriage of plants & planting	6	2070.00	0	2070.00
5	1st weeding & manuring	2	690.00		690.00
6	Casualty replacement	2	690.00		690.00
7	Soil working, application of insecticides	2	690.00		690.00
8	Cost of FYM& fertilizer including transportation		0	4480	4480.00
9	Cost of Iron gabion 400 Nos. @ 1869/- per gabion on LS		0	747600	747600.00
10	Misc expenditure		0	3734	3734
11	Cost of engaging one watcher for year (9 month)	234	80730.00		80730.00
12	Watering at least 5 days in a month for 4 months (8 person X 6 times in a month X 4 month)	192	66240.00		66240.00
13	Const. of 2 nos. Sign-board on LS. @ Rs 1500/- per signboard		0	3745	3745.00
	Total :-	465	160425.00	815959	976384.00
2nd Year Operation					
14	Weeding, soil working, manuring (twice)	4	1380.00		1380.00
15	Casualty replacement 15% including cost of seedling including cost of seedlings (60 Nos. @ 112/-)	2	690.00	8400	9090.00
16	Cost of fertilizer & pesticides		0	2240	2240.00
17	Gabion maintenance including painting	20	6900.00	37333	44233.00
18	Misc expenditure		0	1872	1872.00
19	Watering at least 6 days in a month for 8 months (April to July & November to March) (8 person X 5 times in a month X 8 month)	320	110400.00		110400.00
20	Cost of engaging one watcher for year (12 month)	312	107640.00		107640.00
	Total :-	658	227010.00	49845	276855.00


SI No.	Item of work	Mandays	Labour rate @ 345.00	Material cost in Rs.	Total
3rd Year Operation					
25	Weeding, soil working	3	1035.00		1035.00
26	Gabion maintenance	20	6900.00	37333	44233.00
27	Cost of engaging one watcher for year (12 month)	312	107640.00		107640.00
28	Unforeseen		0	1872	1872
29	Watering at least 6 days in a month for 8 months (April to July & November to March) (8 person X 5 times in a month X 8 month)	320	110400.00		110400.00
	Total :-	655	225975.00	39205	265180.00
4th Year Operation					
25	Weeding and pruning	3	1035.00		1035.00
26	Gabion maintenance	20	6900.00	37333	44233.00
27	Cost of engaging one watcher for year (12 month)	312	107640.00		107640.00
28	Unforeseen		0	1872	1872
29	Watering at least 6 days in a month for 8 months (April to July & November to March) (8 person X 5 times in a month X 8 month)	320	110400.00		110400.00
	Total :-	655	225975.00	39205	265180.00
5th Year Operation					
30	Weeding and pruning	3	1035.00		1035.00
31	Gabion maintenance	20	6900.00	37333	44233.00
32	Cost of engaging one watcher for year (12 month)	312	107640.00		107640.00
33	Unforeseen		0	1872	1872
34	Watering at least 6 days in a month for 8 months (April to July & November to March) (8 person X 5 times in a month X 8 month)	320	110400.00		110400.00
	Total :-	655	225975.00	39205	265180.00
	Grand Total :-	3088.00	1065360.00	983419.00	2048779.00

ABSTRACT

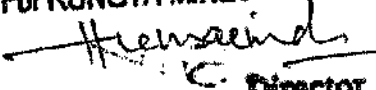
SI No.	Year	Amount (inRs.)
1	1st year	976384.00
2	2nd year	276855.00
3	3rd year	265180.00
4	4th year	265180.00
5	5th year	265180.00
	Total :-	2048779.00

Total Expenditure for 400 plants = Rs.20,48,779.00
Expenditure for 200 plant = Rs.10,24,389.5 (Or, 10,24,390.00)

For RUNGTA MINES LIMITED


 Director₁₆

LIST OF PONDS/ WATER BODIES FOR CHANDIPOSHI_5KM BUFFER ZONE AREA			
SR. NO	VILLAGE NAME	POND NUMBER	GPS COORDINATES OF OF THE POND
1	Sargigarh	P1	325636.00mE,2423351.00 m N
2	Sargigarh	P2	325088.97 m E,2422794.45 m N
3	Sanua	P3	324646.50 m E,2420477.03 m N
4	Ranisal	P4	325560.57 m E,2421588.69 m N
5	Teherai	P5	322498.13 m E,2423041.04 m N
6	Patmunda	P6	325754.00 m E,2419667 m N
7	Sunpatuli	P7	325662.42m E,2420624.00 m N
8	Dhubalabeda	P8	320396.00m E,2423096.00 m N
9	Bhajopali	P9	319567m E,2423930.00 m N
10	Bhajopali3	P10	320549m E,2423993.00 m N
11	Badaindipur 1	P11	324425.00 m E,2424107.00 m N
12	Badaindipur pond2	P12	324269.00 m E,2424222.00 m N
13	Khajurdihi pond	P13	323549m E,2418725.00 m N
14	Patamunda	GP-1	0325227E, 2420023N
15	Ranisal	GP-2	0324916E, 2420974N

For RUNGTA MINES LIMITED

 Director



**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. 4749 / CWLW-FDWC-FD-0055-2022
Bhubaneswar, Dated the 15 April, 2023

To

M/s Rungta Mines Ltd.
At/PO- Barbil
Dist.- Keonjhar

Sub: Proposal for diversion of 83.602 ha of forest land including 2.529 ha of Safety Zone in Chandiposhi Iron Ore Block of M/s Rungta Mines Ltd. in Koira Tahasil of Bonai Forest Division of Sundargarh District - Approval of Site Specific Wildlife Conservation Plan

Sir,

I am directed to convey the approval of PCCF (WL) & CWLW, Odisha for the Site Specific Wildlife Conservation Plan at financial outlay of ₹780.60 lakh (Rupees seven crore eighty lakh sixty thousand) only as per the details of activities mentioned in Chapter-4 and 5 of the Plan in compliance to the ToR under Environmental Clearance and conditional recommendation by State Government under Forest Clearance.

(a)	In project impact area in Bonai Division	₹708.60 lakh
(b)	In project impact area in Keonjhar Division	₹72.00 lakh
Total:		₹780.60 lakh

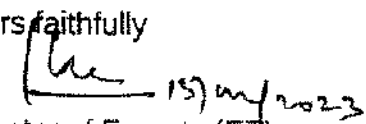
A sum of ₹780.60 lakh (Rupees seven crore eighty lakh sixty thousand) only shall be deposited in State CAMPA fund only through e-portal (<https://parivesh.nic.in>) for implementation of various activities within the project impact area by the Forest Department through concerned DFOs.

2. Activities in the project area as per Chapter-4 & 5 of the Plan will be executed by the project proponent under the guidance of DFO, Bonai Division.

3. The Plan period is five years and will be revisited by concerned DFOs at least one year before expiry of its implementation. The User Agency will bear the cost of such Plan on its approval. Further, the User Agency will bear additional cost, if any, towards enhancement of wage rate and escalation of price of materials at the time of implementation of this Plan. In case of any deviation, it will be dealt as per law for violations of Forest (Conservation) Act 1980, Environment (Protection) Act 1986 and Wildlife (Protection) Act 1972.

Encl: Copy of approved SSWLCP

Yours faithfully

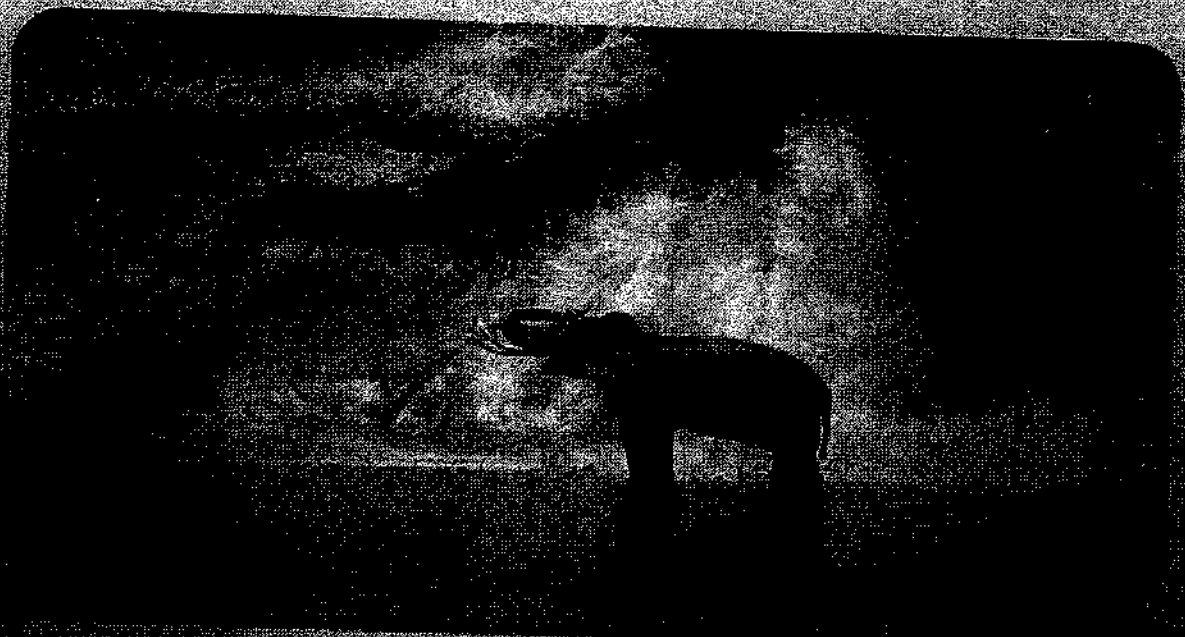

Conservator of Forests (ET)

P.T.O.



CHANDIPOSHI IRON ORE BLOCK

SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI IRON ORE BLOCK OF M/S RUNGTA MINES LIMITED IN BONAI FOREST DIVISION



Prepared By
DIVISIONAL FOREST OFFICE, BONAI FOREST DIVISION
&
DIVISIONAL FOREST OFFICE, KEONJHAR FOREST
DIVISION

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

PREFACE

Chandiposhi Iron Ore Block of M/s Rungta Mines Limited is one of the Mining Project for production of Iron ore in Koira Tehsil of Sundergarh District in Odisha. Government of Odisha in pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, issued Letter of Intent (LOI) bearing no. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.21 for grant of Mining Lease for Chandiposhi Iron Ore Block for Iron Ore located in 8 Km from Koira village, on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 years. Out of 131.580 Ha. DGPS surveyed lease area, 83.602 Ha. area is forest land (DLC forest-57.215 Ha. + Revenue Forest-26.387 Ha.) and remaining 47.978 Ha. is non-forest land.

As required under Rule 10(1) of the Auction Rules and the tender document for the said mineral block, Rungta Mines Ltd. has made payment of the first installment, being 20% (twenty percent) of the upfront payment of Rs. 12,90,68,460/- (Twelve Crore Ninety Lakh Sixty-Eight Thousand Four Hundred Sixty) only through Treasury Challan vide e-Challan no. 0853/1870 dated 08.10.21 at Cyber Treasury, Dist.-Sundergarh.

As per the Geological report provided by the Directorate of Mines, Steel & Mines Department, Government of Odisha, the net insitu iron ore resources of Chandiposhi Iron ore block is 47.07 million tonnes (Fe content is >55% and Fe content varies between 55% and 45%). This ore body needs to be judiciously exploited in view of systematic mining with optimum exploitation of ore to meet the growing demand of raw materials for indigenous steel plant, sponge iron plant, pellet plants etc for ultimate production of Steel and also for export to earn foreign exchange for development of our country. Further Mining plan has been approved by Indian Bureau of Mines, Bhubaneswar vide letter No MP/A/19-ORI/BHU/2021-22 dated 24.11. 2021. Grant of Mining lease of Chandiposhi Iron Ore Block and use of 83.602 Ha. of forest land for the mining and ancillary purpose, it is needed to apply for diversion of the forest land under section 2(ii) of the Forest Conservation Act, 1980, for approval of the Central Government.

The area proposed to be diverted under the project and neighbouring forest areas are characterized by variety of flora and fauna. Hence, impact of this project on wildlife and wildlife habitat need to be studied and properly addressed. Protection and monitoring of wildlife, wildlife habitat management, support to local forest dependent communities through proper eco-development measures etc. are some areas which need specific attention. Since the area is characterized by the movement of elephants measures need to be adopted for its protection, monitoring, habitat management and mitigation of HEC issues. Surrounding Forest areas are vulnerable to fire and hence fire

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

protection activities also need to be ensured. In the above said context a Site Specific Wildlife Conservation plan is suggested to be prepared and implemented.

Further In Condition No. C (16), (17), (18) & B (26) of ToR, the MoEF&CC has imposed that, (i) A study has to be done to ascertain the impact of mining project on wildlife of the study area with surrounding area should be furnished. Accordingly detailed mitigative measures required should be work out with cost implications. (ii) A detailed biological study with core zone and 10km buffer zone should be done. Details of flora and fauna in the core zone and buffer zone should be submitted along with the list of Schedule -I fauna. Necessary plan for schedule-I fauna along with budgetary provisions for their conservation should be prepared in consultation with State forest department. Necessary allocation of the funds for implementing the same should be made as part of the project cost.(iii) during mining operation precautionary measures shall be taken for conservation and protection of endangered fauna noticed in the ZoI like elephant and Sloth Bear etc. (iv) afforestation has to be done by using indigenous species outside the M.L. area.

We are thankful to the management of M/s Rungta Mines Ltd., Barbil, Keonjhar for providing us documents relating to this mine and approval orders issued by various quarters and accompanying during field visit which has given fruitful inputs to this Plan.

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

EXECUTIVE SUMMARY

1. Chandiposhi Iron Ore Block is located in village Badaindupur, Sanua, Sargigarh & Tehrei of Bonai sub-division of Sundargarh district. It is 8.00 km away from Koira village in Koira Tahasil.
2. The said mining block is coming within under Koira Range of Bonai Forest Division.
3. Government of Odisha, pursuant to the Mines and Minerals (Development and Regulation) Act, 1957 and the Mineral (Auction) Rules, 2015, issued the notice inviting tender dated 07.07.2021 to commence the auction process for grant of mining lease for Chandiposhi Iron ore block over an area of 131.580 Ha. for Iron Ore located in Koira Mining circle, district Sundergarh, Odisha.
4. The e-auction process was conducted on 26.09.2021 and Rungta Mines Ltd. was declared as the 'Preferred Bidder' under Rule 9(9)(iii) or Rule 10 (1A) of Auction Rules, having quoted highest Final Price Offer vide letter No. MX III(b) 48 /2021 / 7741 / DM Dated 05.10.2021 issued by Director of Mines Government of Odisha.
5. As required under Rule 10(1) of the Auction Rules and the tender document for the said mineral block, Rungta Mines Ltd. has made payment of the first installment, being 20% (twenty percent) of the upfront payment of Rs.12,90,68,460/- (Twelve Crore Ninety Lakh Sixty-Eight Thousand Four Hundred Sixty) only through Treasury Challan vide e- Challan no. 0853/1870 dated 08.10.2021 at Cyber Treasury, Dist.- Sundergarh.
6. In pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, the Government of Odisha issued Letter of Intent (LOI) bearing no. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.2021 for grant of Mining Lease for Chandiposhi Iron ore block. The Validity of LOI is for a period of 3 (three) years from the date of its issuance on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 (fifty) years.
7. Out of 131.580 Ha. DGPS surveyed lease area, 83.602 Ha. area is forest land (DLC forest-57.215 Ha. + Revenue forest- 26.387 Ha.) and remaining 47.978 Ha. is non-forest land.
8. Mining plan has been approved by Indian Bureau of Mines, Bhubaneswar vide letter No MP/A/19-ORI/BHU/2021-22 dated 24.11.2021.
9. During proposed period of mining operation, the mining operation will be fully mechanized opencast with development of benches of height upto 9m and width upto

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

- upto 20m. The conventional opencast method with utilization of excavator of capacity upto 4.2m³, dumpers of capacity upto 40 MT, rock-breakers, deep-hole drilling blasting will be adopted.
10. During mining operation period from 2026-27(27.10.2026 to 31.03.2027) to 2028-29, mining operation will be done in only one quarry. The proposed mining area and other area of the lease is already proved mineralized at G2 level by 25 no. of boreholes completed by GSI, MECL as per G.R. provided with the Tender Document.
 11. The cost of the project is Rs.15200 Lakhs.
 12. Forests in the study area comprise of tropical dry deciduous mixed type, moist peninsular high-level Sal with several plant associations, prominent being Sal associated with *Anogeissus latifolia* and *Terminalia-Lagerstroemia-Anogeissus* formations of varying density and openness.
 13. The fauna in the M.L area is confined to small animals like squirrels, lizards, crows and common myna. Endangered fauna, viz., elephant, (which generally migrates through the region) sloth bear, python, etc. are noticed in the buffer zone of the project. There is no endemic flora or fauna noticed.
 14. The M.L. area or study area does not form a part of Sanctuary, National Park, Conservation or Community reserve, tiger or elephant reserve or biosphere reserve. The known elephant corridor is outside the study area.
 15. The Forest Blocks located within the ZoI are Mendhamaruni R.F., Karo R.F., Kathamal R.F., Khajurdihi R.F. & Sarakanda R.F. of Bonai Forest Division and Siddhamatha R.F. of Keonjhar Forest Division.
 16. 79 (Seventy Nine) number of villages are coming within the 10 km buffer zone area.
 17. The impacts within M.L. area include habitat loss due to clearance of vegetation, honey combing, soil erosion, lack of water, noise, dust and light pollution, forest fire, vulnerability of wild animals falling in mine pits, generation of garbage etc.
 18. The impacts within the ZoI include habitat loss fragmentation of habitat, loss of biodiversity, forest fire, poaching, heavy traffic, depredation by wild animals, disturbance due to noise and light, vulnerability of elephants to electrocution etc.
 19. **Schedule-I species like Elephant (*Elephas maximus*), Sloth Bear (*Melursus ursinus*) & Indian Rock Python (*Python molurus*) are noticed in ZoI and rest flora & fauna list is enclosed as Annexure-I.**
 20. In this plan protection and management of Schedule-I species have given sufficient importance. The anticipated degradation due to this project are habitat degradation,

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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habitat fragmentation, Air pollution, Noise pollution, and related impact on wildlife & its habitat and also on local forest dependent community.

21. Mitigative measures have provided both in Core Zone and Zone of Impact.

This Management Plan has addressed all the above threats with remedial measures to minimize the adversities as detailed below: -

FOR BONAI DIVISION

Within the Project area by the User Agency:

- Fire Watcher
- Awareness promotion
- Provision of bird baths & bird nests
- Provision of Grain bins
- High powered torches
- Infrastructure- one computer + printer
- Provision for awareness campaigning
- Provision of four wheeler
- Jana Surakhya Gaja Rakhya
- Support to training center cum GIS cell
- Establishment of crime control cell

Within the Impact Area/Buffer zone by Forest Division:

(i) Protection & Enforcement Activities

- Establishment of anti-poaching barrack
- Engagement of squad member for assisting staff in protection, wildlife monitoring
- Hired vehicle + POL
- Provision of VHF main station
- Walkie-talkies

(ii) Wildlife Habitat Management

- Habitat enrichment plantation by Bamboo/fruit bearing species/fuel & fodder plantation
- De-silting, Renovation & maintenance of existing water bodies
- Construction of Check dam along nailah

(iii) Wildlife Monitoring

- Procurement of Camera Trap
- Procurement of Monitoring Kits
- Upgradation of electrical infrastructure to prevent wildlife death
- Research work-survey of wildlife population

(iv) Human Elephant Conflict Mitigation

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- Installation of Solar Street lamp/light
- Provision of Solar Fencing and its maintenance in conflict area
- Deployment of Gaja Saathi
- Training for field staff
- Health monitoring/Cattle immunization

(v) Public Awareness

(vi) Engagement of five Data Entry operator cum MTS

FOR KEONJHAR DIVISION

Within the Project area by the User Agency:

- Study on habitat assessment of Asian Elephant
- Jana Raksha Gaja Suraksha in village

Within the Impact Area/Buffer zone by Forest Division:

(i) Wildlife Habitat Improvement

- Provision to create one water body
- Vanya Jantu Katha/Awareness

(ii) Protection & Surveillance

- Gaja Sathi in four villages

22. The plan is for 5 years. A monitoring committee has been suggested in this plan under the Chairmanship of the DFO, Bonai & Keonjhar with mine representative and others as members for smooth execution and transparency.

23. The total cost of the conservation plan is **Rs.1040.04 Lakhs (Rs. 920.04 Lakhs for Bonai Forest Division and Rs.120.00 Lakhs for Keonjhar Forest Division)** including cost escalation @ 20%. The entire amount will be deposited by the User Agency in CAMPA.


Divisional Forest Officer
Keonjhar Division


Divisional Forest Officer
Bonai Division

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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CHAPTER-1

INTRODUCTION

1. I) BRIEF DESCRIPTION OF THE PROJECT

Chandiposhi Iron Ore Block of M/s Rungta Mines Limited is one of the Mining Project for production of Iron ore in Koira Tehsil of Sundergarh District in Odisha. Government of Odisha in pursuant to Rule 10(2) of the Auction Rules and the terms of the Tender Document, issued Letter of Intent (LOI) bearing no. IV(B)SM-50/2021/8719/SM, Bhubaneswar dated 28.10.21 for grant of Mining Lease for Chandiposhi Iron Ore Block for Iron Ore located in 8 Km from Koira village, on 131.580 Ha. area to Rungta Mines Ltd. for a period of 50 years. Out of 131.580 Ha. DGPS surveyed lease area, 83.602 Ha. area is forest land (DLC forest-57.215 Ha. + Revenue Forest-26.387 Ha.) and remaining 47.978 Ha. is non-forest land.

Chandiposhi Iron Ore Block is located in village Badaindupur, Sanua, Sargigarh & Tehrei of Bonai sub-division of Sundargarh district. The said mining block is coming within under Koira Range of Bonai Forest Division.

Mining plan has been approved by Indian Bureau of Mines, Bhubaneswar vide letter No MP/A/19-ORI/BHU/2021-22 dated 24.11.2021. During proposed period of mining operation, the mining operation will be fully mechanized opencast with development of benches of height upto 9m and width upto 20m. The conventional opencast method with utilization of excavator of capacity upto 4.2m³, dumpers of capacity upto 40 MT, rock-breakers, deep-hole drilling blasting will be adopted. 0

1. ii) PROJECT COST

The cost of the project is Rs. 15200 Lakhs.

1. iii) LOCATION

The Mining Block is located in village Badaindupur, Sanua, Sargigarh & Tehrei of Bonai sub-division of Sundargarh district and is coming under Koira Range of Bonai Forest Division. This Mining Block is shown in SoI Topo Sheet No. F45H4, F45H8, F45N1 & F45N5. This is bounded by the boundary pillars having GPS locations as given below in Table-1:

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

TABLE1: GPS locations of Boundary Pillars

Pillar No.	Pillar Latitude	Pillar Longitude
1	21°54'14.12851"	85°17'34.20567"
2	21°53'30.88580"	85°17'16.48253"
3	21°53'28.85230"	85°17'23.10715"
4	21°53'20.76434"	85°17'47.05771"
5	21°53'58.04511"	85°18'01.99921"
6	21°54'04.17395"	85°18'04.32181"

This Mining Block is accessible by the village road connecting Teherei to Sargigarh. The nearest village is Koira which is at 8 km distance from the block. The site is well connected to NH-520 (Earlier NH-215) which is about 5 Km & the nearest rail head is Barbil which is at a distance of 30 Km. The nearest port for export of iron ore is Paradeep Port located at a distance of 320 km.

Mendhamaruni R.F., Karo R.F., Kathamal R.F., Khajurdihi R.F. & Sarakanda R.F. are coming within the impact area i.e., within 10 Km radius of the mining block belonging to Bonai Forest Division of Sundergarh District. Also, Siddhamatha R.F. of Keonjhar Forest Division of Keonjhar District is located within ZoI.

1. iv) NATURE & EXTENT OF LAND REQUIRED

The total area of the mining block is 131.580 Ha. out of which 83.602 Ha. area is forest land (DLC forest-57.215 Ha. + Revenue forest- 26.387 Ha.) and remaining 47.978 Ha. is non-forest land. The breakup of land use is furnished below in Table-2.

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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TABLE2: The Breakup of The Land Use

SL. NO.	ITEM	Revenue Forest (IN HA)	DLC FOREST (IN HA)	TOTAL FOREST (IN HA)	TOTAL NON FOREST (IN HA)	GRAND TOTAL (IN HA)
1	Mining (Including Mobile Crushing and Screening Unit, Temporary Stack Yard)	22.849	44.092	66.941	18.622	85.563
2	Overburden Dump	0.000	0.000	0.000	4.050	4.050
3	Mine Road	0.962	1.005	1.967	2.733	4.700
4	Infrastructure (Office, Rest Shelter, Weigh Bridge, work shop Etc.)	0.008	0.01	0.018	1.112	1.130
5	Ore Processing Site	0.000	4.536	4.536	2.495	7.031
6	Mineral Stack Yard	0.000	5.687	5.687	2.795	8.482
	Subtotal	23.819	55.330	79.149	31.807	110.956
7.	Safety zone along ML Boundary	0.644	1.885	2.529	0.970	3.499
8	Green Belt (50m along the Nala & 10m along the Village Road)	1.924	0.000	1.924	9.081	11.005
9	Area Not To Be Used (Nalia, Village road, Pvt. land etc.)	0.000	0.000	0.000	6.12	6.120
	Grand Total	26.387	57.215	83.602	47.978	131.580

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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CHAPTER-2

PROJECT AND IMPACT AREA

2. 1) DESCRIPTION OF THE PROJECT AREA

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Mining plan has been approved by Indian Bureau of Mines, Bhubaneswar vide letter No MP/A/19-ORI/BHU/2021-22 dated 24.11.2021. During proposed period of mining operation, the mining operation will be fully mechanized opencast with development of benches of height upto 9m and width upto 20m. The conventional opencast method with utilization of excavator of capacity upto 4.2m³, dumpers of capacity upto 40 MT, rock-breakers, deep-hole drilling blasting will be adopted.

Topography:

The area of this mining block represents part of a rugged terrain with small hillocks and intervening vallies, having highest topographical contour valley of 678m and lowest at 604m, making the relief of this block 74m. This block is marked by three main small mounds/ridges with elevation nearly 645.60m in the central part with nearly a N-S trend, 654.50m in the south western part and 679.30m in the south-eastern part of the area and intervening low-lying areas covered by soil & partly altered laterite. The details of

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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physiographic features and infrastructures available in and around the lease/block area is furnished below (Table-3):

TABLE3: Physiographic features and infrastructures available in and around the lease/block area

Description	Location if existing within the lease/block area	Distance from boundary periphery in kms, if existing outside the lease/block area. (Within 5.00 Kms)	Remark if any
River/Nallah/Reservoir	Nil	Nil	Nil
Public roads (Tar Road, cart road)	Village road connecting Teherel to Sergigarh	NH-520 (Earlier NH-215) is about 5Km from the block	NH-520 (Earlier NH-215) is about 5Km from the block
Railway Track	Nil	Nil	Nearest rail head is Barbil 30 Km from the block
Human Settlements	Nil	Sanindpur village 2 Km and Koira village 8 Km	---
Archaeological monuments/places of worships/public utilities etc.	Nil	Nil	Nil
Wildlife Sanctuaries/National Parks	Nil	Nil	Nil
Coastal Regulation Zone (CRZ)	Nil	Nil	Nil
Power transmission lines/telephone lines	Nil	2.5	Nil

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Firing range	Nil	Nil	Nil
Ordinance factory	Nil	Nil	Nil
Grazing land/burial ground of cremation ground	Nil	1	Nil
Any other specify	Nil	Nil	Nil

Climate:

Climate and meteorology of a place play an important role in the implementation of any developmental Project. Meteorology is also the key to understand local air quality as there is essential relationship between meteorology and atmospheric dispersion involving the wind in the broad sense of them.

Temperature

The climate of the study area is characterized by an oppressively hot summer with high humidity. Summer generally commences in the month of March and continue till end of June. Temperature begins to rise rapidly attaining the maximum in the month of May (47.4°) Celsius. No doubt the weather becomes pleasant on the onset of monsoon in 2nd week of June and continues upto end of October. The temperature in the month of December cools down to 07° Celsius.

Relative Humidity

The air is dry excepting during the South-West monsoon season. The maximum humidity ranges from 55% to 76% with annual average of 64.83% while the minimum humidity range from 26% to 43% with an annual average of 34%.

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Rainfall

There is variation of rainfall in the catchment area and around 10 Kms radius of buffer zone of this mine. The average annual rainfall of Bonai sub-division is 1364.66mm as computed from last 10 years data out of which a major portion i.e., 92% occurs from July to September.

Pre-dominant wind direction

This is south-west area which remains calm for nearly 50% of the year.

2. II) LAND USE:

SL.NO.	PARTICULARS	AREA IN (HA.)
1.	DLC Forest	57.215
	Revenue Forest	26.387
	Total Forest Land	83.602
2.	Non-forest Land	47.978
Grand Total		131.580

2. iii) DESCRIPTION OF FLORA AND FAUNA:

The authenticated list of Flora and Fauna for both the Project area (Core Zone) and the buffer zone has been furnished in **Annexure-I**.

Details of Endemic, threatened and Scheduled Species:

So far, according to our study and from the available literature, there is no endemic plant or animal species present in this area. As far as, threatened fauna are concerned all Schedule - I species like is **Elephant**(*Elephas maximus*), **Sloth Bear** (*Melursus ursinus*)& **Indian Rock Python** (*Python molurus*) are present in the ZoI.

2. iv) DESCRIPTION OF FOREST AND OTHER HABITATS:

Forest Type:

This proposal includes Revenue Forest and DLC Forest. However, Mendhamaruni R.F., Karo R.F., Kathamal R.F., Khajurdihi R.F. & Sarakanda R.F. exist in the ZoI which are being included in the forest type-3c/C2e (i) Moist Peninsular High-Level Sal. The quality of Sal is

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usually IV but the crop is somewhat open. In these areas, the patches of mixed forests with predominance of *Anogeissus latifolia* are also found within the Sal belts. Regeneration of Sal is fairly good but there is risk of repeated annual fire. The area is however free from frost. The common associates of Sal in the top canopy are *Terminalia alata* (Asan), *Anogeissus latifolia* (Dhaura), *Syzigiumcumini* (Jamun), *Lagerstroemia parviflora* (Patuli) and *Pterocarpus marsupium* (Blja). The middle storey contains *Careya arborea* (Kumbhi), *Bauhinia purpurea* (Kanchan), *Bridelia retusa* (Kasi), *Ougeiniaogenesis* (Bandhan), *Helectorisora* (Modaphal) and *Indigofera pulchela* (Butterfly Flower) are commonly found as under growth. The common species of climbers available are *Bauhinia vahlii* (Siali) and *Smylax macrophylla* (Muturi). *Themida* and *Imperata* are the common grasses.

Forest Condition According to the FSI Report:

As per FSI Report 2021, Sundergarh Dist. has a Geographical area over 9712 Sq.Km. Total Forest Area is 4268.17Sq.Km. (43.95% of Geographical area) which include 1020.73Sq.Km. of Very Dense Forest (Canopy Density above 70%), 1856.46Sq.Km. of Moderate Dense Forest (Canopy density 40% to 70%), Open Forest 1309.98Sq.Km. (Canopy Density 10 to 40%).

Working Plan Prescription:

The special objects of management of this working circle as per the approved Working Plan of Bonai Division are: -

- a) To tend and improve the existing growing stock through suitable silvicultural measures.
- b) To regenerate the barren and blank patches by planting suitable site exacting hardy species.
- c) To rehabilitate and improve the productivity of the depleted and degraded forest through enrichment plantation and other suitable measures.
- d) To tend the existing plantation so as to get maximum annual increment.
- e) To raise block plantation preferably of economically important species in the large gaps having extent of more than 4 Ha.

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- f) To improve micro-edaphic conditions, especially in dry and open patches by taking suitable soil and water conservation measures.
- g) To provide effective protection against illicit felling, encroachment, shifting cultivation, over grazing and fire hazards so as to check further retrogression of site.
- h) To meet the bonafied needs and requirements of local inhabitants in regards of fire wood, small timber and fodder etc.

2. v) WILDLIFE HABITAT AND PREVAILING WILDLIFE SCENARIO:

From the primary data collected from the field and executives of Forest Dept. it appears that there is presence of Elephants, Sloth bears & Indian Pythons in the area for which there is often wildlife-human conflict. Presence of other wildlife is mentioned in the list of fauna. The habit and habitats of the aforesaid Schedule-I species are narrated below-

Elephant (*Elephas maximus*):

Habit: Elephants are social animals and live in herds, which vary between 3-6. The Elephants are matriarchal and the herd is led by the oldest female. Herd usually breaks into clans and rejoins again. For long-distance movement some time a few herd mixes and form a big group which is coordinated by the oldest female for searching for better habitat - food and water. Several herds maintain contact through sub-



sonic vocalization according to findings on work with African Elephants. Adult males remain away from the herd and occasionally join with the herd when females are in oestrous. They are polygamous. Only dominant males have the chance to mate with females. Old males usually lead a solitary life, while sub-adult males some time form an unstable group of 2 to 7 animals. Such a group is known as *Muljuria* group. Elephants are very sensitive to hot and prefer shady moist areas during noontime. The matriarch herds, as well as males, are long-ranging. Their home Range varies between 150 and 1200 sq. km., depending on the habitat condition. An Elephant may run at a speed of 45 km per hour for a short distance for two to five minutes. Their average life span is the same as human beings, and around 70 years. In Elephant there is no seasonality in oestrous cycle, and the interbirth interval varies from 3

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to 5 years, depending on the habitat quality. The gestation period is 18 to 22 months and the suckling period is around one and a half years. Young calves start taking grass from 6 months onwards. Mother continues to bestow maternal care to their offspring for several years after weaning. The sense of touch and hearing is well developed in Elephant but its eyesight is poor. Most males have prominent tusks, while some time females have tushes which are hardly visible from outside. Male Elephants sometime have only one tusk (known as *Ganesh*), or even without tusk (known as *Makhna*). They have 6 sets of molar teeth, of which only one set is in use at a given time. With the loss of the last set of molar teeth they are deprived of taking any food and eventually do not survive. The unique identity of Elephant is his trunk with a single finger-like tip at the end and it has versatile utility, used in eating, drinking, smelling, breathing, touching, washing & dusting of the body, fighting, and vocalizing. Mud wallowing is fun for the Elephants, though it protects them from insects and sun.

Habitat: The body size and food requirement of this non-ruminant "mega-herbivore" have made the Elephant a generalist vegetarian to feed on a variety of plant species. Even within one region, they feed on well over a hundred species of plants. They not only depend on leaves, fruits & twigs but also consume barks, roots, stem pith, flowers, grasses and salt with soil. Though, depending on seasons they select distinctly different plant parts depending on their availability. In the dry deciduous Forest region, their dietary habit usually alternates between predominantly grazing during the wet season and browsing during the dry season. In quantitative terms, they prefer grasses, reeds, and sedges (*Poaceae* and *Cyperaceae*). Their preferred tree families are *Combretaceae*, *Euphorbiaceae*, *Moraceae*, *Malvaceae*, and *Legumes*. They cannot survive entirely as grazers. Thus, browse species are extremely important in the nutrition of Elephant. On average, take 150 kg of vegetation and 100 litres of water per day. The efficiency of digestion is poor (40 to 45%) with the symbiotic bacteria in the stomach. They are in constant motion while feeding and generally cover 15 to 20 km in a day. Elephants are well established in dry deciduous Forests to moist evergreen Forest.

Human activities like agriculture (cultivation of crop, irrigation system); development works (Roads, Railways, Townships, Dams, Industries, and Mines etc.) are fragmenting their habitat and creating obstructions to their movement which they traditionally follow. They are in conflict with human when they move through that fragmented area and also damage various cultivated crops like paddy, ragi, banana, sugar cane etc.

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Sloth Bear (*Melursus ursinus*):

Distributed throughout the Odisha, except a few areas of the coastal Districts and is an endangered species.

Habit: Sloth Bear has a long snout and lips are detached from the gum and are well adapted to the forceful intake and expulsion of air. The absence of a middle pair of incisors in the upper jaw permits the passage of air freely. The tongue

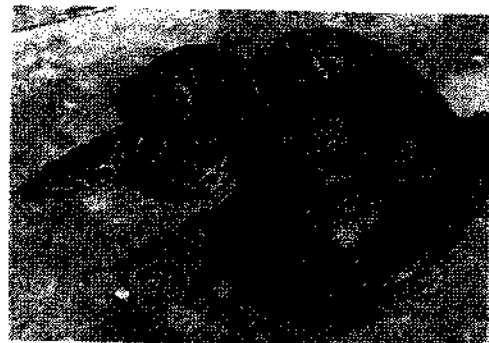
is large protractible. Long claws of the forelimbs (longer than hind limbs) are good instruments of digging. The animal produces enough suction force to suck out termites from mounds.

Bears are nocturnal in habit, their sense of smell is well developed than their sight and hearing. During an accidental encounter with a human being, they cause severe damage to the human or even death. When they have cubs, they move with them, otherwise, they are solitary or are in pair with the opposite sex. They have a specific breeding season. Mating takes place in June or July and they give birth to cubs in caves during December and January. Litter varies between 1 and 3 cubs. Parental care lies with mother only. Their average life span is around 40 years.

Habitat: They are in good number in drier and secondary Forests are also found in dense forests. They are omnivorous in nature. They feed on tubers, roots, grubs, various fruits, various insects, honey, termites, flowers (mahua, simul, etc.). It also damages sugar cane crop, maize, etc. Their home Range is limited and restricted. In the quest of food, they may travel several kilometres. It is believed that their gall bladder and bile have medicinal properties and hence they are exposed to poaching, particularly due to the demand of these parts in China and other southeast Asian countries.

Indian Python (*Python molurus*):

Habit: This is a non-venomous snake and can grow up to 4m and weigh 45 kg. The colour is dark brown to yellowish-white in a blotched pattern. They are very good swimmers and take to water when disturbed but on land, they hiss



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and remain motionless. The species is oviparous and lay up to 100 eggs in a clutch protected and incubated by the female. Being exothermic, python basks in open but can also raise body temperature by muscular contraction.

Habitat: Python occurs in wide Range of habitats viz. rocky foothills, grasslands, marshes, swamps, woodlands, open jungle. At times, they take refuge in mammal burrows, hollow trees etc. It has also been reported close to habitation and crop fields. The snake feeds on small mammals, birds, and reptiles but prefers the first. Chital deer, fawns, hares, mouse deer, jungle fowl are natural food.

It can swallow prey bigger than its size as the jaw bones are not hinged. The prey is constricted to death by muscular movement and swallows headfirst. Once held in the jaw, prey cannot escape because of inward bent teeth.

It is listed as one of the Lower Risk /Near Threatened species according to IUCN Red List.

2. vi) WILDLIFE CORRIDORS:

No notified Elephant Corridor is within 10 Km aerial distance from the Project site. However, the nearest Karo-Karampada Elephant Corridor is at a distance of 14.00 Km from the project site.

2. vii) HUMAN WILDLIFE CONFLICT:

As per the record available in **Bonai Forest Division** 33 house damage cases have yet been recorded, 12 in 2016-17, 15 in 2017-18 and 06 in 2018-19.

So far human kill is concerned, 01 case have been reported in 2017-18 and 01 case in 2018-19. So far human injury is concerned, no case has been reported.

From 2016-17 to 2018-19, 01 elephant and 01 wild boar have died due to Human-Animal conflict i.e., 01 in 2016-17 and 01 in 2018-19.

As per the Divisional record found 68.62 acre of crops were damaged by the elephant have yet been recorded, 40.30 acre in 2016-17 followed by 5.44 acre in 2017-18 and 22.88 acre in 2018-19. In all the cases compensation has been paid to the victims.

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House damage by Elephants

Year	No. of Houses damaged
2016-17	12
2017-18	15
2018-19	06

Human Death by Wild Animal

Year	Human Death	Animal causing human death
2016-17	Nil	-
2017-18	One	Elephant
2018-19	One	Elephant

Human Injury by Wild Animal

Year	No. of Human Involved	Animal causing injury
2016-17	Nil	-
2017-18	Nil	-
2018-19	Nil	-

Details of death of wild animals

Year	Date	Animal killed	Location	Cause of death
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2016-17	12.05.2016	Female Elephant-1	Teherai Khesra Forest, Tehrai Beat. 21°54'33.5" N & 85°17'0.7" E	Natural
2017-18	-	Nil	-	-
2018-19	11.10.2018	Wild Boar - 1	Podadihi Khajuridihi Beat	Poaching

Crop damage by Elephants

Year	Crop area damaged in Ac.	Compensation paid in Rs.
2016-17	40.30	4,03,000
2017-18	5.44	54,400
2018-19	22.88	2,28,800

Cattle kill by Wild Animal

Year	Name of Human Kill	Date & place of occurrence	Location
2016-17		- NIL -	
2017-18		- NIL -	
2018-19		- NIL -	

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CHAPTER-3

THE PROBABLE IMPACTS OF THE PROJECT ON FLORA & FAUNA

A. IMPACT OF THE PROJECT ON THE ENVIRONMENT IN GENERAL:

Any project has its impacts on the biotic, physical and socio-economic environment. Some are beneficial to the society and some are not. After evaluating these impacts, all projects are implemented. This project is not left untouched in these aspects. When certain impacts are disasters, it necessitates to mitigate such problems with established technology and scientific study. Such negative impacts are discussed here to help in implementing the mitigative measures.

Before any attempt is made to reduce various stresses and to avoid/minimize or mitigate their adverse impacts, it is necessary to identify various factors that have negative influence on the biodiversity. These are specified below considering the terms of reference for the preparation of Site-Specific Wildlife Management Plan.

i) Impact on soil

It is anticipated that the effect on soil quality may arise during expansion involving construction and operation. During Operation due to open yard storage of raw materials like iron ore, coal and limestone the run-off goes down stream polluting the natural drainage. As the project area has vegetation at sparse, some amount of soil erosion is inevitable from surface run-off, which will increase the sediment load of the streams. The earthwork and storage of constructions material may temporarily affect the topsoil in terms of erosion. Transport of construction material would lead to an increase in traffic flux. Further, dumping of solid wastes like charcoal dust, ESP dust, sludge from DRI/blast furnace, FES dust, BF slag, fly ash, etc. on land would also deteriorate soil quality, if appropriate control and mitigation measures will not be implemented. The top soil and other stored material may erode and thereby affect the soil of the periphery and introduce toxic materials to the soil. If not properly stored and will affect to the wild lives like rodents and other burrowing animals present in that area.

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ii) Geomorphic changes:

No major geomorphic changes will occur due to execution of this project except for minor levelling and little rise in the plinth area. Raw materials will temporarily increase elevation in storage area. The natural sheet flow will be obstructed due to the buildings but that shall be taken care by the provision of storm water drains.

iii) Moisture loss

Moisture loss will be occurred in both the core and the ZoI of the project due to release of various gas with a very high temperature from the boiler of the block if adequate measures will not be taken. Operation of heavy vehicle for transportation and loss of vegetation due to the project are also cause moisture loss. Under such circumstances, re-establishment of vegetation is delayed and difficult but constant input of imported materials like fertilizers, organic manure, water and regular attention can escalates the cost of reforestation in such refractory area.

iv) Loss of Vegetation

Deforestation without proper reclamation will have an ecological / biodiversity loss at the conceptual stage, if not followed up by a proper conservation management plan. Apart from the loss of forest in the mining, there is infrastructure development for mining, establishment of hutments, Kiosks and the subsequent population pressure certainly put a huge anthropogenic pressure on the flora on the locality directly and indirectly.

v) Habitat loss

Habitat destruction, is a process, which alters or eliminates conditions needed for animals and plants to survive. Rendered functionally weak by mining activities, the ecosystems' ability to support species is reduced. Reduced carrying capacity of the habitat means decline in populations and sudden disappearance of species. Habitat loss is manifested in loss of food plants and failure of the plant in regenerating itself. So is the case with horizontal cover (loss of undergrowth) and vertical cover (canopy contiguity). Habitat loss impacts nitrogen, phosphorous, sulphur, carbon and hydrological cycles, which affects ecosystem values adversely and culminates in either emigration of species or outright extinction.

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vi) **Impact on Air:** The mining area and as well as surroundings is affected by the following ways:

Dust pollution

Mining activity particularly blasting, transport mechanism and dumping generate considerable dust, which will settle on nearby vegetation or on the ground. While the former component will affect the net production of organic matter, the latter will be awaiting to be washed away during rains. Blow of dust, will definitely settle on the smaller animal fur, affects its respiration and push the animal to a zone of stress. The broad impacts of dust pollution are:

- Reduced photosynthesis leading to reduced growth rates of plants.
- Increased incidences of plant pests and diseases from both fungi and insectsides.
- Reduced seeding, less viable seeds and hence, lowered or absence of regeneration.

Noise pollution

Drilling - blasting, loading, dumping, transportation and working activities all will produce noise. One can well imagine the nature of stress from the fact that a mere whisper in tranquil forest is enough to alarm the approaching animal to water hole, who takes to flight at once. Small reptiles manage to adapt in such a noisy environment because their facility of escape by such noise is limited. This is one of the factors contributing to displacement of species, even large ones like deer and elephants. Adverse effects are.

- Hearing impairment.
- Signal masking i.e., inability to hear important environmental clues and alarm.
- Increased heart rate, respiration and stress reaction.
- Loss of fecundity or inability to litter or increase in abortion.
- Decline in bird population due to muffling of mating calls.

Light pollution

The animals are adapted to natural light. Depending on the intensity of light in which an animal is most active, it is either classified as diurnal, crepuscular or nocturnal. Animals are not accustomed and adapted to artificial light, which usually prevail in mining area in the night shift, from the tippers carrying ore after evening and other fixed lights. All animals in the forest area of either the lease or ZoI area will be affected by the incidence of light as

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artificial lights are very sensitive to the cornea. So, it causes flight of animal from the ZoI of the mining area. Animals are adapted to constant phase of light, when changes happen, they move to area of their choice. Sudden lighting, off and on after dusk by the moving vehicles is harmful. At times, animals will face accidental death, unable to escape and get distracted from their natural path will lead to depredation to the nearby villages or accidental fall in the deep mining pit. The above activities will increase the stress condition. Animals exposed to light exhibit erratic behaviour pattern (mauling by bear, causing injury by elephant), expressed in their deflected movement and aggressive behaviour.

**B. QUANTUM OF POLLUTANTS THAT MAY BE PRODUCED BY THE PROJECT
AND EFFECT ON SOIL, WATER, AIR, VEGETATION AND ANIMALS.**

Two types of generation and discharge of pollutants, viz., fugitive emissions and stack emissions, have been considered. The stack emissions comprise of the hot gases from the kilns, which contain particulate matters, SO₂ and NO_x in significant quantities having ground level concentration of SPM, SO₂ and NO_x. Whereas Fugitive emissions comprise mostly of raw material/ product dust generated from different material handling operations, e.g., transport, storage, processing, loading, unloading, etc. Appropriate measures have taken by the Project Proponent to minimize the effect of these pollutants to the environment and the wildlife. Similarly, as such the plant working has been planned on zero discharge basis therefore no pollution of any form is expected on account of industrial activity. If some impact on drainage is envisaged during construction and operation phase and appropriate measures are to be taken. The core area slopes towards northeast. A pond will be constructed to keep water within the plant. The same pond shall serve as the collection point for the rainwater falling over the project area. Thus, the water collected in the pond will be used for operation of the plant and facilities. This can be considered as a minor positive impact on the drainage system, as the mechanism executed for water harvesting would restrict soil erosion due to restricted flow. Hence it may not affect significantly to the soil, water, air, vegetation or animals of the surrounding.

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C. DEGRADATION ANTICIPATED ON ACCOUNT OF THE PROJECT IMPLEMENTATION IN QUANTIFIED TERMS ON APPROPRIATE MODELS TO BE EXPLAINED. QUALITATIVE CHANGE IN THE WILDLIFE HABITAT PATTERN IN THE STUDY AREA DUE TO PROJECT IMPLEMENTATION SHOULD ALSO BE DETAILED IN THE PLAN.

Direct degradation is observed in the form of loss of forest growth in area of mining. This complete removal of forest growth displaced the wildlife existing in that area due to loss of abode, food, water and tranquillity. The mine workers will collect fuel wood for their bonafied use from the ZoI which will cause degradation. The consequence of these stress on forest are discussed below:

1) Habitat fragmentation:

This is the result of clearance of native vegetation by any developmental related activities in the midst of hilly forested area. Habitats, once contiguous, become divided into separate fragments. After clearance, separate fragments tend to be small units or is-lands isolated spatially. Habitat fragmentation involves some habitat impairment of the island units as well. Fragmentation involves increase in edge habitats and decrease in interior habitats. Biodiversity of each of the fragments get reduced for the above reason. Habitat fragmentation are rarely representative samples of the initial landscape. Species like elephants, deer, move between the fragments and make use of both. Small species having no ability to move between fragments must make do with what is available in the single isolated habitat.

Habitat fragmentation leads to edge effect. Microclimate changes alter ecology of interior and exterior habitats. Species adapted to interior habitats are less likely to survive in an edge habitat of smaller units. Smaller units support smaller population with reduced carrying capacity. Small population face decreased heterozygosity, increase in inbreeding and possibly inbreeding depression. If there is no migration between populations and genetic exchange, genetic drift sets in. This means, directional selection for advantageous alleles can cause certain alleles to become fixed in a population, thereby decreasing variation. Such loss of diversity, however, will not affect elephants, as movement path of elephant changes with available alternatives. But, species with low cruising radius will be affected. But, species with low cruising radius will be affected. However, alternate corridors exist for elephants although it is difficult to conclusively say whether this is traditional or deflected route. Another dimension to fragmentation is the propensity of depredation.

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Loss of biodiversity

Biodiversity is an important component for maintaining natural balance and sustainable ecosystems. Clearly, biodiversity loss is critical for survival of human and wildlife in many ways. Development activities such as industries can significantly alter the biodiversity of an area. Its biggest impact is due to felling of trees for industry purposes.

The forests are home to huge number of organisms. Felling of trees for industry purpose leads to loss of habitat of wildlife. This puts the survival of animal species at stake. The cutting down of trees itself is a bigger threat to number of plants, birds and animals living in the forests. Any change in the biodiversity will have an adverse impact on the ecology of the area leading to many changes in the habitat as in this case. However, the adjoining habitat is also having forest growth to which the wildlife living in this Project area can shift at their own accord and suitability.

iii) Habitat destruction by illicit felling:

The workers involved during construction phase are skilled and highly organized. They may not depend for fuel wood for their bonafied rather prefer to use cooking gas.

Forest fire:

Forest fire is very common to all the forests exist in ZoI. It affects both vegetation and soil. It is also helpful in maintaining diversity and stability of ecosystems. Effect of forest fire and prescribed fire on forest soil is very complex. With increase in industrial and human activities due to setting up of new units and movement of labour force, contractors, transporters and others near to forest areas may induce forest fire.



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D. NATURE OF THREATS TO THE FLORA AND FAUNA:

Besides, habitat loss, habitat fragmentation, fire etc., as narrated above, there are other threats also emerges due to degradation of forests and are mentioned below.

i) Encroachment:

Increase in human population occur due to implementation of development projects. This also results in development of town and human habitation near the Industrial area. This plant does not involve any forest land and the workers are mostly recruited from local villages dominated with ST Population unless skilled labourers are required.

ii) Litter generation:

Workers engaged in various operations of the Steel Plant, generate much litter in shape of polythene wrappers, carry bags, paper wrappers, leaf plates and left-over food. This is not only obtrusive to sight but can attract animals like Wild Pigs, Hyena, Wolf and Jackals due to different attracting smell of the leftover food particles in Polythene bags. Ingestion of indigestible polythene can lead to blockade of gut and eventual death of these animals. The workshop will produce mobile cans, plastic jars, spent mobile and grease. The canteen and office will also produce various wastes. Litters thrown all over not only destroy aesthetic view but are injurious to plant and animal life in many other aspects.

E. Probable increase in the vehicular traffic and its impact

About 2500-3000 vehicles move in and out of the mining belt, creating traffic jams. This happens due to poor road surface, narrow mine roads, breakdown of vehicles and both to and for traffic of loaded vehicles going out and empty vehicles coming in. This, for sure, can prevent wild animals from their natural movement, confining them to small unfavourable patches of habitat. Such artificial confinement usually manifests in aggressiveness and deflected movement apart from physiological stress.

F. Noise Pollution, Air and underground pollutions etc. and it's probable impact on flora and fauna:

Noise pollution:

The sources of noise generation during operation phase are as follows: -

- Operation of the Kilns and furnaces,

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- Material handling operations, crushers
- ID Fans, motors, pumps
- Trucks, dumpers, loaders, scrappers and earth-movers
- Operation of turbines, etc.

Operation of these equipments will continuously generate noise, which will have adverse impact on the ambient noise levels. This is one of the factors contributing to displacement of species, even large ones like Deer and elephant if sufficient safety measures will not be taken. Adverse effects of noise are.

i)Hearing Impairment:

- Signal masking i.e., inability to hear important environmental clues and alarm, distress and mating calls of con specifics for survival.
- Increased heart beat respiration and stress reaction.
- Loss of fecundity or inability to litter or increase in abortion.
- Erosion of faculty to suckle young and successful rearing of the brood.
- Decline in bird population due to muffling of mating calls.

ii)Light Pollution:

All animals are adapted to rhythm of solar light and darkness and accordingly remain passive or active depending on their nature (diurnal, crepuscular or nocturnal). During construction phase, a number of lights will be illuminated in the Project area for the purpose of visibility and safety/ security of the work force especially during night hours. Besides frequent plying of trucks/ trailers and large number of vehicles, movements of supervising personnel will add up illumination in the area. Since birds and animals are sensitive to light in night time, the illumination due to above factors may affect their biological cycle. All animals present within the ZoI will be affected by the incidence of light as artificial lights are very sensitive to their cornea. Animals are adapted to constant phase of light, when changes happen, they move to area of their choice. Sudden lighting, off and on after dusk by the moving vehicles is harmful. At times, animals will face accidental death, unable to escape and get distracted from their natural path which will lead to depredation to the nearby villages. The above activities will increase the stress condition. Animals exposed to light exhibit erratic behaviour pattern, expressed in their deflected movement and aggressive behaviour.

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CHAPTER-4

OBJECTIVE OF MANAGEMENT AND MITIGATION STRATEGIES

A. OBJECTIVE OF MANAGEMENT:

The main objective of this plan is to reduce various stresses occurring due to implementation of this project in this particular locality having wildlife importance. The site-specific Wildlife Conservation Plan will suggest measures to mitigate such stress and if possible, how to avoid certain activities which could reduce the negative influence. Wildlife management consists of promoting welfare factors, arresting or reducing the impacts of decimating factors and neutralizing harmful effects of limiting factors that keep the animal population lower than the carrying capacity of the area. It also aims at management of human dimensions relating to regulation of habitat use, sufferance from animal damages, livelihood issues and taking people as partners in conservation management. Such concerns are reflected in the prescriptions. The management of the project's core area will aim for maintenance of habitat for smaller animals that used to live and share habitat with Project area. The management of ZoI will target optimization and maintenance of wildlife habitat and biodiversity, involving local people as far as practicable and aim to avoid / minimize or mitigate the adverse impacts of the project activity. Small animals & larger ones like deer and elephants make use of the area regularly, as the area is undisturbed. Large animals will be disturbed from the area once the Plant commences with full expansion. The displaced animals should not be left as refugee. Their rehabilitation would be the major objective of the plan. To fulfill all these requirements, the plan focused on improving forage and browse volume by increasing food plant diversity with vertical and horizontal cover. These will arrest habitat destruction and fragmentations and also prevent soil erosion and loss of biodiversity. Keeping natural water resource free from negative impact of the project activity will also be targeted.

Objective of management to mitigate the threats to the wildlife is covering the following aspects:

1. Conservation, Protection and Improvement of the flora and fauna in and around the Project area in a sustainable basis despite production of Steel and other ancillary activities.

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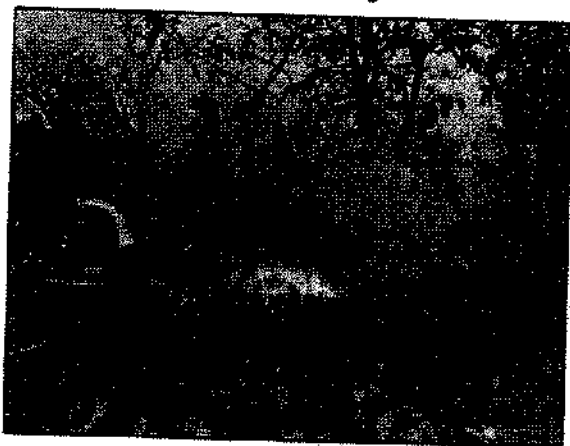
2. To conserve a viable population of Wildlife in general and the Pachyderm in particular in their natural habitat.
3. To conserve the natural biodiversity, aesthetic and geo-morphological value of the area through appropriate management of site, habitat and landscape.
4. To reduce the dependency of local people on the forest resources of the ZoI through culturally, socially, economically acceptable and ecologically sustainable and viable alternatives by undertaking eco-development programmes.
5. To reduce man-animal conflict by ensuring contiguity of habitat in the buffer zone by improving forest cover in long term basis.

B. STRATEGIES TO MITIGATE AND MINIMIZE ADVERSE IMPACTS:

I) Strategies for Core Zone:

I.1) Fire Watchers

Fire is one major threat to wild life habitat in the area. 05 nos. of villagers preferably youth will be engaged selected from local villages on the suggestion of VSS for a period of 6 months (January to June) annually. They will be termed as Fire Watchers. It will be better that the fire watchers should either be linked earlier with poaching / illegal collection of forest produce with working knowledge of forest tracts, path and routes followed by villagers as well as wildlife, willingness to work in forest, ability to move on foot /cycle. Fire watchers should be well trained by the local forest Staff the way how to douse fire (ground fire, crown fire etc.) using bunch of green branches of locally available plants. They should possess the local Fire Brigade station telephone number and in case of exigencies when the occurrence of fire goes beyond their control can call the fire brigade Executives to lit off the fire before it aggravates. They will also be supplied Fire Blowers to cut weeds, heap them and practise Control Burning'.



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1.2) Awareness Promotion

- (i) The User Agency will create awareness among the Plant Executive/staff/workers and villagers of adjoining areas regarding wildlife protection, wildlife conservation, forest protection & forest conservation sensitize them to maintain the proper balance of biodiversity in the surrounding areas.
- (ii) Plant Executive/staff/workers should aware about cleanness of the project premises. They will also be aware to protect any type of wildlife including snakes if noticed in the project area. In such an event instead of killing it being afraid, they should intimate the nearest Forest staff or snake charmer available in every Division Office now-a-days for rescue of the wildlife and safe release in the nearby forest. They should also be aware not to domesticate any wildlife as it goes against the Wildlife (Protection) Act, 1972.
- (iii) The Drivers of heave earth moving vehicles will be told to keep the noise levels to the barest minimum, take all precaution against fire, damage to trees etc. Drivers will be told to control speed so as not to run over slow-moving wildlife like snakes, lizards, mongoose, civets etc. Behavioural change will be expected from each worker on the above points and use of garbage bins. Any sick and injured animal will have to be rescued and given first aid and water. Such animal is to be subsequently handed over to the nearest forest official and released after healing the wound. No worker shall get involved in crime against animals & forests.
- (iv) There should be enough provision and facility for creating awareness through media, announcements, awareness meetings, brochures, documents etc. in the surrounding fringe villages towards community mobilisation for protection of wildlife and forest.

1.3) Provision for bird bath within the project area:

A bird bath is an artificial puddle or small shallow pond, created with a water-filled basin, in which birds may drink, bathe, and cool themselves. A bird bath can be a garden ornament, small reflecting pool, outdoor sculpture, and also can be a part of creating a vital wildlife garden. A bird bath is an attraction for many different species of birds to visit, especially during the summer and drought periods. Bird baths that provide a reliable source of water year round add to the popularity and "micro-habitat" support. Bird baths can be pre-made basins on pedestals and columns or hang from leaves and trees, or be carved out depressions in rocks and boulders. Requirements for a bird bath should include the following; a shallow gradually deepening basin; clean and renewed-refilled water; and cleaning to avoid contamination and mosquitoes. Two inches of water in the center is

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sufficient for most backyard birds, because they do not submerge their bodies, only dipping their wings to splash water on their backs. Deeper or wide basins can have "perch islands" in the water, which can also help discourage feline predators. Elevation on a pedestal is a common safety measure, providing a clear area around the bird bath that is free of hiding locations for predators. The bath should also be shallow enough to avoid the risk of birds drowning. A depth of 2" is right for most species. This requirement may be fulfilled by making the bowl shallow enough to allow birds to perch in the water. A bird feeder can complement a bird bath to encourage birds to linger and return.

1.4) Provision for Eco-friendly bird nests on trees within the project area and fringe villages:

A bird nest is the spot in which a bird lays and incubates its eggs and raises its young. Although the term popularly refers to a specific structure made by the bird itself—such as the grassy cup nest or the elaborately woven hanging nest. For some species, a nest is simply a shallow depression made in sand; for others, it is the knot-hole left by a broken branch, a burrow dug into the ground, a chamber drilled into a tree, an enormous rotting pile of vegetation and earth, a shelf made of dried saliva or a mud dome with an entrance tunnel. Grass, moss, feathers, flowers, mud, dung etc may be used to construct these eco friendly bird nests within the project area and adjoining fringe villages. Few examples could be taken for consideration such as:

- a) A cup / Saucer shaped nest: This type of nest will be prepared from twigs and small climbers or of bamboo splits by local artisans. If necessary some adhesives can be used to keep the twigs together in that case some free twigs will be spread inside the nest to keep the birds free from contamination if any. The nests will be 6" to 12" diameter will be ideal. These nests will be placed on tree branches, house parapets. It may be replaced mostly annually
- b) Nest on three holes: Half opened box shaped prepared from the Bamboo strips covered with Palm leaves and Earthen pots with opening can also be prepared and fixed on tree trunk/ branches with or without camouflage may help in Improving habitation of birds. The models are given below. The local Bamboo artisans/ earthen pot makers can prepare the materials after short demonstration.

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1.5) Provision of distribution of Grain Bins to the house-hold of surrounding villages of project area for storage of food materials in order to mitigate the Human-Elephant Conflict:

The surrounding livelihood of the project area mostly comprises of lower middle class people and low economic class people. They are mostly fond of their social custom such as to consume desi liquor and to store the same in to their houses along with other food grains. Normally they don't have any luxurious houses, infact small kuccha houses are mostly prevalent there where they use to live. Being fond of these desi liquor and food grains, elephants mostly come nearer to these fringe village areas in a frequent manner. Subsequently there is always a chance of Human-Elephant Conflict, by which lots of mishap/destruction will going to be observed. In order to mitigate these issues, there is a proposal for distribution of eco friendly grain bins to the surrounding fringe villages/house holds so that with a proper storage facility the attraction of elephant may be avoided in some extent. The food grains could be stored safely as well as their social customs too. On the other hand we can motivate/aware them towards avoiding the storage of desi liquor to some extent also.

1.6) Provision of high powered torches at Division Office, Bonai Forest Division

In the wee hours the elephants mostly come out of the habitat and depredate the paddy area as well as storage place in villages. To trace out their presence in each village, it is proposed have sufficient number of high powered torches, so that it will be delivered to the villagers as well as forest staffs in order to get proper coordination amongst themselves during tracing the elephant movement.

1.7) Infrastructure support in Division Office, Bonai Forest Division

The User Agency will procure one computer with Printer (All In one) and deliver to Division Office of Bonai Forest Division along with its proper internet facility for office use.

1.8) Provision of awareness campaigning through LED display at Division Office and other necessary locations of Division:

Keeping in the view of extension of awareness campaigning to the grass root people, it is proposed to have campaigning of fire mitigation measures, wildlife protection issues and challenges, forest protection issues and challenges, biodiversity management issues and challenges, pollution control mechanism, participatory approach with village level communities, portable awareness campaigning through vehicles etc. in the entire area of

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Bonai Forest Division as well as at Division level too through LED display at the most crucial moments.

I.9) Provision of four wheeler vehicle along with its POL as well as maintenance costs and remuneration (as per Government approved high skilled labour rate for the concerned financial year) of driver at Division Level, Bonai Forest Division for monitoring as well as implementation of protection activities:

Most of the times it is not possible to reach on an immediate basis to the sensitive points, where any conflict issues/depredation issues is going to happen. To minimize the time lapses, there is a provision to engage one four wheeler vehicle along with its POL as well as maintenance costs and remuneration (as per Government approved high skilled labour rate for the concerned financial year) of driver at Divisional Level in order to meet with immediate response.

II.10) Jana Surakhya Gaja Rakhya:

In order to mitigate Human Elephant Conflict in surrounding villages of the project area such as Segsahi, Teherai, Badindupur, Malda Basti, Kadodiha etc., it is proposed to implement Solar Fencing as a barrier through Jana Surakhya Gaja Rakhya scheme by community/vss/private persons through PPP mode (100% cost to be borne by user agency including beneficiaries contribution). As these fringe villages are situated in a contiguous manner to forest areas such as Gonua PRF, Mendhamruni RF, Mendhamaruni PRF, Khajurdihi PRF, Bhabanipahar PRF etc. there is always a high chance of regular elephant movement to above said fringe villages which ultimately leads to Human Elephant Conflict. In this context, it has been proposed to implement Solar Fencing in the above proposed fringe villages However the exact location of construction should be decided at the suitable site condition as concerned with local staffs and villagers with their need of the hour.

I.11) Support to Training Center cum GIS cell of the O/o Regional CCF, Rourkela Circle:

It is quite necessary to monitor and prepare the database including human-elephant conflict issues, inter Divisional & intra Divisional movement of elephants, ground truthing of forest boundaries, and authentication of forest boundaries etc. of Rourkela Circle. Therefore it is proposed to procure necessary GIS cell monitoring equipment and other necessary

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accessories, engagement of GIS assistant, engagement of drone operators etc. whenever required at each moment for the O/o Regional CCF, Rourkela Circle.

I.12) Establishment of Crime Control Cell at Division Office, Bonai Forest Division:

It is quite necessary to monitor and prepare the database including Forest and Wildlife related crime and criminals so that it will be easy to counter during any adverse situation. This cell will also play a crucial role during any emergency situation in several crime situations with the help of different Crime / law experts. Through the expertise we can extend our cooperation to District/Sub Division Level Police Department and their Officials at the need of the hour as well as seek their cooperation too.

II) Strategies to mitigate and minimize the adverse impact so observed in the Zone of Influence (ZoI):

BONAI FOREST DIVISION

Protection & Enforcement Activities

II.1) Establishment of Anti-Poaching Barrack to support protection activities and elephant monitoring activities (including water supply, solar light system, boundary facility etc.):

In suitable location at border area of Bhabanipahar PRF and Khjurdih RF, one anti poaching barrack need to be constructed, which will be a 2 storied structure. In the ground storey vehicle of the squad can be stationed but the staffs will remain in the 2nd storey to locate the movement of elephants and fire hazard during fire season. Also, this unit will provide accommodation to the anti-depredation squad or fire squad in need of the hour. This will also help in monitoring the protection activities by proper coordination amongst staffs of Koira Range of Bonai Forest Division at the sensitive areas.

II.2) Anti-depredation/ Protection Squad:

They will be engaged throughout the year to minimize depredation activities from wild animals especially from elephants. The trackers will be selected from local villages throughout the area well conversant with animal behaviours, particularly, elephants. The job of the trackers will be primarily to gather data on number of elephants, their location, their line of movement and the quantum and nature of depredation being done. Such data can be

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collected by pursuing elephants in morning hours along their spoor, when animals are on retreat to secluded spots (deep valleys, close to water or dense woods). Information obtained can be soon relayed to the Range officer, area Forester and concerned villagers.. Regular tracking will help to map movement routes, identify intensity of depredation from which the nature of movement, whether benign or deliberate can be inferred. If the depredation is repetitive, a drive will be organized. This squad may also be engaged in the protection activities in order to assist the ground staffs. The overall aspect of protection from poaching, illegal conversion of woods, encroachments, wildlife trafficking etc. could be monitored on a regular basis. The safety of people and animals are prime concern of this squad. They will be provided with hired vehicle, fuel, mobile recharge facilities, medical expenses, uniform etc.

II.3) Improvement of Communication Network:

The most difficult part of the surrounding zone of this project area is to establish a proper communication network amongst the staffs and other local inhabitants in most of times. To address any issues related to wildlife and forest matters we have to depend on our communication network on a prior basis for which the system of communication has to be improved. In this context, 05 VHF Main Station is to be established at strategic location of Forest Quarters at Jamdihi and Toda of Koira Range so that the overall monitoring could be controlled in a continuous manner. Apart from this, necessary walkie-talkies must be provided to ground staffs to coordinate among themselves properly in and around the forest areas.

Wildlife Habitat Management

II.4) Habitat enrichment with plantation of Bamboo (preferably through bamboo seed balls)/Fruit bearing species/ Fodder Plantation:

Most of the forest patches are now devoid of continuous bamboo patches, for which preferred food species by Elephants is in a scarce condition inside the forest areas. Similarly due to absence of sufficient food sources, movement of elephant is diverted towards fringe village areas which in turns lead to Human-Elephant Conflicts. Therefore It is proposed to improve their natural habitats by providing sufficient Bamboo Patches/Fruit Bearing Species/Fodder Plantation and subsequently improving the palatability of other wildlife also. Initiative should be taken through thronging of Seed balls of bamboo and other fodder

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species inside the forest areas. Area near to habitation is required to be avoided. The seeds are to be collected and broadcasted in appropriate ratio. Palatability of species by animals especially liked by elephant is to be given due importance. Most importantly priority should be given towards recent trend of movement in Karo RF, Mendhamaruni RF, Mendhamaruni PRF, Kathmal RF, Kathmal PRF, Gonua PRF, Khajurdihi RF, Khaurdihi PRF, Bhabanipahar RF, Bhabanipahar PRF areas.

II.5) Desilting, Renovation & maintenance of existing water bodies:

During summer most of the streams except some major water sources remain dry for which the wild animals often face difficulty to get water deep inside the forest. During this time the wild animal come close to the human habitation in search of water and as a result, the chance of human-wildlife conflict gets increased. Hence, to resolve the water scarcity inside the forest area during the pinch period, artificial water bodies inside the adjacent forest patches have already created in previous years. In course of time they need regular maintenance and sanitation towards maintaining the health status of wildlife. In continuous rainy season the siltation is also more in these water bodies which is need to be removed on a regular basis for smooth availability of water sources to wildlife. Therefore it is proposed to regular renovation and maintenance to these structures at Khajurdihi RF, Karo RF, Karo DPF, Toda RF, Toda DPF, Kathmal RF, Kathmal PRF etc. in order to monitor the regular behavior as well as health status of wildlife inside a particular forest.

II.6) Construction of Check dam along the nallah:

In order to mitigate water crisis for the wild animals particularly in summer season of Koira Range areas, there is provision for construction of 5 nos. of RCC check dam, in Bhabanipahar Nallah at Bhabanipahar RF of Koira beat under Koira Section, Koira Range as it is coming in the buffer zone area of the project. It is useful to check the runoff water at this location for improvement of flora and fauna of the forest area. Several wildlife movements have been noticed in the above proposed check dam areas which will be helpful to cater to the improvement of flora and fauna in those areas. The final location of the construction site will be decided at the suitable location of the entire nallah considering flow of water at a particular feasible time.

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Wildlife Monitoring

II.7) Procurement of Camera Trap:

It is proposed to establish the trap cameras at sensitive locations of Khajurdihi RF, Karo RF, Karo DPF, Toda RF, Toda DPF in order to monitor the wildlife movement and their behavioural aspects towards the climate change on a regular basis. This will provide a foundation to observe their need and demand from the nature.

II.8) Procurement of Monitoring Kits (including Binoculars, Compass, Range Finders, cameras etc.):

These monitoring kits including Binoculars, Compass, Range Finders, cameras etc. will improve the quality of a ground level staff towards identification of wildlife species and their regular approach towards the wildlife species. They could gather better faunal and floral diversity of their respective jurisdictional areas. The knowledge of indigenous species will be beneficial towards conservation of the particular species in future.

II.9) Upgradation of electrical infrastructure to prevent wildlife death:

In remote village areas there is a regular practice of illegal hooking on transmission lines with the intension of poaching wild boar and other wildlife, but contrary to their intension, Elephants electro-caution takes place causing mortality to the mega-fauna. Therefore, provision has been made for up gradation of electrical infrastructure to detect illegal hooking and safe and effective tracking of the elephant movement. In this context provisions could also be made towards providing safe barricading to the electricity infrastructure in order to provide better as well as safe connectivity to remote villages.

II.10) Survey, listing and mapping of Population in respect of Wildlife of Bonai Forest Division by engagement of a Researcher:

Regular Survey and mapping of Wildlife Population will provide a database for their quantum estimation. The regular survey could also identify the requirement of prey base if any required for a particular habitat. Engagement of a researcher could provide better time to study and interpret the overall phenomenon of inter behavioural relationships among the surveyed wildlife population and other surrounding factors to improve the habitat of their respective territory. The most important stress factor upon the wildlife present in the

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surrounding project areas could also be monitored, if any immediate measures required in these areas we could provided through betterment of ecological practices.

Human Elephant Conflict Mitigation

II.11) Installation of Solar Street lamp/light in elephant affected villages and its maintenance:

From the study, it was evident that in the Zone of Influence (ZoI), the main problem is man-animal conflict, particularly with the mega herbivore i.e., elephant. Elephants make their frequent depredation to the nearby villages located in the ZOI of the project area, especially from dusk to dawn. One of the causes of conflict occur in the wee hours when the whole area become darker, due to absence of a regular stretch of lighted areas around the villages, because of lack of electric supply. It results in direct confrontation between the people and the elephant, which usually hide itself in dark and bushy areas. Hence, taking into account the whole scenario of conflict, there is a provision to install high mask solar street lights, most preferably at strategic locations around the elephant affected village areas in Bonai Forest Division. As these lights can work even without electricity, it will help the villagers to get rid of elephant attack. The solar lights will be provided at the required strategic locations in the ZoI of the project area considering the elephant movement

II.12) Solar Fencing:

In order to mitigate Human Elephant Conflict in surrounding villages of the project area such as Segsahi, Teherai, Badindupur, Malda Basti, Kadodiha etc., it is proposed to excavate Elephant Proof Trench as a barrier. As these fringe villages are situated in a contiguous manner to forest areas such as Gonua PRF, Mendhamruni RF, Mendhamaruni PRF, Khajurdihi PRF, Bhabanipahar PRF etc. there is always a high chance of regular elephant movement to above said fringe villages which ultimately leads to Human Elephant Conflict. In this context, it has been proposed to excavate elephant proof trench over 20 RKM of size 3m top, 1m bottom and 2.5m depth and heap the dug-up earth at the fringe areas. However the exact location of construction should be decided at the suitable site condition as concerned with local staffs and villagers with their need of the hour.

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II.13) Deployment of Gaja Saathi- A participatory approach:

Bonai Forest Division is very much important in respect of Human- Elephant conflict due to frequent movement of elephant. It is proposed to deploy Gajasathi in 5 units (One VSS unit or village unit consisting of 05 members) @ Rs. 50000/unit to keep a watch on elephant movement and take appropriate steps to resolve Human- Wildlife Conflict.

II.14) Capacity Building training for Field Staff on Human Elephant Conflict management at Division Office:

The field staffs are the real grass root level workers who are always facing the challenges and different level of circumstances during Human Elephant Conflict. They are always in a touch with the local affected villagers and simultaneously leading the team towards solving the issues. In order to provide a high level of motivation and confidence, it is proposed to provide sufficient amount of capacity building training to the suitable candidates from the conflict areas. Sharing the experiences along with different level of discussions will also provide a better solution towards mitigating these issues and subsequently these staffs will also be motivated towards delivering their duty.

II.15) Health Monitoring of Wildlife/Immunization of cattle through Veterinarian

There are many villages / habitations either inside the forests or very close to forests. Their cattle are used to graze in the forests and probable carrier of contagious diseases (viral, fungal). Their immunization will go a long way in preventing spread of disease to wild animals mostly herbivorous. It is proposed to conduct house to house cattle/ goat immunization program for these villages in consultation with Animal Husbandry Department every year for 05 years. The continuous immunization program will also regulate the health status of wildlife and their ecosystem which subsequently provide their better span of life. In this context it is also proposed to engage one Veterinarian specifically for Bonai Forest Division in order to monitor the health of wildlife in all respect throughout the year.

Public Awareness and Livelihood Generation Activity through community mobilization

II.16) Training programme and financial support for Income generating scheme like Poultry, Pisciculture, Bee keeping, Duckery, Mushroom cultivation Lac culture, Bamboo article etc.:

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The socio-economic condition of the people living around the project area is not so good, for which they are devoid of their upliftment by their own. Due to lacking of sufficient support and incentives they are living under a unknown pressure for long years. Therefore it is proposed to have some financial support through IGA, training programmes with the support of other line departments, so that they could live a self sufficient life in the society. It is the prime duty to look out for the specific and basic need of these people and subsequently motivate them through different IGA activities for which they could earn for their livelihood in a better way. As per the suitability & preferences of the people they should prioritize their need towards different IGA like Poultry/Pisciculture/Bee keeping/Duckery/Mushroom cultivation/Lac culture/Bamboo article etc. And accordingly training should be imparted to different pressure groups in order to earn a better livelihood status.

II.17) Training and awareness to EDC/VFMC, in Schools, Village level Volunteers for Wild Life Conservation & Protection

There is a urgent need to select village level volunteers through EDC/VFMC towards providing grass root level support in the field of wildlife conservation and protection. There should be efforts to find out the local Indigenous people who will be the true solution finder during managing conflict situations with wildlife and other protection activities inside forest. They should be provided with proper training and motivation for which a massive awareness could be distributed towards wildlife conservation and protection. In this initiative schools/colleges should be taken as a base unit to provide all kind of training activities so that we could reach each individual very easily and subsequently a better understanding could be generated between the village level people and other field staffs.

II.18) Provision of MTS cum Data entry operator at Division Office, Bonai Forest Division

It is proposed to have MTS cum Data entry operator at Division Office, Bonai Forest Division through remuneration of @ Rs.20000/month in order to provide sufficient support to day to day monitoring status of elephant, fire, Mo sarkar cell, awareness campaigning, Divisional level compilation of data and other necessary activities.

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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FOR KEONJHAR DIVISION

A. Mitigative measures to be taken by the User Agency for Keonjhar Division

A.1. Habitat Assessment of Asian Elephant

Study on habitat assessment of Asian Elephant and preparing future elephant Management plan for Champua & Barbil Range of Keonjhar Forest Division.

There is a provision of Study on habitat assessment of Asian Elephant and preparing future elephant Management plan for Champua & Barbil Range of Keonjhar Forest Division.

A.2. Jana Surakhya Gaja Rakhya

In order to reduce Man Elephant conflict it is required to install Solar fencing with community participation in elephant conflict areas. The objectives of this scheme are, 1. to prevent entry to wild elephants into human habitations. 2. To make communities partners in addressing man elephant conflict.

B. Strategies to mitigate and minimize the adverse impact so observed in the Zone of Influence (ZoI):

Habitat Improvement

B.1. Provision of Water body

During summer most of the streams except some major water sources remain dry for which the wild animals often face difficulty to get water deep inside the forest. During this time the wild animal come close to the human habitation in search of water as a result, the chance of human-wildlife conflict gets increased. Hence, to resolve the water scarcity inside the forest area during the pinch period, it is proposed to create 01 nos. of artificial water body of size (60 m x 40 m x 3 m).

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B.2. Awareness

The User Agency will create awareness among the Plant Executive/staff/ and workers and sensitize them to maintain cleanness of the project premises. They will also be aware to protect any type of wildlife including snakes if noticed in the project area. In such an event instead of killing it being afraid, they should intimate the nearest Forest staff or snake charmer available in every Division Office now-a-days for rescue of the wildlife and safe release in the nearby forest. They should also be aware not to domesticate any wildlife as it goes against the Wildlife (Protection) Act, 1972. The Drivers of heavy earth moving vehicles will be told to keep the noise levels to the barest minimum, take all precaution against fire, damage to trees etc. Drivers will be told to control speed so as not to run over slow-moving wildlife like snakes, lizards, mongoose, civets etc. Behavioural change will be expected from each worker on the above points and use of garbage bins. Any sick and injured animal will have to be rescued and given first aid and water. Such animal is to be subsequently handed over to the nearest forest official and released after healing the wound. No worker shall get involved in crime against animals & forests.

B.3. 20 Gajasathi in four villages: 20 numbers of Gajasathi will be deployed to keep watch over the elephants and inform the villagers as well as field forest Officers so that they will be alert and take precautionary measures to avoid crop raiding, damage to houses and elephant-human conflict. This process will hold good for Keonjhar Forest Divisions where the User Agency has applied for diversion of forest land.

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**CHAPTER-4(A)
ANIMAL PASSAGE PLAN**

This is not a linear Project. Therefore, natural protection from experience of the wildlifers who are dealing with their natural phenomenon is being practiced as mentioned in Mitioative Measures of Chapter-IV.

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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CHAPTER-5

FINANCIAL IMPLICATIONS AND MONITORING

A. Total financial implication of Management Intervention and cash flow statement for 10 years (year wise) is given here. Also monitoring, evaluation and interim review provision shall be mentioned.

Table 5.1: Financial provision of works borne by Use Agency/Project Proponent

Bonai Forest Division

Sl. No.	Management Interventions	Area in ha./Unit in no./RKM	Total Amount (Rs. in Lac.)
1	10 Nos. of Fire Watcher will be engaged for a period of 06 months (January to June) for 05 years	10 Nos.	To be Borne by User Agency
2	Awareness Promotion regarding wildlife protection, wildlife conservation, forest protection & forest conservation	120 Nos.	
3	Provision for bird bath within the project area	10 Nos.	
4	Provision for Eco-friendly bird nests on trees within the project area and fringe villages	100 Nos.	
5	Provision of distribution of Grain Bins to the household of surrounding villages of project area for storage of food materials in order to mitigate the Human-Elephant Conflict	500 Nos.	
6	Provision of high powered torches at Division Office, Bonai Forest Division for regular tracing of movement of elephants in different Range and subsequent distribution at community level	500 Nos.	
7	Infrastructure Support- One computer with printer (All in One) in Division Office, Bonai Forest Division along with proper internet connectivity facility	LS	
8	Provision of awareness campaigning (fire mitigation measures, wildlife protection, forest protection, biodiversity management, pollution mechanism etc. through LED display at Division Office and other necessary locations	LS	

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9	Provision of four wheeler vehicle along with its POL as well as maintenance costs and remuneration (as per Government approved high skilled labour rate for the concerned financial year) of driver at Division Level, Bonai Forest Division for monitoring wildlife protection and other forest related activities	01 No.	
10	Jana Surakhya Gaja Rakhya in five villages= 10 Km (2Km in each), either through VSS/Community/Private Person and its maintenance (100% cost to be borne by User Agency including beneficiaries contribution)	10 Km	
11	Support to Training center cum GIS Cell of the RCCP's Office, Rourkela Circle (Procurement of GIS monitoring equipment and other necessary accessories, engagement of GIS assistant)	LS	
12	Establishment of Crime Control Cell at Division Office, Bonai Forest Division	LS	


 Divisional Forest Officer
 Bonai Division

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

**Table 5.2: Financial provision of works in Zone of Influence
Implemented by Bonai Forest Division**

Sl. No.	Management Interventions	Area in ha./Unit in no./RKM	Unit cost (RS. in Lac.)	Total Amount (Rs. in Lac.)
1	Protection & Enforcement Activities			
	(a) Establishment of Anti-Poaching Barrack to support protection activities and elephant monitoring activities (Including water supply, solar light system, boundary facility etc.)	1 No.	40.00	40.00
	(b)(1) Engagement of 10 Squad members for assisting staff in protection, wildlife monitoring and anti-depredation activities (@Rs.333.00 per Manday)- x 10 members x 12 months x 05 years	10 Nos.	60.00	60.00
	X (b)(2) Hired Vehicle Rs. 31,000/- x 12 months x 10 years = Rs. 37.20 Lakhs	01 No	37.20	37.20 X
	X (b)(3) POL for vehicle Rs. 15000/- x 12 months x 10 years = Rs. 18.00 Lakhs	LS	18.00	18.00 X
	(c)(1) Provision of VHF Main station and maintenance upto 05 years	5 Nos.	12.00	60.00 35.00
	(c)(2) Provision of Walkie-Talkies	50 Nos.	0.30	15.00
2	Wildlife Habitat Management			
	(a) Habitat enrichment with plantation of Fruit bearing species/Fodder Plantation	20 ha.	2.15	43.00
	(b) Habitat enrichment with plantation of Bamboo(preferably through bamboo seed balls)	20 ha.	0.30	6.00
	(c) Desilting, Renovation & maintenance of existing water bodies	3 Nos.	3.00	9.00
	(d) Construction of Check dam along the nallah	02 Nos.	15.00	30.00
3	Wildlife Monitoring			
	(a) Procurement of Camera Trap	25 Nos.	0.40	10.00
	(b) Procurement of Monitoring Kits (including Binoculars, Compass, Range Finders, camera etc.)	10 Nos.	0.70	7.00
	X (c) Upgradation of electrical infrastructure to prevent Wildlife Death	LS	30.00	30.00 X

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	(d) Research work (Survey, listing and mapping) of Population of flora & fauna in respect of Bonai Forest Division by engagement of a Research Scholar	LS	20.00	20.00
4	Human Elephant Conflict Mitigation			
	(a) Installation of Solar Street lamp/light in elephant affected villages and its maintenance	100 Nos.	0.40	40.00
	(b) Provision of Elephant Proof Trench	20 RKM	7.00	140.00
	(c) Deployment of Gaja Saathi - A participatory approach (15 units of 05 members each @Rs.50000/unit/year)	15 Nos.	0.50	37.50
	(d) Capacity Building training for Field Staff on Elephant Human Conflict management at Division Office	10 Nos.	2.00	20.00
	(e) Health Monitoring of Wildlife/Immunization of cattle through engagement of one Veterinarian	1 No.	30.00	30.00
	(f) Immunization camp of domestic cattle : Provision of two immunization camps per year for the domestic cattle in the surrounding areas including the cost of medicine, organizing charges etc.	10 Nos.	0.40	4.00
5	Public Awareness and Livelihood Generation Activity through community mobilization			
	(a) Training programme and financial support for Income generating activity through convergence with line dept. like Poultry, Pisciculture, Bee keeping, Duckery, Mushroom cultivation Lac culture, Bamboo article etc.	LS	25.00	25.00
	(b) Training and awareness to EDC/VFMC, in Schools, Village level Volunteers for Wild Life Conservation & Protection	LS	25.00	25.00
6	Engagement of five Data Entry Operator cum MTS at Division Office @ Rs. 20000/month for 05 years	⁰² 05 Nos.	12.00	^{24.00} 60.00
	Total		590.50	766.70
	20% Escalation		118.10	153.34
	Grand Total		708.60	920.04


Divisional Forest Officer
Bonai Division

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

Annual Work Programme:

Details of the flow of funds for different years of the plan for project area are given below: (Rs. in Lakh)

Bonai Forest Division

Sl. No.	Management Interventions	Area in ha./Unit in no./RKM	Total Amount (Rs. in Lac.)	Year wise Financial Target (Rs. In Lac.)				
				1st year	2nd year	3rd year	4th year	5th year
1	Protection & Enforcement Activities							
	(a) Establishment of Anti-Poaching Barrack to support protection activities and elephant monitoring activities (including water supply, solar light system, boundary facility etc.)	1 No.	40.00	40.00	-	-	-	-
	(b)(1) Engagement of 10 Squad members for assisting staff in protection, wildlife monitoring and anti-depredation activities (@Rs.333.00 per Manday)- x 10 members x 12 months x 05 years	10 Nos.	60.00	12.00	12.00	12.00	12.00	12.00
X	(b)(2) Hired Vehicle Rs. 31,000/- x 12 months x 10 years = Rs. 37.20 Lakhs	01 No	37.20	37.20	-	-	-	-
X	(b)(3) POL for vehicle Rs. 15000/- x 12 months x 10 years = Rs. 18.00 Lakhs	LS	18.00	18.00	-	-	-	-
	(c)(1) Provision of VHF Main station and maintenance upto 05 years	5 Nos.	25.00 60.00	20.00 60.00	1.25 @	1.25	1.25	1.25
	(c)(2) Provision of Walkie-Talkies	50 Nos.	15.00	5.00	5.00	5.00	-	-
2	Wildlife Habitat Management							

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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	(a) Habitat enrichment with plantation of Fruit bearing species/Fodder Plantation	20 ha.	43.00	30.50	6.00	5.00	1.50	-
	(b) Habitat enrichment with plantation of Bamboo(preferably through bamboo seed balls)	20 ha.	6.00	6.00	-	-	-	-
	(c) Desilting, Renovation & maintenance of existing water bodies	03 Nos.	9.00	3.00	3.00	3.00	-	-
	(d) Construction of Check dam along the nallah	02 Nos.	30.00	15.00	15.00	-	-	-
3	Wildlife Monitoring							
	(a) Procurement of Camera Trap	25 Nos.	10.00	10.00	-	-	-	-
	(b) Procurement of Monitoring Kits (including Binoculars, Compass, Range Finders, camera etc.)	10 Nos.	7.00	7.00	-	-	-	-
	(c) Up gradation of electrical infrastructure to prevent Wildlife Death	LS	30.00	10.00	10.00	10.00	-	-
	(d) Research work (Survey, listing and mapping) of Population of flora & fauna in respect of Bonal Forest Division by engagement of a Research Scholar	LS	20.00	10.00	10.00	-	-	-
4	Human Elephant Conflict Mitigation							
	(a) Installation of Solar Street lamp/light in elephant affected villages and its maintenance	100 Nos.	40.00	20.00	20.00	-	-	-
	(b) Provision of Elephant Proof Trench	20 RKM	140.00	40.00	40.00	40.00	20.00	-
	(c) Deployment of Gaja Saathi - A participatory approach (15 units of 05 members each@Rs.50000/unit/year)	15 Nos.	37.50	7.50	7.50	7.50	7.50	7.50
	(d) Capacity Building training for Field Staff on Elephant Human Conflict management at Division Office	10 Nos.	20.00	4.00	4.00	4.00	4.00	4.00

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	(e) Health Monitoring of Wildlife/Immunization of cattle through engagement of one Veterinarian	1 No.	30.00	6.00	6.00	6.00	6.00	6.00	
	(f) Immunization camp of domestic cattle : Provision of two immunization camps per year for the domestic cattle in the surrounding areas including the cost of medicine, organizing charges etc.	10 Nos.	4.00	0.80	0.80	0.80	0.80	0.80	
5	Public Awareness and Livelihood Generation Activity through community mobilization								
	(a) Training programme and financial support for Income generating activity through convergence with line dept. like Poultry, Pisciculture, Bee keeping, Duckery, Mushroom cultivation Lac culture, Bamboo article etc.	LS	25.00	10.00	10.00	5.00	-	-	
	(b) Training and awareness to EDC/VFMC, in Schools, Village level Volunteers for Wild Life Conservation & Protection	LS	25.00	10.00	10.00	5.00	-	-	
6	Engagement of five Data Entry Operator cum MTS at Division Office @ Rs. 20000/month for 05 years	05 Nos.	24.00 60.00	4.80 12.00	4.80 12.00	4.80 12.00	4.80 12.00	4.80 12.00	
	Total		590.50	766.70	374.00	171.30	115.30	63.80	42.30
	20% Escalation		118.10	153.34	74.80	34.26	23.06	12.76	8.46
	Grand Total		708.60	920.04	448.80	205.56	138.36	76.56	50.76

Divisional Forest Office,
Keonjhar Division



Divisional Forest Officer
Bonai Division

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

KEONJHAR FOREST DIVISION

To be borne by User Agency

Sl. No.	Para Ref.	Management Interventions	Amount in lakh
1.	A.1	Study on habitat assessment of Asian Elephant and preparing future Elephant Management plan for Champua & Barbil Range of Keonjhar Forest Division by Dr. Mukti Roy [Nature Resource and Conservation Center (NRCC)]	LS
2.	A.2	Jana Suraksha Gaja Raksha in three villages= 6 Km (2Km in each), either through VSS/Community/Private Person. 100% cost to be borne by User Agency including beneficiaries contribution.	


Divisional Forest Officer
Keonjhar Division

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
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KEONJHAR FOREST DIVISION
To be implemented by Forest Division

Sl. No.	Para Ref.	Interventions	Amount in lakh
Wildlife Habitat Improvement			
1.	B.1	Provision to create one water body of size 60m x 40m x 3 m @ Rs. 15 lakhs	15.00
2.	B.2	Vanya Jantu Katha/Awareness	35.00
Protection & Surveillance			
3.	B.3	Gaja Sathi 20 Nos in 4 villages (Rs 50000 ⁴ x20x5)	50.00 10.00
Total			100.00 60.00
20% Escalation			20.00 12.00
Grand Total			120.00 72.00



Divisional Forest Officer
Keonjhar Division

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

Annual Work Programme For Keonjhar Division:

**Details of the flow of funds for different years of the plan for ZoI are
given below (Rs. In Lac)**

Sl. No.	Para Ref	Type of Interventions	y1	y2	y3	y4	y5	Total
1	B.1	Water body	15.00	-	-	-	-	15.00
2	B.2	Awareness	7.00	7.00	7.00	7.00	7.00	35.00
3	B.3	Gaja Sathi	10.00 2.50	10.00 2.10	10.00 2.00	10.00 2.10	10.00 2.00	50.00 10.00
Total			32.00 24.00	17.00 9.00	17.00 9.00	17.00 9.00	17.00 9.00	100.00 60.00
Escalation-20%								20.00 12.00
Grand Total								120.00 72.00


 Divisional Forest Officer
 Keonjhar Division

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

B. Location of the proposed interventions

Location of the above-mentioned interventions have been decided by DFO, Bonai & Keonjhar Forest Division according to availability of space and requirement.

C. Monitoring Committee

There shall be a monitoring committee for proper implementation, planning, site selection providing guidance and review of the activities/interventions. The committee will be headed by the DFO Bonai Forest Division and DFO Keonjhar Forest Division with representative of the Project proponent, Range officers, Foresters as members. ACF (HQ) will be the member Secretary of the committee.

D. Plan period

The plan is for a period of 5 years.

E. Cumulative total of Interventions for both Project Area and Zone of Influence:

The total cost of the conservation plan is Rs. ^{102.50}1040.04 Lakhs (Rs. ^{102.50}920.04 Lakhs for Bonai Forest Division and Rs. ^{120.00}120.00 Lakhs for Keonjhar Forest Division) including cost escalation @ 20%. The entire amount will be deposited by the User Agency in CAMPA.


Divisional Forest Officer
Keonjhar Division


Divisional Forest Officer
Bonai Division

**SITE SPECIFIC WILDLIFE CONSERVATION PLAN FOR CHANDIPOSHI
IRON ORE BLOCK OF M/S RUNGTA MINES LTD.**

*** ABSTRACT OF COST**

Division	Core	Buffer	Total Amount in Lakhs
BONAI		9520.00	9520.00
KEONJHAR		120.00 72.00	120.00 72.00
TOTAL AMOUNT IN LAKH(S)		10640.00 72.00	10640.00 72.00

Rupees Seven crore eighty lakh eighty thousand only
(Rupees Ten Crores Forty Lakhs Four Thousands) Only

[Signature]
 Divisional Forest Officer
 Keonjhar Division

[Signature]
 Divisional Forest Officer
 Bonai Division

Approved

[Signature]
 Principal Chief Conservator of Forests
 (Wildlife) & Chief Wildlife Warden
 Odisha, Bhubaneswar

Countersigned

[Signature]
 Regional Chief Conservator of Forests
 Rourkela Circle, Rourkela

* The plan is for 5 years, and will be reviewed by the DFOs concerned at least one year before expiry of its implementation. The user agency will bear the cost of such plan on its approval.

CHAPTER- 6

ANNEXURE AND MAPS

- a) MAP INDICATING PROJECT AREA WITH 10 K.M. RADIUS. **(PLATE-I)**
- b) MAP INDICATING THE DISTANCE OF PROTECTED AREA TO PROJECT AREA. **(PLATE-II)**
- c) LOCATION OF MINES WITHIN 10 KM RADIUS OF THE PROJECT AREA **(PLATE-III)**
- d) AUTHENTICATED FLORA & FAUNA LIST. **(ANNEXURE-I)**
- e) TERMS OF REFERENCE (TOR) **(ANNEXURE-II)**



ସମନ୍ୱିତ ଆଦିବାସୀ ଉନ୍ନୟନ ସଂସ୍ଥା, ସୁନ୍ଦରଗଡ଼
INTEGRATED TRIBAL DEVELOPMENT AGENCY, SUNDARGARH
 Tel.No. - 06622-273057, Fax - 273057, e-mail- itdasng@nic.in

No. 3835.../ITDA

Date: 24/11/22

To

The Divisional Forest Officer,
Bonai Forest Division, Bonai.

Sub:

Diversion proposal of 83.602 Ha.(206.59 acre) of forest land for non-forest purpose under the forest (Conservation) Act, 1980 ensuring compliance of the STs and Other Traditional Forest Dwellers (FRA) Act, 2006 for Chandiposh Iron Ore Block in village Bad-indipur of Malda GP, Sanua & Sargigarh of Patamunda GP & Teherei of Koira GP under Koira Tahasil by user agency M/s Rungta Mines Limited for mining and ancillary purpose

Sir,

With reference to the letter on the subject cited above, I am to furnish herewith the certificates regarding compliance of Scheduled Tribes and other traditional forest dwellers (Recognition of Forest Right) Act, 2006 in respect of Diversion proposal of 83.602 Ha.(206.59 acre) of forest land for non-forest purpose under the forest (Conservation) Act, 1980 ensuring compliance of the STs and Other Traditional Forest Dwellers (FRA) Act, 2006 for Chandiposh Iron Ore Block in village Bad-indipur of Malda GP, Sanua & Sargigarh of Patamunda GP & Teherei of Koira GP under Koira Tahasil by user agency M/s Rungta Mines Limited for mining and ancillary purpose for taking further course of action at this end.

Enclosure:-

1. FRA Certificate in Form No. II along with land schedule.
2. Gram Sabha Resolutions of village Bad-Indipur, Sargigarh, Sanua & Teherei
3. English version of Gram Sabha Resolutions.
4. Report of Tahasildar, Koida
5. SDLC Proceedings.
6. DLC Proceedings.

Yours faithfully,

[Signature]
Project Administrator,
ITDA, Sundargarh.

Memo No. 3836.../ITDA Date: 24/11/22.....

Copy submitted to the Additional District Magistrate, Sundargarh for favour of kind information.

[Signature]
Project Administrator,
ITDA, Sundargarh.

Memo No. 3837.../ITDA Date: 24/11/22.....

Copy to M/s Rungta Mines Limited for information and necessary action.

[Signature]
Project Administrator,
ITDA, Sundargarh.

Form-II

(for projects other than linear projects and Plantations)

[Rule 6 (3) (e) of Forest (Conservation) Rules 2003 as amended up to date]

Government of Odisha

OFFICE OF THE DISTRICT COLLECTOR, SUNDARGARH


No. 3796./ITDA(FRA) Dated: 22/11/2022

TO WHOM SOEVER IT MAY CONCERN

In compliance of the Rule 6 (3) (e) of Forest (Conservation) Rules 2003 [as amended vide the Forest (Conservation) second Amendment Rules 2014; Forest (Conservation) second Amendment Rules 2014; and Forest (Conservation) Amendment Rules 2016] it is certified that 83.602 Hectares (Bad-indipur village - 1.232 Ha., Sargigarh village - 70.390 Ha., Teherei village- 0.272 Ha. & Sanua village- 11.708 Ha) of forest land proposed to be diverted in favour of M/s Rungta Mines Limited for Mining and ancillary purpose in the district falls within the jurisdiction of Bad-indipur village of Malda GP, Sanua village & Sargigarh village of Patamunda GP & Teherei village of Koira GP under Koira Tahasil. It is further certified that:

- (a) the complete process of recognition and vesting of forest rights under the FRA, 2006 has been carried out for the entire 83.602 Hectares (Bad-indipur village - 1.232 Ha., Sargigarh village - 70.390 Ha., Teherei village- 0.272 Ha. & Sanua village- 11.708 Ha) 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-I to Annexure-VI.
- (b) the proposal for such diversion (with full details of the project and its implications, vernacular/ local language) have been placed before each concerned Gram Sabha or forest-dwellers, who are eligible under the FRA, 2006.
- (c) each of the concerned Gram Sabha (s), has certified that all formalities/ process 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. Copies of certificate issued by the Gram Sabha Resolution of Bad-Indipur, Sanua, Sargigarh & Teherei villages are enclosed as Annexure-I, II, III & IV.
- (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 Sabhas present;
- (e) the diversion of forest land for facilities managed by the Government as required under Section 3 (2) of the FRA have been completed and the Gram Sabhas have given their consent to it;
- (f) the rights of Primitive Tribal Groups and Pre-Agricultural Communities, where applicable have been specifically safeguarded as per Section 3 (1) of the FRA, 2006.

Encl: As above.


(Dr. Gavali Parag Harshad, IAS)
COLLECTOR,
SUNDARGARH

LAND SCHEDULED OF PROPOSED LAND FOR DIVERSION

Sl. No.	Name of village	Khata No.	Plot No.	Kisam	Area in Ha
1	Bad-Indipur	36	190 (P)	Gramya Jungle	0.997
		36	186 (P)	Gramya Jungle	0.233
		36	196 (P)	Gramya Jungle	0.002
				Sub-Total	1.232
2	Sargigarh	55	636/P	Jungle	0.866
		55	629	Jungle	10.747
		56	624/P	Pahad	4.992
		55	618/P	Jungle	13.049
		56	617/P	Pahad	18.291
		56	621/P	Pahad	22.445
				Sub-Total	70.390
3	Teherai	56	665/p	Patra Jungle	0.023
		56	662	Patra Jungle	0.058
		56	640/P	Patra Jungle	0.191
				Sub-Total	0.272
4	Sanua	42	3/P	Jungle	0.221
		43	202/P	Pahad	2.150
		43	201/P	Pahad	6.401
		43	80/P	Pahad	2.936
				Sub-Total	11.708
			Total	83.602	



COLLECTOR,
SUNDARGARH



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 statutory body constituted by Ministry of Environment, Forest & Climate Change under Environment
 (Protection) Act, 1986

SEIAA File No. 403437/765-MINBI/10-2022

Subject: Proposal for Mining of Iron Ore from Chandiposhi Iron Ore Block (Capacity-1.0 Million Tons per Annum (RoM) Iron Ore, Total excavation-1.0945 MTPA including 0.0945 MTPA waste, 2x 250 TPH Mobile crushing and 3x350 TPH Mobile screening plants, in ML area: 131.580 Ha) located at Village-Badaindupur, Sanua, Sargigarh & Tehrei, Tahasil-Koira, District - Sundargarh by M/s Rungta Mines Ltd -Environmental Clearance reg.

Sir,

This has reference to your online proposal No. SIA/OR/MIN/403437/2017 dated 27.10.2022, submitted to SEIAA, Odisha for grant of Environmental Clearance(EC) for mining of iron ore from Chandiposhi Iron Ore Block (Capacity - 1.0 Million Tons per Annum (Rom) Iron Ore, Total excavation- 1.0945 MTPA including 0.0945 MTPA waste, 2x 250 TPH Mobile crushing and 3x350 TPH Mobile screening plants, in ML area-131.580 Ha) located at Village-Badaindupur, Sanua, Sargigarh & Tehrei, Tahasil-Koira, District- Sundargarh by M/s Rungta Mines Ltd filed by Sri HIRAK MAZUMDER, Director in terms of the provisions of the Environment Impact Assessment(EIA) Notification, 2006 under the Environment (Protection) Act,1986 and subsequent amendments thereto.

2. Proposal in Brief:

Proposal No.	SIA/OR/MIN/403437/2022
Date of Application	27.10.2022
File No.	403437/765-MINBI/10-2022
Project Type	EC
Category	B1
Project/Activity including Schedule No.	1(a) Mining of minerals
Name of the Project	Proposal for grant of EC for Mining of Iron Ore from Chandiposhi Iron ore block (opencast mechanized) (Capacity-1.0 Million Tons per Annum (Rom) Iron Ore, Total excavation 1.0945 MTPA including 0.0945 MTPA waste 2x 250 TPH Mobile crushing and 3x350 TPH Mobile screening plants, ML area: 131.580 Ha) located at Village-Badaindupur, Sanua, Sargigarh & Tehrei, Tahasil-Koira, District-Sundargarh, Odisha
Name of the company/Organization	M/s. Rungta Mines Ltd
Location of Project	at Village-Badaindupur, Sanua, Sargigarh & Tehrei, Tahasil-Koira, District -

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	Sundargarh
ToR Date	11.03.2022

3. **Project Details:** The highlights of the proposal as ascertained from the application as submitted by PP and as revealed from proceedings/discussion held during the meeting of SEAC/SEIAA, are given as under.
- This is a proposal of M/s. Rungta Mines Ltd for environmental Clearance of mining of iron ore from Chandiposhi Iron ore block (opencast mechanized) (Capacity - 1.0 Million Tons per Annum (Rom) Iron Ore, Total excavation 1.0945 MTPA including 0.0945 MTPA waste 2x 250 TPH Mobile crushing and 3x350 TPH Mobile screening plants, ML area: 131.580 Ha) At Village: Badaindupur, Sanua, Sargigarh & Tehrei, Tahasil - Koira, District - Sundargarh, Odisha filed by Sri Hirak Mazumder, Director.
 - M/s Rungta Mines Limited was declared as the "Preferred Bidder" for Chandiposhi Iron Ore Block as per auction conducted by Government of Odisha. The Project area comprises of 83.602 ha forest land and 47.978 ha non forest land. The project area is presently a virgin land. The mining plan is already approved by IBM for a period from 2024-25 to 2028-29. As per the estimation of Government of Odisha, total quantity of mineral resources reserved in this area is 47.07 million tonnes. Total 23 mines are working within 10 km study area of proposed Chandiposhi Iron Ore Block of M/s Rungta Mines Ltd.,
 - Location and connectivity: The proposed mine is located in villages of Badaindupur, Sanua, Sargigarh & Tehrei, Tahasil Koira, District Sundergarh, Odisha. The mining lease area falls in the Survey of India Toposheet no. 73 G/5 (open series map F45N5). The area is bounded by Latitude 21°53'20.76434" to 21°54'14.12851" N and Longitude 85°17'16.48253" to 85°18'04.32181" E. The area is well connected by a panchayat road running from Koira to Rugudi through the SE part of the block which finally meets the NH 520 road. The nearest railway station is Jaroli at 13.4 km, NE. The nearest airport is situated at Ranchi, Bhubaneswar and Jharsuguda.
 - Topography: Chandiposhi Iron ore block is located on an area with undulating topography. The topography is predominantly rugged terrain with small hillocks and intervening shallow valleys in central and southern portions. The Tehrei nala basin is present in north and northwestern portion. Plain land used for agriculture is present in northeastern side. There is also a road in the northern portion of the mine lease. The Iron ore block is a virgin area.
 - Mining Lease Area Details: The total mining lease area is 131.580 Ha. The Project area comprises of 83.602 ha Forest land (Revenue + DLC) and 47.978 ha non forest land. Application for seeking Forest Clearance has been submitted and is under process.
 - ToR Details - The Terms of Reference (ToR) for undertaking detailed EIA studies was granted by Ministry vide MOEF&CC's letter no. IA-J-11015/8/2022-IA-II(NCM) dated 11th March 2022.
 - Public Hearing Details – The Public Hearing was held on 03.08.2022 at 10:00 am for Chandiposhi Iron Ore Block at the open ground near Sanindupur Chowk, Village- Sanindupur, Tehsil- Koira, District- Sundargarh. In the public hearing, many people welcomed the project. The major issue raised during public hearing were on generation of

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- employment opportunity, provision of good school & education, water supply facility, establishment of healthcare unit, skill development, etc. The PP has committed to comply the issues raised during public hearing. The Budget for PH commitments is Rs. 9.93 crores.
- (viii) Mining Process - The proposed project will be an Opencast Mechanized Iron Ore Block having production capacity 1.0 MTPA and total excavation will be 1.0945 MTPA (1 MTPA of ROM Iron ore and 0.0945 MTPA of waste/overburden) in a mining lease area and project area of 131.58 ha. The conventional opencast mining is adopted with deep hole drilling and blasting with excavation by hydraulic excavator and dumper combination. Fully mechanized opencast mining method shall be adopted with excavator, loader, dumpers etc. for excavation work. Height & width of individual benches is proposed to be kept as 9m and 15m respectively. The conventional opencast method with utilization of excavator of capacity up to 4.2 m³, dumpers of capacity up to 40 MT, rock-breakers, deep-hole drilling and blasting will be adopted.
- (ix) Green belt - A green belt in the 7.5 m wide safety zone along the periphery of the mine lease has been proposed. Multi-tier green belt shall also be established in a 10m buffer zone along the public road passing through the north of the project as well as Tehrei nala passing through the northwest and north of the project.
- (x) Water requirement - Total water requirement is estimated to be around 251 KLD for the mining operation, which included 187 KLD from surface water and 64 KLD from ground water.
- (xi) Power requirement - Mine will receive power at 200 KVA from the nearby line of TP Western Odisha Distribution Limited. In case of power failure, diesel generators of total capacity 200 KVA will be used.
- (xii) Manpower - The manpower required for the mine in unskilled, semi-skilled, skilled & other categories will be 176 persons of whom 75 will be statutory.
- (xiii) Traffic density survey was conducted at two locations namely, NH-520 near Kashira village (5.2 km, NW) and on road via Sargigarh village (0.5, NE). Traffic volume recorded was 10900 and 428 passenger car units per day, respectively. Based on observed traffic data and existing road width, current utilisation of maximum capacity of the road is 36.3% at NH-520 and 10.7% at Sargigarh.
- (xiv) Baseline study was conducted during December '2021 to Febuary '2022. All the parameters w.r.t to air quality, water quality and soil quality are within the prescribed limits as per the provision of CPCB guidelines.
- (xv) Project cost - Total cost of the project is Rs. 152.00 crores. The PP has allocated a budgetary provision of Rs. 9.96 Crores as capital cost & Rs. 0.865 crores as annual recurring cost towards environmental protection measures.
- (xvi) The Environment consultant M/s Centre for Envotech and Management Consultancy Pvt. Ltd. (CEMC), Bhubaneswar along with the proponent made a presentation on the proposal before the Committee on 05.11.2022.
4. The SEAC have appraised the proposal in its meeting dated 05.11.2022 and have recommended for grant of Environmental Clearance for the project, stipulating various conditions. However, the Environmental Clearance shall be issued by the SEIAA, Odisha after receipt of Stage-I Forest Clearance from the proponent as stipulated in MoEF&CC,

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- Govt. of India office memorandum no. J-11013/41/2006-IA.II(I), dated 09.09.2011 and office memorandum no. J-11013/41/2006-IA.II(I), dated 18th May, 2012. The matter was further examined in the State Environment Impact Assessment Authority (SEIAA), Odisha in its 103rd meeting held on 13th-16th Dec'2022 and the Authority deliberated on the matter and decided that the PP shall submit Stage-I Forest Clearance within 12 months as per MOEF&CC OM No.J-11013/41/2006-IA.II(I) dated 09.09.2011. The PP has submitted the Stage-I Forest Clearance for the project as desired by SEIAA for consideration of EC.
5. This proposal conforms to the item no. 1(a)-'Mining of Minerals in the schedule of EIA Notification, 2006 as amended time to time, and the major mineral extraction project falls under Category B1 as the mining lease area is more than 5ha and less than 250Ha.
 6. The matter was again examined in the State Environment Impact Assessment Authority (SEIAA), Odisha in its 120th meeting held on held on 23.05.2023, recommendation of SEAC and in accordance with the EIA Notification, 2006 and further amendments thereto.
 7. Environmental Clearance (EC) is granted under the provisions of EIA Notification No. S.O. 1533 (E) dated the 14th September, 2006 of the Government of India in the erstwhile Ministry of Environment and Forests, as amended from time to time for "Mining of Iron Ore from Chandiposhi Iron ore block (opencast mechanized) (Capacity- 1.0 Million Tons per Annum (RoM) Iron Ore, Total excavation 1.0945 MTPA including 0.0945 MTPA waste 2x 250 TPH Mobile crushing and 3x350 TPH Mobile screening plants, ML area: 131.580 Ha) located at Village- Badaindupur, Sanua, Sargigarh & Tehrei, Tahasil-Koira, District-Sundargarh by M/s. Rungta Mines Ltd" with the following stipulations (specific and standard), environmental conditions and safeguards.

Stipulations:

A. Specific conditions:

- (i) The proponent shall utilize different grades of iron ore (ROM) and waste generated according to IBM guidelines.
- (ii) The proponent shall carryout compensatory afforestation for the project site.
- (iii) The proponent shall adopt additional measures for dust suppression.
- (iv) Conversion of Gochar / Grazing land involved in lease area shall be made before going for mining activity.
- (v) Rainwater harvesting structures shall be implemented.
- (vi) The lessee shall take adequate safeguard measures to ensure the free flow of the nearby tributaries/nallahs.
- (vii) The EC is limited to secondary crushing and screening operations (dry process) as per approved mining plan. Under no circumstances, the lessee shall carry out any beneficiation activity (wet process) of Low-Grade Ore.
- (viii) All the ores (45-55) and +55 grades shall be used and ores & rejects shall be transported as per approved mining plan for their use. Only temporary stacks shall be operated. The mine shall avoid segregation & generation of fines and flow of silt during rainy session.
- (ix) Green processes like Controlled drilling, Environment friendly blasting, safe transportation and conveying, silt-management shall be followed as per guidelines.

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- (x) The budget of Rs.9.93 Crores(as submitted to SEAC) to address the concerns raised by the public including in the public hearing to be completed within 3 years from the date of start of mining operations. PP shall comply all action plans made for public hearing concerns and make regular maintenance and record the progressive activity outcomes.
- (xi) The proponent shall comply all the specific conditions as recommended by CSIR-NEERI on carrying capacity study (as applicable) & other specific conditions in time bound manner as applicable for the project.

B. Standard Conditions -

I. Statutory compliance:

- (i) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
- (ii) The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.
- (iii) The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, 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 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.
- (iv) This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project,
- (v) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, as applicable to the project.
- (vi) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board.
- (vii) The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.
- (viii) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.
- (ix) The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are

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- surrounded by the mine lease area".
- (x) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of groundwater for the project.
 - (xi) A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.
 - (xii) State Pollution Control Board shall be responsible for display of this EC letter at its Regional Office, District Industries Centre and Collector's office/ Tahasildar's Office for 30 days.
 - (xiii) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF&CC Regional Office for compliance and record.
 - (xiv) The Project Proponent shall inform the MoEF&CC/SEIAA, Odisha for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.
- (I) Air quality monitoring and preservation**
- (i) The Project Proponent shall monitor critical parameters, relevant for mining operations, of air pollution viz. PM₁₀, PM_{2.5}, NO₂, CO and SO₂ etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/1, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main gate of the mine site.
 - (ii) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM₁₀ and PM_{2.5} are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments / machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.
- (II) Water quality monitoring and preservation**
- (i) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a

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- later stage, then PP shall ensure that prior approval from CGWA and SEIAA, Odisha is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.
- (ii) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The water table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Integrated Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- (iii) Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Integrated Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- (iv) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-a-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of SEIAA, Odisha. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data be sent regularly to the Integrated Regional Office, Bhubaneswar of MoEF & CC,Gol, SEIAA, Odisha, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.
- (v) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company.

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- The circular No. J- 20012/1 /2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.
- (vi) The project proponent shall construct retaining wall and settling pond within the lease area. Further, check dams shall be constructed at strategic locations in which rain water passes in rainy season. Finally, the excess supernatant after sedimentation shall be allowed to spill away through stone pitch structure to the nearby valley.
 - (vii) De-silting of agricultural lands in buffer zone and beyond including nearby Nalas/rivers perennially periodically and perpetually caused due to wash up of minerals/OB/dumps shall be done as per SOP submitted. Retaining wall shall be constructed to ensure that no silt after wash up is escaped from the core / buffer zone of the mines.
 - (viii) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Integrated Regional Office, MoEF & CC as a part of compliance in the six monthly compliance report.
 - (ix) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated in an ETP as proposed so as to conform to the notified standards prescribed from time to time, as applicable. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.
 - (x) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF & CC and State Pollution Control Board.
- (III) Noise and vibration monitoring and prevention**
- (i) The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
 - (ii) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.
 - (iii) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The worker engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.
- (IV) Mining Plan**
- (i) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total

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excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of competent authority which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

- (ii) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.
- (iii) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the concerned Integrated Regional Office, Bhubaneswar of MoEF & CC, Gol.

(V) Land reclamation

- (i) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.
- (ii) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
- (iii) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.
- (iv) The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be

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- undertaken for stabilization of the dump.
- (v) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha.
 - (vi) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and topsoil / OB / waste dumps to prevent runoff of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.
 - (vii) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.
 - (viii) The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.
 - (ix) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- (VI) Transportation**
- (i) No Transportation of the minerals shall be allowed in case of roads passing through transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.
 - (ii) The Main haulage road within the mine lease should be provided with a permanent water arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust

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generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

- (iii) Traffic management shall be done as per recommendation of Traffic Management Study Report.
- (iv) The Project Proponent shall provide parking plaza for the heavy vehicles within the lease area as per recommendation of NEERI, if applicable to the project

(VII) Green Belt

- (i) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.
- (ii) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.
- (iii) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.
- (iv) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt and implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

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(VIII) Human health issues, Public hearing & CER

- (i) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.
- (ii) A commitment in form of an undertaking for periodical occupational health checkup of the employee and the local people shall be done through an occupational health expert as per the detailed action plan submitted with the proposal within 6 months from the date of issue of Environmental Clearance.
- (iii) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.
- (iv) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) estimation in Blood; For Inorganic Chromium-Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium needs to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).
- (v) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9. (b) the Final Chest X-Ray compared with the base line

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X-Ray should not show any capacities,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1), Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

- (vi) The Project Proponent shall ensure that 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.
 - (vii) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.
 - (viii) The project proponent shall submit the time-bound action plan to the concerned integrated regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the activities committed during public hearing by the project proponent and as submitted to SEAC, in terms of the provision of the MoEF & CC Office Memorandum No-22-65/2017-IA.III dated 30th September,2020. The action plan shall be implemented within three years of the commencement of the project.
 - (ix) The activities proposed in action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the action plan and within the stipulated time frame. The status report on implementation of action plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration. Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the IRO, Bhubaneswar, MoEF&CC, OSPCCB & SEIAA, Odisha.
- (IX) Miscellaneous**
- (i) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.
 - (ii) The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
 - (iii) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the concerned Integrated

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- Regional Office (IRO), Bhubaneswar of Ministry, SEIAA, Odisha, Central Pollution Control Board and State Pollution Control Board.
- (iv) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.
 - (v) The project proponent shall augment infrastructure on drinking water, health care and education in nearby villages as per time bound action plan submitted.
 - (vi) The project proponent shall obtain permission from DGMS under 106(2b) to carry out blasting operation within the lease area.
 - (vii) It shall be mandatory for the project management to submit six (06) monthly compliance reports on post environmental monitoring in respect of the stipulated terms and conditions in this Environmental Clearance to the State Environment Impact Assessment Authority (SEIAA), Odisha, SPCB & Regional Office of the Ministry of Environment & Forest, Odisha in hard and soft copies on 1st June and 1st December of each calendar year. The proponent shall also upload the six monthly compliance report including results of monitored data, as applicable in the website of the Ministry(www.parivesh.nic.in) for monitoring of EC Conditions.
 - (viii) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the Odisha State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective to the concerned Integrated Regional Office(IRO),Bhubaneswar of MoEF & CC,GoI, Central Pollution Control Board and State Pollution Control Board.
 - (ix) The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
 - (x) The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.
 - (xi) The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act,1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court and any other

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Court of Law relating to the subject matter.

- (xii) This Environmental Clearance (EC) is subject to orders/judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
- (xiii) Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Yours faithfully,


Member Secretary

Copy to:

1. **Joint Secretary (IA Division)**, Ministry of Environment, Forests and Climate Change Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi-110003 for information.
2. **Additional Chief Secretary**, Forests & Environment Dept., Government of Odisha for information.
3. **Member Secretary**, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for information.
4. **Additional Principal Conservator of Forests**, Integrated Regional Office (IRO), Ministry of Environment & Forests, A/3, Chandrasekharpur, Bhubaneswar for information.
5. **Regional Director**, CGWA, South Eastern Region, Bhujal Bhawan, Khandagiri, Bhubaneswar, Pin-751030.
6. **The Director of Mines**, Odisha, Bhubaneswar/DDM, Koira for information and necessary action
7. **Collector & DM**, Sundargarh for information and necessary action.
8. Guard file for record/Website/Parivesh Portal.

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Member Secretary