



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

**NAINI AREA**

**CIN: U10102TG1920SGC000571**

Ref No. :Naini Area/GMO/FDP/Stage-1 Com/2021/658

Date: 15.11.2021

To

**The Divisional Forest Officer,  
Angul Forest Division**

Sir,

Sub: FC Act- Diversion of 783.275 ha of forest land consisting of 643.095 ha of RF in Chhendipada & Kankurupal RF and 140.180 ha of Village Forest land in favour of M/s Singareni Collieries Company Ltd (SCCL) for Naini Opencast Coal Mining Project in Angul Forest Division of District Angul (Odisha) – submission of report on compliance to stipulations in Stage-1 FC approval accorded, request to forward this Compliance report-Reg.

- Ref: i) Proposal No. FP/OR/MIN/30980 / 2017  
ii) MoEF& CC File No. 8-01/2020-FC dated 28.07.2021  
iii) The DFO, Angul Letter No.6079/79/DRP/2020/Dated.06.08.2021  
iv) The DFO, Angul Letter No.6858/79/DRP/2020/Dated.01.09.2021  
v)The DFO, Angul Letter No. 8640/110/DRP/2021/Dated 03.11.2021  
vi) The DFO, Angul Letter No. 8859/110/DRP/2021/Dated 06.11.2021

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With reference to the letter cited above (ii), the MOEF & CC, GOI, has accorded permission for diversion of 783.275 Ha of forest land, which involves 643.095 ha of RF and 140.180Ha of village forest, in favour of Singareni Collieries Company (SCCL) for Naini Open Cast Project, situated in Angul Forest Division.

This order was communicated vide reference 2<sup>nd</sup> and 3<sup>rd</sup> cited with instructions to comply with the stipulation and submit the compliance report condition wise. Accordingly, condition wise compliance report to the conditions stipulated in Stage-I is submitted as below:

Sl. No.	Conditions	Compliance
A.	<b>Conditions which need to be complied prior to submission of compliance report for seeking Stage-II approval</b>	
1.	<b>Compensatory Afforestation (CA):</b>	
i.	The cost of CA at the prevailing wage rate as per CA scheme and the cost of survey.	In compliance to this condition, as per demand raised by the forest

	demarcation and erection of permanent pillars, if required on the CA land, shall be deposited in advance with the Forest Department by the user agency. The cost of CA should include maintenance for 10 years. The scheme may include afforestation of indigenous species with appropriate provision for anticipated cost increase for works scheduled for subsequent years.	department, the SCCL has deposited an amount of Rs. 97,37,99,525/- in ORISSA CAMPA account No. 150825830980795 of Union Bank, Lodi Road, New Delhi vide RTGS UTR No. SBINR12021090640778836 Dt. 06.09.2021 which includes an amount of 23,83,04,300/- towards CA charges. Copy of challan & e pay order details is enclosed as Annexure-I
ii.	The KML files of diverted area, the CA areas, the proposed SMC treatment area and the WLMP area shall be uploaded on the e-Green watch portal with all requisite details.	In compliance to this condition KML files of diverted forest area, the CA areas and SMC treatment area is enclosed in soft copy in a pen drive.
2.	The User Agency shall transfer the funds towards the cost of Net Present Value (NPV) of the forest land being diverted under this proposal from the User Agency as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ petition (Civil) No. 202/1995 and the guidelines issued by this Ministry vide its letter No. 5-3/2007-FC dated 05.02.2009 through online portal of CAMPA account of the State Concerned.	In compliance to this condition, as per demand raised by the Forest department, the SCCL has deposited an amount of Rs. 97,37,99,525/- in ORISSA CAMPA account No. 150825830980795 of Union Bank, Lodi Road, New Delhi vide RTGS UTRNo. SBINR12021090640778836 Dt. 06.09.2021 which includes an amount of 73,54,95,225/- towards NPV. Copy of challan & e pay order details is enclosed as Annexure-I.
3.	Compensatory levies to be realized from the User Agency under the project shall be transferred/deposited, through e-Challan, into the account of CAMPA pertaining to the State concerned through e-portal ( <a href="https://parivesh.nic.in/">https://parivesh.nic.in/</a> ).	All the compensatory levies has been deposited in ODISHA CAMPA account No. 150825830980795 of Union Bank, Lodi Road, New Delhi vide RTGS UTRNo. SBINR12021090640778836 Dt. 06.09.2021. Enclosed as Annexure A-I.
4.	In consultation with the State Forest Department, following schemes/plans shall be prepared and after obtaining approval from competent authority, same will be submitted to the Ministry:	
i.	Mitigative measures to minimize soil erosion and choking of stream, to be implemented within a period of three year of issue of stage-II approval	Detailed scheme with financial out lay of Rs.14,40,66,106.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021. The same will be implemented by the Singareni Collieries Company Ltd., at Project cost. Undertaking has been given, for implementation of the schemes, and enclosed as Annexure A-II.

ii.	For planting of adequate drought hardy plant species and sowing of Seeds, in the appropriate area within the mining lease to arrest soil erosion.	Detailed scheme with financial out lay of Rs. 4,65,53,563.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021. The same will be implemented by the Singareni Collieries Company Ltd., at Project cost. Undertaking has been given, for implementation of the schemes, and enclosed as Annexure A-III.
iii.	For construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour	Detailed scheme with financial out lay of Rs. 4,34,91,712.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021. The same will be implemented by the Singareni Collieries Company Ltd., at Project cost. Undertaking has been given, for construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour, and enclosed as Annexure A-IV.
iv.	To stabilize the overburden dumps by appropriate grading/ benching, which should also ensure angles of repose at any given place is less than 28°.	Detailed scheme with financial out lay of Rs. 1,10,22,131.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021. The same be implemented by the Singareni Collieries Company Ltd., at Project cost. Undertaking has been given, to stabilize the overburden dumps by appropriate grading/ benching, which should also ensure angles of repose at any given place is less than 28°, and enclosed as Annexure A-V.
v.	Top soil management plan.	Detailed scheme with financial out lay of Rs. 3,36,10,774.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021. The same will be implemented by the Singareni Collieries Company Ltd., at Project cost. Undertaking has been given, for Top soil management scheme, and enclosed as Annexure

		A-VI.																		
6.	A plan for plantation and SMC activities will be prepared to restock and rejuvenate the degraded forests (having crown density less than 0.40), if any, located in the area within 100 meter from outer perimeter of the mining lease.	Naini Coal Block is surrounded by Coal Blocks on all the four sides. North- Chhendipada-I Coal Block South- Karadabahal Coal Block East - Bankhoi Coal Block. West -Baitarani East Coal Block. Hence, no degraded forest is available around the boundary of the area proposed for diversion.																		
7.	The User Agency shall prepare a list of existing village tanks and other water bodies with GPS co-ordinates located within five km from the mine lease boundary. This list is to be duly verified by the concerned Divisional Forest Officer. The User Agency shall regularly undertake desilting of these village tanks and other water bodies so as to mitigate the impact of siltation of such tanks/ water bodies. A detailed approved plan for desilting of identified ponds and water bodies to be prepared in consultation with forest department and shall be submitted to MoEF& CC.	Detailed scheme with financial out lay of Rs. 4,01,50,653.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021. The same will be implemented by the Singareni Collieries Company Ltd., at Project cost. Undertaking has been given, for desilting of village tanks as per the scheme, and enclosed as Annexure A-VII. There are 5 main village tanks Longitude& Latitude are as follows. <table border="1"> <thead> <tr> <th>Sl. No</th><th>longitude</th><th>latitude</th></tr> </thead> <tbody> <tr> <td>1</td><td>84°54'18.7 8002"</td><td>21°03'29.5 9216"</td></tr> <tr> <td>2</td><td>84°54'51.9 4296"</td><td>21°03'17.2 0039"</td></tr> <tr> <td>3</td><td>84°51'34.3 0018"</td><td>21°02'02.0 8824"</td></tr> <tr> <td>4</td><td>84°56'30.8 7572"</td><td>21°03'19.8 5258"</td></tr> <tr> <td>5</td><td>84°56'23.8 4867"</td><td>21°04'22.9 4233"</td></tr> </tbody> </table>	Sl. No	longitude	latitude	1	84°54'18.7 8002"	21°03'29.5 9216"	2	84°54'51.9 4296"	21°03'17.2 0039"	3	84°51'34.3 0018"	21°02'02.0 8824"	4	84°56'30.8 7572"	21°03'19.8 5258"	5	84°56'23.8 4867"	21°04'22.9 4233"
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7.	The cost of felling of trees shall be deposited by the User Agency with the State Forest Department.	In compliance to this condition an undertaking has been given, for payment towards cost of tree felling, as and when demanded by the Forest Department. Enclosed as Annexure-A-VIII.																		
8.	State Government shall submit a certificate that no plantation activities has been taken by the Forest department under any scheme/plan/programme in the land proposed for CA in last 10 years.	No plantation has been taken up in the land proposed for CA in last 10 years. A certificate/letter to this effect issued by the DFO, Boudh Forest Division vide letter No. 2939 Dt 08.07.2020 and DFO, Bolangir Forest Division vide letter No. 2447 Dt 16.06.2020 is enclosed. Copy of Letters enclosed Annexure- II & III																		

9.	<b>Wildlife Management Plan:</b>	
i.	A Wildlife/Elephant Management plan, at project cost, shall be prepared by the State Government in consultation with national level institute such as Wildlife Institute of India or Indian Institute of Science and the PCCF (Wildlife) of the State for the protection and conservation of wildlife of the area and to mitigate adverse impacts of coal mining on the elephant population, their movements, etc. for entire coal bearing belt encompassing areas of Deogarh Division alongwith adjoining contiguous forest areas. Comments of the Project Elephant Division of the MoEF&CC (copy enclosed) shall be addressed in the said plan and a copy of approved Plan shall be submitted to the Ministry.	<p>In compliance to this condition, as suggested by the Principal Chief Conservator of Forests (Wildlife) &amp; Chief Wildlife Warden, Odisha, vide letter No. 10807/CWLW-FDWC-FD-0034-2021 dated 05.11.2021 (enclosed as Annexure-IV). M/s The Singareni Collieries Company Limited do hereby undertake to deposit Rs 7,48,49,518/- into the account of CAMPA of the State towards Regional Wildlife Management Plan, as per the demand raised by the DFO, Angul vide letter no. 8859/110/DRP/2021 Dated 06.11.2021(enclosed as Annexure-V).</p> <p>M/s The Singareni Collieries Company Limited further undertakes to bear the differential cost for preparation and implementation of Wild Life/Elephant Management Plan on pro-rata basis as suggested by the Special Secretary to Government, Forest, Environment &amp; Climate Change Department vide letter No. FE-DIV-FLD-0026-2021-19295/FE&amp;CC dated 02.11.2021. An undertaking has been given and enclosed as Annexure-A-IX.</p>
ii.	Cost of implementation of the Wildlife/Elephant Management Plan shall be apportioned among the coal mines as and when allotted in the areas.	In compliance to this condition an undertaking has been submitted for payment towards implementation of the Wildlife/Elephant Management plan as and when demanded by the Forest department and enclosed as Annexure-A-IX.
iii.	Cost of implementation of the provisions of the Wildlife Management Plan, on pro rata basis, shall be deposited into the account of CAMPA of the State.	In compliance to this condition an undertaking has been given for payment towards implementation of the Wildlife/Elephant Management plan as when demanded by the Forest department and enclosed as Annexure-A-IX.
9.	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	The SCCL has already obtained and submitted the NOC under ROFR Act vide reference 1661, Dated 13.09.2019. An undertaking has

	land to be diverted and submit the documentary evidence, 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.	been given for settlement of rights, in term of the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, and enclosed as Annexure-A-X.
10.	The compliance report shall be uploaded on e-portal ( <a href="https://parivesh.nic.in/">https://parivesh.nic.in/</a> ).	The compliance report has been uploaded on e-portal.
B.	<b>Conditions which need to be complied on field after handing over of forest land to the user agency by the State Forest Department and undertaking in this respect shall be submitted prior to Stage-II approval</b>	
1.	Legal status of the diverted forest land shall remain unchanged.	In compliance to this condition an undertaking has been given, for maintaining the legal status of the diverted forest land as it is. The legal status will remain as Forest. Enclosed as Annexure-B-I.
2.	CA over degraded forest land, double in extent to the forest land being diverted, shall be raised by the State Forest Department at the project cost within three years from the date of grant of Stage - II approval.	SCCL has deposited an amount of Rs. 97,37,99,525/- in ORISSA CAMPA account No. 150825830980795 of Union Bank, Lodi Road, New Delhi vide RTGS UTR No. SBINR12021090640778836 Dt. 06.09.2021 which includes an amount of 23,83,04,300/- towards CA charges over degraded forest land. Copy of challan & e pay order details is enclosed as Annexure-B-II. It is for the forest department to take up the plantation as stipulated within time frame.
3.	In addition to the proposed CA, non-forest area equivalent in size to the diverted forest area shall be made available and mutated in favour of the State Forest Department out of the area available immediately after the closure and rehabilitation of mines of M/s SCCL from 2027-28 (or earlier) onwards, as already intimated by M/s SCCL vide their letter no. CMD/PS/H/129 dt.29.09.2020.	In compliance to this condition, the SCCL Board of Directors in its 558 <sup>th</sup> meeting held on 25.09.2021 approved for mutation of non-forest land vide minutes dated 06.10.2021. An undertaking has been given, to mutate non forest area equivalent to the size of the diverted forest area to the State Forest Department after closure and rehabilitation of mines of M/s SCCL, and enclosed as Annexure-B-III.
4.	At the time of payment of the NPV at the present rate, the user agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India.	In compliance to this condition an undertaking has been given, to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India, and enclosed as Annexure-B-IV.
5.	Trees should be felled in phased manner as per the requirement in the approved Mining	In compliance to this condition an undertaking has been given, that

	Plan with prior permission of concerned DFO.	tree felling shall be done in phased manner as per the progressive requirement of the mine as per approved Mining Plan with prior permission of the DFO, Angul, and enclosed as Annexure-B-V.
6.	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 the supervision of the State Forest Department.	In compliance to this condition an undertaking has been given, that all possibility shall be explored for translocation of maximum number of trees identified to be felled and any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department, and enclosed as Annexure-B-VI.
7.	The User Agency shall undertake mining in a phased manner after taking due care for reclamation of the mined over area. The concurrent reclamation 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 to 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 Regional Officer of MoEF&CC may direct for suspension of mining activities till such time such reclamation is satisfactorily executed	In compliance to this condition an undertaking has been given, that mining shall be done in a phased manner after taking due care of reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by SCCL 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, and enclosed as Annexure-B-VII.
8.	<p>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.</p> <p>(i) User agency shall ensure demarcation of safety zone (7.5 meter strip all along the inner boundary of the mining lease area), and its fencing, protection and regeneration by erecting adequate number of 6 feet high RCC boundary pillars inscribed with DGPS coordinates with barbed wire fencing (on both sides) and deploying adequate number of watchers under the supervision of the State Forest Department.</p>	<p>i) The area will be properly demarcated.</p> <p>In compliance to this condition an undertaking has been given, for providing fencing, protection and regeneration of safety zone by erecting adequate number of 6 feet high RCC boundary pillars inscribed with DGPS coordinates with barbed wire fencing (on both sides) and deploying adequate number of watchers under the supervision of the State Forest Department as per the approved</p>

	<p>(ii) 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.</p> <p>(iii) Afforestation on degraded forest land to be selected elsewhere, measuring one and a half times the area under safety zone, shall also be done at the project cost under the supervisions of the State Forest Department. The degraded forest land (DFL) so selected will be informed to the MoEF&amp; CC with shape files before Stage-II approval and afforestation will be done within three years from the date of Stage-II clearance and maintained thereafter in accordance with the approved Plan in consultation with the State Forest Department.</p>	<p>scheme, and enclosed as Annexure-B-VIII.</p> <p>ii) In compliance to this condition an undertaking has been given, to maintain Safety zone as green belt around mining lease and to ensure dense canopy in the area, regeneration shall be taken up in this area by SCCL at project cost under the supervision of the State Forest Department as per the approved scheme, and enclosed as Annexure-B-IX.</p> <p>iii) In compliance to this condition, SCCL has deposited an amount of Rs. 41,74,225.00 in ORISSA CAMPA account No. 150825830980918 of Union Bank, Lodi Road, New Delhi vide RTGS UTR No. SBINR52021110850678029Dt. 08.11.2021 towards charges for afforestation in degraded forest land over one and a half times the area under safety zone as per letter number 8640/110/DRP/2021/Dated.03.11.2021. Copy of challan &amp; bank counter slip is enclosed as Annexure-VI. Afforestation in the degraded forest land identified will be done as per the approved scheme. Degraded forest for this purpose has been selected in Lodhajhari R.F of Kaniha range, Angul Forest Division. Enclosed as Annexure-B-X.</p>
9.	The State Government and the user agency shall ensure that safety zone is maintained as per the prescribed norms.	In compliance to this condition an undertaking has been given, to ensure that safety zone will be maintained as per the approved scheme, and enclosed as Annexure-B-XI.
10.	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	In compliance to this condition an undertaking has been given, to comply with the Hon'ble Supreme Court order on re-grassing, and re-

	mining to restore them to a condition which is fit for growth of fodder, flora, fauna, etc. in a timely manner.	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, and enclosed as Annexure-B-XII.
11.	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 thereunder.	In compliance to this condition an undertaking has been given, that the period of diversion of the said forest land shall be co-terminus with the period of the mining lease granted under the Mines and Minerals (Development & Regulating) Act, 1957 or Rules framed there under, and enclosed as Annexure-B-XIII.
12.	The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required.	In compliance to this condition, in 20 <sup>th</sup> meeting OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 13-14 OCTOBER, 2021 recommended for grant of EC to the Project. An undertaking has been given, that SCCL shall obtain the Environment Clearance as per the provisions of the Environmental (protection) Act, 1986, and enclosed as Annexure-B-XIV.
13.	No labour camp shall be established on the forest land and the User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas.	In compliance to this condition an undertaking has been given, that no labour camp shall be established on the forest land and shall also provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas, and enclosed as Annexure-B-XV.
14.	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 DGPS coordinates.	In compliance to this condition, it is to state that the boundary of the diverted forest land, mining lease and safety zone area, has been demarcated on ground at the project cost, and an undertaking has been given, for erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and GPS coordinates, and enclosed as Annexure-B-XVI.
15.	The layout plan of the mining plan/ proposal	In compliance to this condition an

	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.	undertaking has been given, that 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, and enclosed as Annexure-B-XVII.
16.	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.	In compliance to this condition an undertaking has been given, that 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, and enclosed as Annexure-B-XVIII.
17.	No damage to the flora and fauna of the adjoining area shall be caused.	In compliance to this condition an undertaking has been given, that no damages shall be caused to the flora and fauna of the adjoining area, and enclosed as Annexure-B-XIX.
18.	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.	In compliance to this condition an undertaking has been given, that SCCL shall submit the annual self-compliance report to the State Government, concerned Regional Office and to the Ministry by the end of March every year regularly, and enclosed as Annexure-B-XX.
19.	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.	In compliance to this condition an undertaking has been given, that SCCL shall comply any other condition that 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 enclosed as Annexure-B-XXI.
20.	The user agency shall comply all the provisions of the all Acts, Rules, Regulations, Guidelines, Hon'ble Court Order (s) and NGT Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project.	In compliance to this condition an undertaking has been given, that SCCL 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, and enclosed as Annexure-B-XXII.

21.	Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as prescribed in para 1.21 of Chapter 1 of the Handbook of comprehensive guidelines of Forest (Conservation) Act, 1980 as issued by this Ministry's letter No. 5-2/2017-FC dated 28.03.2019.	In compliance to this condition an undertaking has been given, that SCCL shall not violate any of the conditions mentioned in MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021 and Forest (Conservation) Act, 1980, as issued by Ministry's letter No. 5-2/2017-FC dated 28.03.2019, enclosed as Annexure-B-XXIII.
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Six (06) sets of compliance report as desired are herewith submitted.

It is requested that this compliance report may please be submitted to the MOEF & CC, GOI, through the Principal Chief Conservator of Forests & HOFF, Odisha, and the State Government, with a request to obtain and communicate final approval for diversion of the area for starting the mining.

Thanking you,

Yours faithfully,

  
Authorized Signatory  
Naini Area, SCCL,  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Copy submitted:

The Principal Chief Conservator of Forests & HOFF, Odisha Forest Department, for favour of information please.

The Principal Chief Conservator of Forests & Chief Wildlife Warden, Odisha Forest Department, for favour of information please. It is requested that orders may be accorded to the suitable agency/ WII for preparation of the Wildlife/Elephant Management Plan.

The Additional Principal Chief Conservator of Forests & Nodal Officer (FC), Odisha Forest Department, for favour of information please.

The Inspector General of Forests (FC), Ministry of Environment, Forests & Climate Change, GOI, New Delhi, for favour of information please.

The Deputy Director General, Ministry of Environment, Forests & Climate Change, GOI, Regional Office, Bhubaneswar, for favour of information please.

The Regional Chief Conservator of Forests, Angul, Odisha Forest Department, for favour of information please.

Yours faithfully

  
Authorized Signatory  
Naini Area, SCCL  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Welcome : SINGARENI COLLIERIES CO LTD. (10533) [Know More](#)

Md Rihana

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## e-PayOrder Details

## e-PayOrder Details

e-PayOrder Number CRC4016888

Debit Status Success

06-Sep-2021

ORRISA CAMPA

Ninety Seven Crores Thirty Seven Lacs Ninety Nine Thousand Five Hundred  
and Twenty Five only

97,37,99,525.00

00000052095898948

COMMERCIAL BRANCH, HYDERABAD  
GVRSL GANESH  
MAKER  
\*CRC4016888\*P.Madhu  
Authorizer 1E.Naresh  
Authoriz

Counterfoil Description 22046281

Transaction Type RTGS Funds transfer

GSTIN Number --

## Debit Account Details

Account No.	Branch	Amount
00000052095898948	COMMERCIAL BRANCH, HYDERABAD	97,37,99,525.00

## Credit Account Details

Beneficiary Name/Account No.	Bank/Branch/IFSC Code	Amount	Credit Status	UTR No.
ORRISA CAMPA/150825830980795	NEW DELHI LODHI COMPLEX/NEW DELHI LODHI COMPLEX/UBIN0903710	97,37,99,525.00	Success	SBINR12021090640778836

General Manager  
Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Main Area, Angul, Odisha-759122

OFFICE OF THE DIVISIONAL FOREST OFFICER ; ANGUL DIVISION: ANGUL.

To Letter No. 6079/79/DRP/2020/Dated. 6.8.21  
The General Manager  
Singrani Collieries Co Ltd, Naini Area Angul  
H.No.129 Mishrapada, Angul  
At/Po-Dist-Angul, Odisha-Pin-759122

Sub:- Proposal for diversion of 783.275 ha forest land for Naini open cast project (Coal Mine) of M/S the Singareni Collieries Company Ltd consisting of 643.095 ha (Chhendipada-Ankurpal) Reserve Forest and 140.180 ha revenue forest land of Chhendipada Range, Angul District.

Ref: 1. Proposal No. FP/OR/MIN/30980 / 2017  
2. No. 8-01/2020-FC dt. 28.07.2021 of GoI, MoEF & CC, (Forest Conservation Division) Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, new Delhi.  
3. Memo No.13490 dt.3.8.2021 of Special Secy. to Govt. of Odisha F&E & CC Deptt.

Sir,


With reference to the above cited letter on the subject, it is to inform that the Govt. of India MOEF & CC vide their letter No. 8-01/2020-FC dt. 28.07.2021 have accorded in principle approval under section -2 of the Forest (Conservation) Act, 1980 for non forestry use 783.275 ha forest land for Naini open cast project (Coal Mine) of M/S the Singareni Collieries Company Ltd of Chhendipada Range, Angul District.

Hence, as per the condition No. A (2) of the approval order by GOI, MOEF, you are requested to deposit an amount of = Rs 73,54,95,225/- towards the cost of NPV for approved non forestry use of 783.275 ha of forest land as per the calculation given below in the. Ad-hoc CAMPA in the saving Bank Account No. 520101263743655, Corporation Bank, Lodhi Complex, Ground Floor, Block No. 11, CGO Complex, Lodi Road New Delhi through "e" payment immediately and intimate the same to the undersigned for taking further action in the matter.

Forest land involved	783.275 ha
Density of forest land	0.4
Eco value class	I
Rate of NPV applicable	Rs. 9,39,000/- per ha

Amount of NPV to be deposited Rs. 9,39,000/- X 783.275 ha = Rs. 73,54,95,225/-  
(Rupees Seventy three Crore fifty four lakh ninety five thousand two hundred twenty five) only

Yours faithfully

  
Divisional Forest Officer

Angul Division

(PTO)

//2//

Memo No. 6080 / Dated. 6.8.21

Copy forwarded to the Regional Chief Conservator of Forests, Angul Circle for favour of information and necessary action with reference to memo No. 13488 dt. 03.08.2021 of Special Secretary to Govt. of Odisha F,E & CC Deptt.

M. S. B. 1914  
Divisional Forest Officer  
Angul Division

Memo No. 6081 / Dated. 6.8.21

Copy forwarded to the Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, F.C. Act, O/o the Principal Chief Conservator of Forests, Odisha for favour of information and necessary action with reference to his memo 13486 dt. 03.08.2021 of Special Secretary to Govt. of Odisha F,E & CC Deptt.

M. S. B. 1914  
Divisional Forest Officer  
Angul Division

Memo No. 6082 / Dated 6.8.21

Copy forwarded to the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha for favour of information and necessary action with reference to his memo 13487 dt. 03.08.2021 of Special Secretary to Govt. of Odisha F,E & CC Deptt.

M. S. B. 1914  
Divisional Forest Officer  
Angul Division

OFFICE OF THE DIVISIONAL FOREST OFFICER ; ANGUL DIVISION:ANGUL.

Letter No. 6858/79/DRP/2020/Dated. 01.09.2021

To

The General Manager  
Singrani Collieries Co Ltd, Naini Area Angul  
H.No.129 Mishrapada, Angul  
At/Po-Dist-Angul, Odisha-Pin-759122

Sub:-

Proposal for diversion of 783.275 ha forest land for Naini open cast project(Coa Mine) of M/S the Singareni Collieries Company Ltd consisting of 643.095 ha (Chhendipada-Ankurpal )Reserve Forest and 140.180 ha revenue forest land o: Chhendipada Range ,Angul District.- **Deposit of approved Comp. Affn. amount in CAMPA Fund.**

Ref:

1. Proposal No. FP/OR/MIN/30980 / 2017
2. No. 8-01/2020-FC dt. 28.07.2021 of GoI, MoEF & CC,
3. Memo No.14319 dt.23.8.2021 of PCCF, Odisha.
4. This Office Letter No. 6623 dt. 24.08.2021.

Sir,


With reference to this office letter No. 6623 dt. 24.08.2021 on the above captioned subject , it is to inform that the revised demand is raised as per approval of the scheme for Comp. Afforestation in respect of your above project has been technically approved by the Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, F.C. Act vide his memo No. 14319 dt. 23.08.2021 (copy enclosed) with a financial out lay of Rs. 8,11,16,800/- (Rupees Eight Crore eleven lakhs sixteen thousand eight hundred) only in respect of Balangir Forest Division and Rs.15,71,87,500/- (Rupees Fifteen Crore seventy one lakhs eighty seven thousand five hundred) only in respect of Boudh Forest Division) as furnished below .

Name of the Division	Comp. Afforestation land identified	Area in Ha.	Amount technically approved by PCCF, Odisha.
Balangir Forest Division	Tikhari RF	565.00	Rs. 8,11,16,800.00
Boudh Forest Division	Bankamundi RF	542.00	Rs.15,71,87,500.00
	Goudadei RF	460.00	
	<b>TOTAL</b>	<b>1002.00</b>	<b>Rs.15,71,87,500.00</b>
<b>GRAND TOTAL</b>		<b>1567.00</b>	<b>Rs.23,83,04,300.00</b>

Hence, as per the condition No. A (2) of the approval order by GOI, MOEF, you are requested to deposit an amount of Rs. 23,83,04,300 (Rupees Twenty three Crore eighty three lakh four thousand three hundred )only towards the cost of Comp. Afforestation in Ad-hoc CAMPA in the saving Bank Account No. 520101263743655 , Corporation Bank, Lodhi Complex, Ground Floor, Block No. 11, CGO Complex, Lodi Road New Delhi through "e " payment immediately and intimate the same to the undersigned for taking further action in the matter.


Further, you are requested to provide two four wheeler vehicles in kinds at the cost of 12 lakh each vehicle to the concerned Divisional Forest Officers as per the above scheme approved by the PCCF,FD& NO Fct.

Yours faithfully

  
Divisional Forest Officer  
✓ Angul Division

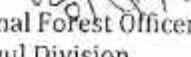
Memo No. 6859 / Dated. 01.09.2021

Copy forwarded to the Divisional Forest officer, Balangir Forest Division/ Divisional Forest Officer, Boudh Forest Division for information and necessary action in continuation to this office memo No.6624 dt. 24.08.2021.

  
Divisional Forest Officer  
✓ Angul Division

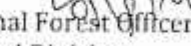
Memo No. 6860 / Dated. 01.09.2021

Copy forwarded to the Regional Chief Conservator of Forests, Angul Circle for favour of information and necessary action in continuation to this office memo No.6625 dt. 24.08.2021.

  
Divisional Forest Officer  
✓ Angul Division

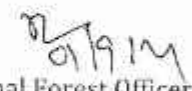
Memo No. 6861 / Dated. 01.09.2021

Copy forwarded to the Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, F.C. Act, O/o the Principal Chief Conservator of Forests, Odisha for favour of information and necessary action in continuation to this office memo No.6626 dt. 24.08.2021.

  
Divisional Forest Officer  
✓ Angul Division

Memo No. 6862 / Dated. 01.09.2021

Copy forwarded to the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha for favour of information and necessary action in continuation to this office memo No.6627 dt. 24.08.2021.

  
Divisional Forest Officer  
✓ Angul Division



OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS, ODISHA  
ARANYA BHAWAN, BHUBANESWAR-23.

Memo No. 14319 /9F(MG)- 380/2019  
Dated, BBSR, the 23<sup>th</sup> August, 2021

To

The Divisional Forest Officer,  
Angul Forest Division

**Sub:** Proposal for non-forestry use of 783.275 ha of forest land consisting of 643.095 ha of RF in Chhendipada & Kankurupal RF and 140.180 ha of village forest land in favour of M/s Singareni Collieries Company Ltd. for Nani Opncast Coal Mining Project in Angul Forest Division of District Angul (Odisha).

**Ref:** Memo No.13488/FE & CC dated 03.08.2021 of Special Secretary to Government in FE & CC Department.

In inviting a reference to the above cited correspondence of Special Secretary to Govt., in FE & CC Deptt. to your address, you are requested to take necessary action in the matter at its earliest. The Financial outlay for CA Scheme over an area of 565.00 ha of degraded forest land identified in Tikhari RF under Balangir Forest Division and Compensatory Afforestation Scheme over an area of 1002.00 ha of degraded forest land identified in Bankamundi RF over 542.00 ha and 460.00 ha in Goudadei RF under Boudh Forest Division pertaining to the above project amounting to Rs.8,23,16,800/- (Rupees Eight Crore twenty three lakhs sixteen thousand eight hundred) only and Rs.15,83,87,500/- (Rupees Fifteen Crore eighty three lakhs eighty seven thousand five hundred) only respectively have been technically approved by Addl. PCCF (FD & NO, FC Act) at the wage rate of Rs.311.00/- per man day with 10 years maintenance. The approved financial outlays of the above project are enclosed herewith for information and necessary action.

Further, you are requested to raise the demand of all the compensatory levies on the user agency for payment through web portal of MoEF & CC and submit the deposit particular (in prescribed CAMPA format) of the amount paid pertaining the above project.

In view of above, you are requested to furnish the required compliance as stipulated in conditions imposed by GoI, MoEF & CC (FC Division), New Delhi in their 'Stage-I/in-principle' approval order No. 8-01/2020-FC dated 28.07.2021 and report on violation of FC Act, 1980 if any vide their letter under reference to this office immediately, through your RCCF for onward transmission to Government of India, MoEF & CC, New Delhi.

This is urgent.

Encl: As above

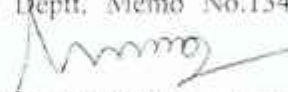
  
Addl. Principal Chief Conservator of Forests  
Forest Diversion & Nodal Officer, FC Act

P.T.O.

0/C

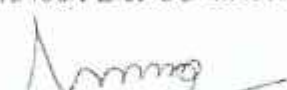
Memo No. 14320 Dt. 23.8.2021

Copy forwarded to the Principal Chief Conservator of Forests, (WL) & CWLW, Odisha for information & necessary action with reference to F&E Deptt. Memo No.13487/FE & CC dt.03.08.2021 to his address.

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

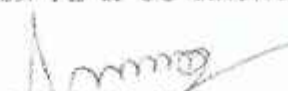
Memo No. 14321 Dt. 23.8.2021

Copy forwarded to the Regional Chief Conservator of Forests, Angul Circle for information & necessary action with reference to F&E Deptt. Memo No.13488/FE & CC dt.03.08.2021 to his address.

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


Memo No. 14322 Dt. 23.8.2021

Copy forwarded to Steel & Mines Department/ Director Environment, FE & CC Department/ Member Secretary, SPCB, Odisha/ Collector, Angul for information & necessary action with reference to FE & CC Deptt. Memo No.13489/ FE & CC dt.03.08.2021 to their address.

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


Memo No. 14323 Dt. 23.8.2021

Copy forwarded to the General Manager, Singareni Collieries Company Ltd., Naini Area, Angul Odisha for information and necessary action with reference to FE & CC Deptt. Memo No.13490/FE & CC dt.03.08.2021 to his address.

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

Memo No. 14324 Dt. 23.8.2021

Copy forwarded to Spl. Secretary to Government, F&E Department for information and necessary action with reference to that Deptt. letter No.10F (Cons) 123/2019-13486/FE & CC dated 03.08.2021.

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

7/c

Revised Financial Outlay for **Compensatory Afforestation Scheme** over **565.0 ha** of degraded forest land identified in **Tikhari RF** under **Balangir Forest Division** against diversion of **783.275 ha** forest land for **Naini Coal Mine** in **Angul District** by **M/s Singareni Collieries Company Ltd. (SCCL)**

(Wage Rate @ Rs.311/- per MD)

Sl. No.	Description	Amount (Rs.)
<b>A.</b>	<b>PLANTATION ACTIVITIES: (To be deposited in Adhoc-CAMPA)</b>	
1.	Cost of ANR Plantation @ 800 Plants per ha over 565.0 ha in Tikhari RF @ Rs.86.647.89 per ha with 10 years maintenance	4,89,56,058.00
2.	Cost of Vegetative fencing @ 126 mt per ha over 565.0 ha @ Rs.138/- per mt	98,24,220.00
	<b>Total</b>	<b>5,87,80,278.00</b>
3.	15% of the total plantation cost towards Entry Point Activity/ Incentive to VSS including monitoring & evaluation	88,17,042.00
	<b>Total</b>	<b>6,75,97,320.00</b>
4.	Add Escalation Cost (20%)	1,35,19,464.00
	<b>Total (A)</b>	<b>8,11,16,784.00 Or rounded off to 8,11,16,800.00</b>
<b>B.</b>	<b>INFRASTRUCTURE (To be provided in kinds):</b>	
5.	One four wheeler vehicle to be provided by the User Agency for monitoring of Compensatory Afforestation	12,00,000.00
	<b>Total (B)</b>	<b>12,00,000.00</b>
	<b>Grand Total (A+B)</b>	<b>8,23,16,800.00</b>

(Rupees Eight Crore twenty three lakhs sixteen thousand eight hundred) only

Technically Approved

  
 Additional Principal Chief Conservator of Forests  
 Forest Diversion & Nodal Officer, FC Act  
 Addl. Principal Chief Conservator of Forests  
 (Forest Diversion & Nodal Officer, FC Act)  
 B/o the P.C.C.F., Odisha, Bhubaneswar

Financial Outlay for Compensatory Afforestation Scheme over 1002.0 ha of degraded forest land identified in Bankamundi RF over 542.0 ha and 460.0 ha in Goudadei RF under Boudh Forest Division against diversion of 783.275 ha forest land for Naini Coal Mine in Angul District by M/s Singareni Collieries Company Ltd. (SCCL)

(Wage Rate @ Rs.311/- per MD)

Sl. No.	Description	Amount (Rs.)
<b>A.</b>	<b>PLANTATION ACTIVITIES: (To be deposited in Adhoc-CAMPA)</b>	
1.	Cost of ANR Plantation @ 800 Plants per ha over 1002.0 ha (Bankamundi RF 542.0 ha + Goudadei RF 460.0 ha) @ Rs.86,647.89 per ha with 10 years maintenance	8,68,21,186.00
2.	Cost of Vegetative fencing @ 126 mt per ha over 1002.0 ha @ Rs.138/- per mt	1,74,22,776.00
	<b>Total</b>	<b>10,42,43,962.00</b>
<b>3.</b>	<b>Soil Conservation Measures</b>	
	(i) Cost of LBCD of size (Length 5 mt., Height 1 mt., Top Width 1 mt., Bottom Width 7 mt., Apron 1 mt.) of 1100 nos. @ Rs.22,849/- per LBCD (As proposed by DFO)	2,51,33,900.00
	(ii) Cost of staggered trenches of size 2.5 mt X 0.5 mt X 0.5 mt. of 25,911 nos. over 1002.0 ha @ Rs.62.20 per staggered Trench	16,11,664.00
	<b>Total</b>	<b>13,09,89,526.00</b>
4.	Add Escalation Cost (20%)	2,61,97,905.00
	<b>Total (A)</b>	<b>15,71,87,431.00</b> <b>Or rounded off to</b> <b>15, 71,87,500.00</b>
<b>B.</b>	<b>INFRASTRUCTURE (To be provided in kinds):</b>	
5.	One four wheeler vehicle to be provided by the User Agency for monitoring of Compensatory Afforestation	12,00,000.00
	<b>Total (B)</b>	<b>12,00,000.00</b>
	<b>Grand Total (A+B)</b>	<b>15,83,87,500.00</b>

(Rupees Fifteen Crore eighty three lakhs eighty seven thousand five hundred) only

Technically Approved

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

Principal Chief Conservator of Forests  
(Forest Diversion & Nodal Officer, FC Act)  
O/o the P.C.C.F., Cuttack, Bhubaneswar



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

CIN: U10102TG1920SGC000571

75  
AZADI KA  
AMR Mahotsav

Refax: (06764) 234021

e-mail: gm\_naina@scclmines.com  
scclnainiarea@gmail.com

Dt: 01.11.2021

Ref No.: Naini Area/GMO/FDP/2021/ 603

To,

The Divisional Forest Officer,  
Bolangir Forest Division

Sir,

Sub: Proposal for diversion of 783.275 Ha of Forest land in Chhendipada Range Angul Division for Naini coal Block (Open Cast) under Angul District, Odisha for Singareni Collieries Co. Ltd. (SCCL)- **Handing over the four wheeler vehicle in kinds as per the CA scheme approved by the PCCF, FD & NO FC Act - Reg.**

- Ref: 1. Proposal No. FP/OR/MIN/30980/201  
2. Demand Notice Letter No. 6858/79/DRP/2020 Dated 01.09.2021 of DFO, Angul  
3. Your letter No. 5025/4F-Misc dtd 09.09.2021  
4. Your letter No. 5666/4F-Misc Dated 18.10.2021

With reference to the letters above cited, the Singareni Collieries Company Ltd., is pleased to handover the Mahindra Scorpio S-11 Vehicle as per the CA Scheme approved by the PCCF, FD & NO, FC Act, Odisha for use in monitoring and evaluation of the compensatory afforestation to be undertaken in Bolangir Division towards diversion of 783.275 Ha of Forest land in Chhendipada Range, Angul Division for Naini coal Block under Angul District, Odisha for Singareni Collieries Co. Ltd. (SCCL).

As intimated vide letter 4<sup>th</sup> cited, the vehicle has been registered in the name of Divisional Forest Officer, Bolangir Forest Division. (Reg. No. - OD03V3393)

It is requested to kindly acknowledge the receipt of the Mahindra Scorpio S-11 model vehicle for the purpose of office record.

Thanking You,

Yours faithfully,

*Received the vehicle.*

*Nitish*  
01/11/2021  
Divisional Forest Officer  
Bolangir Forest Division

*Phadke*  
General Manager  
Naini Area, SCCL



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA  
NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE-A-I

## UNDERTAKING

MoEF & CC File No.8-01/2020-FC Dt. 28.07.2021

### **Condition No. A (3)**

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

### **Compliance to Condition No. A (3)**

In compliance to this condition, M/s The Singareni Collieries Company Limited has deposited Rs. 97,37,99,525/- in ODISHA CAMPA account No. 150825830980795 of Union Bank, Lodi Road, New Delhi vide RTGS UTRNo. SBINR12021090640778836 Dt. 06.09.2021 through e-challan, into the account of CAMPA pertaining to the State concerned through e-portal (<https://parivesh.nic.in/>).

Further, SCCL undertake to pay any additional compensatory levies if it is demanded by the Forest and Environment Department due to cost escalation, enhancement of labour cost or any other matter in future during implementation of the project.

  
**Authorized Signatory**  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 18.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- A-II

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021

### **Condition No. A 4(i)**

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

### **Compliance to Condition No. A 4(i)**

In compliance to this condition, detailed scheme with financial out lay of Rs.14,40,66,106.00 has been prepared and enclosed which is approved by RCCF, Angul Circle, vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021 and M/s The Singareni Collieries Company Limited do hereby undertake that 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. (Approved scheme with financial out lay of Rs.14,40,66,106.00 is enclosed.)

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 18.11.2021



**Scheme**

**For**

**MITIGATIVE MEASURES TO MINIMIZE SOIL  
EROSION AND CHOKING OF STREAMS**

**In compliance**

**with**

**Condition No.A- 04 (i) of**

**Stage-I Forest Clearance Granted**

**Vide Letter No.8-01/2020-FC, Dated.28.07.2021**

**of Govt. of India, Ministry of Environment, Forest & CC,**

**New Delhi.**

**for**

**Diversion of 783.275 Ha of Forest Land**

**(including Safety Zone of 9.098 Ha.)**

**Within Total Lease Area of 912.799 Ha.For Naini Opencast Coal  
Mining Project**

**of**

**M/S Singareni Collieries Company Ltd (SCCL)**

**In**

**Chhendipada Tahsil, of Angul Forest-Divn in Angul Dist.**

**Odisha**

## **MITIGATIVE MEASURES TO MINIMIZE SOIL EROSION AND CHOKING OF STREAMS**

### **1. INTRODUCTION**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurpal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District. The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land).

The area approved for grant of mining lease is 912.799 ha. The total forest land is 783.275 Ha. out of which 774.177 Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only.

The Stage-I Forest clearance u/s 2 of FC Act 1980 was granted by MoEF & CC vide their letter No.8-01/2020-FC Dt.28th July 2021 wherein it has been stipulated as per condition no. A-04 (i) for preparation and implementation of a plan containing appropriate mitigative measures to minimise soil erosion and choking of streams.

### **2. LOCATION**

The mining lease area has been covered in the Survey of India topo sheet No.73 C/16 on RF 1:50,000 (2 cm to 1 km) and falls within Angul District of Odisha. The mine spans over an area of 9.13 sq.km between Latitude 21°03'21" and 21°05'23" N and Longitude 84°52'56" and 84°55'17" E. administratively it is under the jurisdiction of Chhendipada Tahasil, Angul district. Mining lease area is approachable from Angul covering a distance of 35 km by a black topped road up to Chhendipada.

The nearest railway station is Angul on Talcher-Sambalpur railway line of East Coast Railway at a distance of 35 km from Mines. This railway line connects Puri to Sambalpur. The nearest airport is Bhubaneswar at a distance of 165.0 K.M. The ML area is in Chhendipada Range of Angul Forest division.

### LOCATION MAP

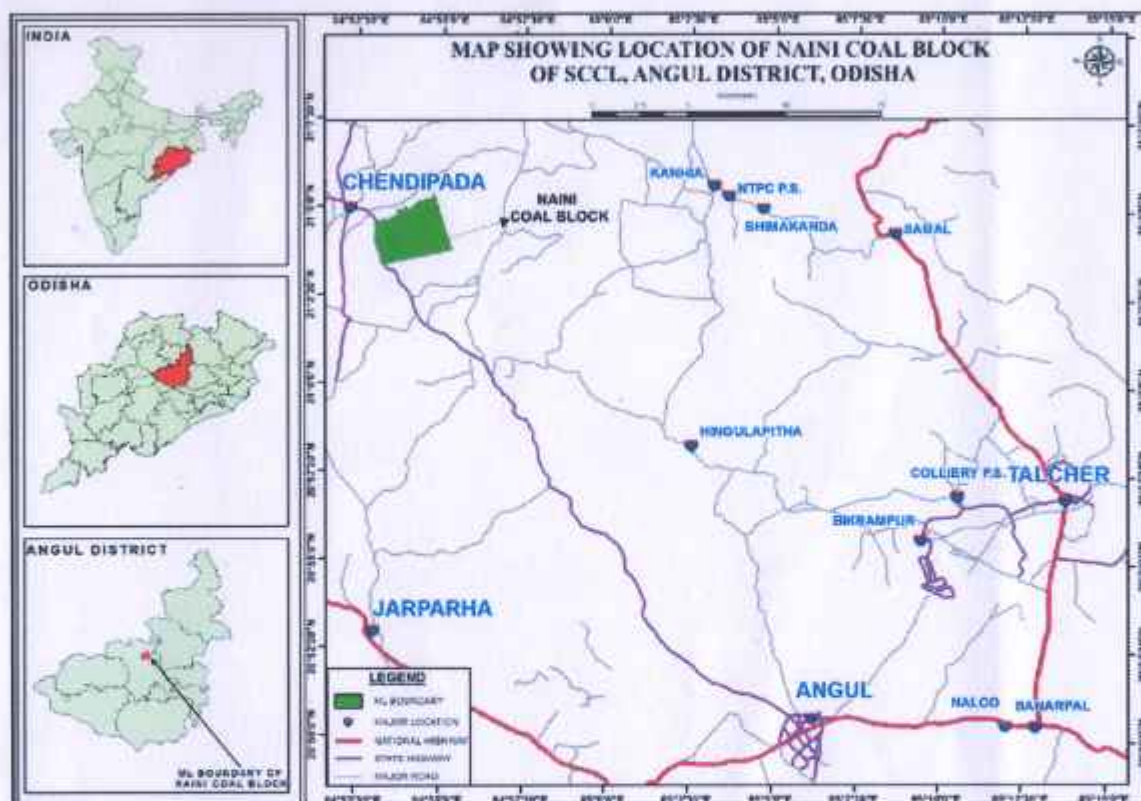


Fig.1: Location Map of Naini Coal Block, SCCL

## **Map of the Project**



**Fig.2: Mining Project Map of Naini Coal Block, SCCL**

### **3. TOPOGRAPHY**

The elevation of the lease area varies from 100 mt. above MSL to 160 mt. above MSL. The area is slightly undulating and almost flat and forms a part of Brahmani river belt (Talcher) Coal Fields. The general slope of the lease area is towards north. Gouduni Nala flows eastwards and is the major drainage outlet of the area. This nala joins Tikra River at a distance of 9 kms NE. Tikra river ultimately joins the river Brahmani.

### **4. LAND USE PATTERN**

Sl. No.	Pattern	Area in (Ha.)		
		Forest	Non-Forest	Grand Total
1	Quarry area			762.414
	a) Back filled area	468.232	11.314	
	b) Excavated void	176.925	105.943	
2	Safety Zone/Rationalisation Area	40.857	5.082	45.939
3	Diversion/below River/Nala/canal (Including Settling tanks)	14.489	4.560	19.049

4	Road & Infrastructure area	40.060	0.833	40.893
	a) Coal Washery including CHP	36.017	0.833	36.850
	b) Mine Service facilities	4.043	0.000	4.043
5	Garland Drains	1.765	0.004	1.769
6	Embankment	12.941	1.788	14.729
7	Green Belt	28.006	0.000	28.006
	<b>Grand Total (in ha)</b>	<b>783.275</b>	<b>129.524</b>	<b>912.799</b>

## 5. DETAILS OF FOREST LAND WITHIN THE LEASE AREA

Forest land to be worked for mining and allied purpose ... 774.177 Ha

Area set aside for Safety Zone ... .. 9.098 Ha  
783.275 Ha

Govt of India, MoEF & CC has approved diversion of forest land of 783.275 Ha. as mentioned in the Stage-I approval.

## 6. SOIL TYPE

The soil type occurring in this area is mostly sandy loam having good soil depth with pH varying from 6 to 8.

## 7. CLIMATE

The climate of this area is tropical with hot and humid summer and short spell of winter. Occasional thunder storm during pre-monsoon season is common. Monsoon sets in from late June and continues to middle of September. Maximum temperature comes to 49<sup>0</sup> c during summer and minimum 10<sup>0</sup> c during winter.

## 8. DRAINAGE

The Gauduni nalla forming the northern boundary of the block flows from south-west to north-east. This is the main drainage in the mining lease area. Kudaposi nalla flows from south to north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nalla flow across the block towards north and join the Gauduni nalla.

However, it is proposed to divert these streams along the boundary of ML and drain into the existing Gauduni nalla. These three streams are planned to be diverted in consultation with the Water Resources Department of the State Government.

## 9. EXISTING VEGETATION

The area proposed for diversion includes species as detailed below:

Local Name	Botanical Name
Bahada	<i>Terminalia tomentosa</i>
Bhalia	<i>Senicarpus anacardium</i>
Gambhari	<i>Gmelina arborea</i>
Chakunda (Sana)	<i>Cassia siamea</i>
Jamun	<i>Syzygium cumini</i>
Babul	<i>Acacia nilotica</i>
Eucalyptus	<i>Eucalyptus hybrid</i>
Karada	<i>Cleistanthus collinus</i>
Siris	<i>Albizzia lebeck</i>
Kendu	<i>Diospyrus melanoxylon</i>
Krushnachuda	<i>Diloxia regia</i>
Asan	<i>Terminalia alata</i>
Mahula	<i>Madhuca indica / Bassia latifolia</i>
Neem	<i>Azadirachta indica</i>
Karanja	<i>Pongamia pinnata</i>

## 10. Factors responsible for Soil Erosion and Chocking 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.

Besides, the height of the over burden dump will be around 120 m. During rainy season, there will be de-silting and eroded soil will come along with run-off water to the garland drain, which will be finally deposited in the settling pond. Further the runoff water from the

Coal stock pile and Coal mining faces will come along with the eroded soil / Coal particles which will choke the streams.

#### **11. OBJECTIVE OF THE SCHEME:**

The objectives of the proposed Scheme are as follow:-

- To fulfill condition no. A-04 (i) of stage-I approval granted by MoEF & CC vide their Letter no. 8-01/2020-FC Dt. 28.07.2021 which envisage undertaking mitigative measure to minimize soil erosion and choking of stream.
- Prevention of erosion of surface soil.
- Prevention of obstruction of discharge of water in the streams.
- Proper Management of over burden dump to prevent siltation in the stream.
- Minimization of obstruction in natural water sources.
- Proper Management of overburden materials so as to prevent siltation in the down streams.

#### **12. PROPOSED METHODOLOGY:**

To achieve the above objectives, it has been proposed to take up both biological and structural works to prevent erosion of surface soil. The vegetative method is to be adopted mostly in the upper reaches whereas the structural measures in the lower reaches.

#### **DETAILS OF OB DUMPS**

Two OB Dumps are planned for this mine i.e. External Dump (OB1) which will be in operation from 1<sup>st</sup> year to 15 year and internal dump which will be in operation from 11<sup>th</sup> year to 30<sup>th</sup> year and the details of the OB dumps are as furnished below.

#### **External Dump (OB1)**

Land Area	283.71 Ha.
Volume of OB	167.97 M.Cum
Length of Toe Wall are the periphery of the Dump	6742.24 M
Area Available in slopes for grass seedlings	86.39 Ha.

Area available on terraces (30m wide) for plantations	62.286 Ha.
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Internal dump will be in operation from 11<sup>th</sup> year to 30<sup>th</sup> year and the details of the dumps are furnished below.

**Internal Dump (OB2)**

Land Area	479.546 Ha.
Volume of OB	870.070 M cum
Length of toe wall area and the periphery of dump	7787.0 m
Area available in slopes for grass seedling	87.26 Ha.
Area available an terraces (30 m wide) for plantation	63.225 Ha.

The following measures are proposed for OB dump-1 and OB dump-2.

**A. Biological measures**

**i) Plantation and Grass seed sowing**

Soil erosion is moderate in this locality since the forest canopy is having density of less 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 & grass seeds sown broad-cast over an area of **148.676 Ha. (Block plantation – 62.286 Ha. + Grass seed sowing – 86.39 Ha.)** on the surface of safety measures. The over burden dump will have a series of terraces. So it is proposed to make Block Plantation in all the terraces and grass seed sowing on the dump slopes.

The cost norm of Block Plantation has been provided in **Annexure –I**

*The list of species proposed for plantation is as follows*

Sl.	Local Name	Scientific name
1	Amla	<i>Emblica officinalis</i>
2	Karanja	<i>Pongamia glabra</i>
3	Asan	<i>Terminalia alata</i>
4	Kurum	<i>Adina cordifolia</i>
5	Neem	<i>Azadirachta indica</i>
6	Barakoli	<i>Zizyphus gilopyrus</i>
7	Kusuma	<i>Sleicheria oleosa</i>
8	Bel	<i>Aegle marmelos</i>
9	Sunari	<i>Cassia fistula</i>
10	Kasi	<i>Bridelia retusa</i>

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

**ii) Procurement of Seedlings:**

Seedlings of as detailed above shall be purchased from the Forest Dept. Nursery located at Chhendipada. For this we will intimate DFO, Angul and Range Officer, Chhendipada sufficiently ahead.

**iii) Alignment and pitting**

Alignment and pitting will be taken up in the month of November-December at perceptible gaps and Pits of size 45cm x 45cm x 45cm will be dug maintaining a spacing of 2.5mtr x 2.5mtr. and dug up earth will be piled preferably on the northern aspect.

**iv) Actual Planting**

The seedling will be planted in the dugout pits of size 45cm x 45cm x 45cm with spacing of 2.5mtr x 2.5mtr. Plantation should be taken up after first regular shower of monsoon and should be completed by the end of July. Species shall be planted as per suitability of the soil condition. NPK fertilizer @ 30gms per plant should be given as basal dosage. Anti-termite insecticide should also be applied to each pit while planting. Casualty if any noticed will be replaced with the excess seedling procured for the purpose. During second year also casualty replacement will be done for which seedling shall be procured from Forest Dept.'s Nursery.

**v) Weeding, Soil working & Manuring:**

For establishment and better growth of the planted seedlings, weeding, soil working and manuring are necessary. It is prescribed to carry out two weeding, soil working and manuring during first year and one weeding and soil working during second and third year. During the first year and second year first weeding and manuring shall be carried out during August-September and the second one during October-November. First weeding shall be an entire area weeding (scraping) and the second will be of strip weeding along the contour. The weeding of third year will be an area weeding which will be carried out during August – Sept. After each weeding, soil working will be done around each plant at radius of 0.5mtr and manuring of each plant will be done.

**vi) Application of insecticides:**

The plantation site after planting good healthy seedling may cause influx of insects, which usually eat and damage the tender leaves and roots of the plants. To get rid of such insects attack application of the insecticides will be taken up in required doses at the time of planting. Spraying of insecticides, if required, shall be done preferably in a sunny day before forenoon.

The Schedule of operation for preparation of site, pre-planting, planting, post-planting are prescribed herewith.

<b>OPERATIONS- 0th year + 1<sup>st</sup> year</b>	<b>PERIOD OF COMPLETION</b>
i. Advance preparation of site.	Nov.-December
ii. Alignment & Staking of pits	January- February
iii. Digging of pits	February - March
iv. Carriage and planting.	July - August
v. Casualty replacement	August
vi. 1 <sup>st</sup> weeding, soil working, manuring	Aug. – Sept..
vii. Soil & water conservation measure	September - October
viii. 2 <sup>nd</sup> weeding, soil working, manuring	September- October
ix. Fire line tracing	February - March
X Watch & Ward	July to March

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- **Post planting operation in 2<sup>nd</sup> year.**

- a. Casualty replacement, : July – August
- b. 1st weeding, soil working & manuring : August – Sept.
- c. Fire line tracing : February - March
- d. Watch & Ward : Throughout the year

- **3<sup>rd</sup> year.**

- a. Wedding, soil working and application of manure : Aug.-September
- b. Fire line tracing : February - March
- c. Watch & Ward : Throughout the year.

- **4<sup>th</sup> year to 10<sup>th</sup> year.**

- a. Fire line tracing : Feb. - March
- b. Watch & Ward : Throughout the year

- vii) Grass Seed sowing**

The over burden will be subsequently back filled during reclamation. Till then the surface of the over burden need to be protected to prevent soil erosion and choking of streams down below. Grass seeds mixed with sand will be sown broad cast over the surface of the over burden dump. This area contains sandy loam soil in the surface and gravels may come up mixed with Coal during excavation. In such area species like *Heteropogan contortus*, *Chrysopogon fulvas*, *Themeda triendra* and *Cynodon dactylon* will be sown broadcast over 86.39 Ha. (Annexure II)

- B. Structural Measures**

Vegetative means of erosion control are the most feasible and economic measures. However, as the pressure on land will be increasing, it is necessary to bring even highly eroded land under utilization. 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) **Terracing of OB Dump Slope**

It is proposed to construct berm & terraces over a length of **20.762 Km.** 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  $28^{\circ}$ . 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-III**



*Terracing of OB Dumps*

ii) **Plan for 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 **6742 m x 1.5 m bottom/**

1.2 top... Also, there is a provision for maintenance of the retaining wall during the lease period. The cost norm of Retaining wall has been provided in **Annexure IV**



*Picturesque view of Retaining walls*

**iii) Plan for Construction of Garland drain**

A shallow trench (3.0 m wide x 1.5 m deep) will be dug for storage of runoff accumulated for draining surface water before it is released to the natural water course. Details of proposed Garland drain **6742 m L x 3.0m wide x 1.5m depth** shall be constructed during the lease period with location as shown in the map. The cost norm of Garland Drain has been provided in **Annexure V**



*Garland Drain around Waste Dump*

#### **iv) Plan for Construction of Settling Tanks**

It is a process that involves separation of solid material from slurry. 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 **fourteen** settling tanks. Details of proposed Settling Tanks is shown in the map. The cost norm of Settling Tanks has been provided in **Annexure –VI**

#### **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.

#### **v) Plan for Construction of Check Dam**

During monsoon there is heavy on-rush of water as a result, runoff arise from up slope/higher elevation to lower elevation. Hence, attention is to be paid to reduce the

flow velocity of run-off & settle the silts/sediments flown from overburden dumps, haul roads inside the mine and areas cleared of vegetation. **One** check dams will be constructed near proposed dump area. Details of proposed Check Dam is furnished below and location of the said with co-ordinates has been shown in the map. The cost norm of Check Dam has been provided in **Annexure – VII**.



*Check Dam to restrict Soil erosion & silt flow*

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13. **EXECUTING AGENCY**

The Singareni Collieries Company Ltd. (SCCL) being the User Agency will execute the above works at the Project Cost. To facilitate this, the User Agency shall establish its own Executive and Supervision cells along with required infrastructural facilities. In order to maintain the quality of the work in-house supervision through competent personnel shall be entrusted. The entire work shall be carried out in coordination with the office of DFO, Angul Forest Division.

14. **SPECIALIZED CELL**

Name of Executive	Educational Qualification	Present Designation	Expertise
Ravindra Prabhakar D Choudari	Diploma ( Mining Engineering ), 1 <sup>st</sup> Class Mines Manager (Coal)	DY GM/PO	39 years
Brajesh Kumar	BE Mining, 1 <sup>st</sup> Class Mines Manager (Coal)	C.MGR/ADDL MGR	22 years
Manoj Kumar Mishra	AMIE (Mining), MBA, PGDCA, 1 <sup>st</sup> Class Mines Manager (Coal)	Addl. MANAGER	26 years

15. **REQUIREMENT OF FUNDS**

The total cost of the implementation of mitigative measures will be **Rs. 144066106.00** (Rupees Fourteen Crore Forty Lakhs Sixty Six Thousand One Hundred Six Only). The above expenditure will be spent over the lease period. Therefore, budgetary provision will be kept accordingly by the User Agency (SCCL).

  
Authorized Signatory  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

  
Forest Range Officer  
Chhendipada Range  
  
Asst. Conservator of Forests  
Angul Division

Countersigned  
  
Divisional Forest Officer  
Angul Division

**CONSTRUCTION FOR BIOLOGICAL AND STRUCTURAL MEASURES**

**TOTAL COST OF THE PROJECT**


Wage rate Rs.311.00/-

Sl. No.	Description of the Work	Fund required In Rs.
	<b>Biological Measures</b>	
01	Plantation in Block Model 62.286 Ha x Rs. 13,74,543.00	85614785.30
02	Grass seed sowing on the surface of over burden 86.39 Ha x Rs. 21,440.00	18,52,201.60
	<b>Structural Measures</b>	s
03	Cost for erection of 6742m dry toe wall around top soil stock pile	1,69,28,742.00
	<b>Total</b>	<b>104395728.9</b>
04	Escalation 20%	20875145.78
	<b>Total</b>	<b>125274874.680</b>
05	Inspection, Monitoring and Evaluation @15%	18791231.20
	<b>Grand Total</b>	<b>144066105.88</b> <b>Or,</b> <b>144066106.00</b>

**(Rupees Fourteen Crore Forty Lakhs Sixty Six Thousand One Hundred Six Only)**

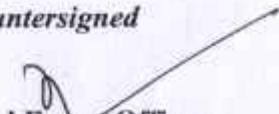
*The Singareni Collieries Company Ltd (SCCL) do hereby undertake to execute the item of works mentioned in this scheme in a phased manner during the lease period at the project cost.*

  
Authorized Signatory  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

  
Asst. Conservator of Forests  
Angul Division

  
Forest Range Officer  
Chhendipada Range

Countersigned

  
Divisional Forest Officer  
Angul Division

APPROVED BY RS. 14,40,66,106/-

  
Regional Chief Conservator  
of Forests, Angul Circ'e.

## BIOLOGICAL MEASURES

### Annexure - I to II

### Annexure – I

**Cost Norm for Block Plantation @ 1600 plants/Ha (18 month old seedling)**

**Wage rate Rs.311.00/-per day**

SI NO.	Item of Work	Preferable period of Execution	Person days	Labour (Rs)	Material (Rs)	Total (Rs)
1	2	3	4	5	6	7
<b>PREVIOUS YEAR (ADVANCE WORK) NURSERY RAISING</b>						
1	Nursery Cost (18 month Old Seedlings) @ Rs. 38.04/- part (Rs. 9.48 to be released) for 1760 seedlings (1600+160)	Nov-March	44	13684	2956.8	16640.8
	<b>Total</b>		<b>44</b>	<b>13684</b>	<b>2956.8</b>	<b>16640.8</b>
2	Monitoring & Supervision charge 5 % of the total cost					832.04
	<b>Grand Total</b>		<b>44</b>	<b>13684</b>	<b>2956.8</b>	<b>17472.84</b>
<b>0th Year (Advance work) pre-planting operation</b>						
1	Survey, Demarcation and pillar posting	Nov/ Dec	2	622	0	622
2.	Site preparation	Nov/ Dec	12	3732	0	3732
3.	Alignment and stacking of pits	Jan/ Feb	2	622	0	622
4.	Digging of pits (45 cm x 45 cm x 45 cm cube)	Feb/Mar	135	41985	0	41985
5.	Nursery cost (18 months old seedling) part @ Rs.38.04/-seedling (part @ Rs. 24.14 for 1760 seedlings (1600+160)	April-March	111.67	34729.37	7698.8	42428.17
	<b>Total</b>		<b>262.67</b>	<b>81690.37</b>	<b>7698.8</b>	<b>89389.17</b>
7.	Monitoring & Supervision charge 5 % of the total cost					<b>4469.45</b>
8.	<b>GRAND TOTAL</b>		<b>262.67</b>	<b>81690.37</b>	<b>7698.8</b>	<b>93858.63</b>
<b>1st Year/Planting Year</b>						
1.	Nursery cost (18 months old seedling) balance @ Rs.4.42 for seedlings	Apr-June	22	6842	915.20	7757.20








1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.4
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.40</b>
<b>9th Year Maintenance</b>						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.4
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.40</b>
<b>10th Year Maintenance</b>						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.4
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.40</b>

400)

Abstract

Year	Person Days	Labour (Rs)	Material (Rs.)	Monitoring & Supervision charge 5% of the total cost	Total Cost (Rs)
Previous year	44	13684.00	2956.80	832.04	17472.84
0th Year	262.67	81690.37	7698.80	4469.46	93858.63
1st Year	388	120668	12707.2	6202.26	140044
2nd Year	409	127199	13406.40	7030.27	147635.70
3rd Year	402	125022	2920.00	6397.10	134339.10
4th Year	368	114448	0.00	5722.4	120170.40
5th Year	368	114448	0.00	5722.4	120170.40
6th Year	368	114448	0.00	5722.4	120170.40
7th Year	368	114448	0.00	5722.4	120170.40
8th Year	368	114448	0.00	5722.4	120170.40
9th Year	368	114448	0.00	5722.4	120170.40
10th Year	368	114448	0.00	5722.4	120170.40
<b>TOTAL</b>	<b>4051.67</b>	<b>1260069.37</b>	<b>39,689.20</b>	<b>64661.38</b>	<b>13,74,543.07</b> <b>Or</b> <b>13,74,543.00</b>


(Rupees Thirteen Lakhs Seventy Four Thousand *Five hundred forty three* Two Hundred Seventeen only)

*20/9/2021*  
  
General Manager  
Authorized Signatory  
Keonjhar Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Countersigned

  
Divisional Forest Officer  
Angul Forest Division  
Angul, Odisha

  
Forest Range Officer  
Chhendipada Range

  
Asst. Conservator of Forests  
Angul Division

A-4(P)

Annexure-IICOST OF GRASS SEED SOWING Per Ha

Wage Rate Rs.311.00/-

Sl No	Purpose	No of Labour / Quantity of materials	Rate (Rs.)	Amount (Rs.)
1	Spreading of good earth and FYM including carriage	20 Nos	311.00	6,220.00
2	Adding FYM and good earth	2 TL FYM	1,000 /TL FYM	4,000.00
		2TL good earth	1,000 /TL Good earth	
3	Cost of grass seed 50Kg/ Per ha.		100/kg	5,000.00
4	Broadcast sowing	20 nos.	311.00	6,220.00
<b>Total</b>				<b>21,440.00</b>

(Rupees Twenty one thousand and four hundred forty only)

20/9/2024  
 General Manager  
 The Singareni Collieries Co. Ltd.  
 (A Govt. Company)  
 Naini Area, Angul, Odisha-759122

Forest Range Officer  
 Chhendipada Range

Asst. Conservator of Forests  
 Angul Division

Countersigned  
 Divisional Forest Officer  
 Divisional Forest Officer  
 Angul Forest Division  
 Angul, Division

Annexure – III

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

Wage rate Rs.311/Day

Sl. No.	Description of items	No	Length	Width	Height	Qty	Unit	Rate	Amount
1	Earth work in hard soil or gravelly soil within 50 mtr initial lead & 1.50 mtr initial lift including rough dressing & breaking clods to Maximum 5.00 cm to 7.00 cm & laying layers not exceeding 0.30 mtr in depth and as per the direction of the Engineer-in-charge.	1	6742	0.7	0.7	CUM	3303.58	167.81	554373.76
2	Filling in foundation and plinth with sand watered and rammed	1	6742	0.7	0.075	CUM	353.955	323.11	114366.4
3	Cement concrete M-10 grade (PCC 1:4:8 for foundation) with crushed broken granite coarse aggregate of size 40mm downgraded mixed in concrete mixture including cost conveyance and royalty of all materials, machineries and labour and laying in head works and canal structures with required lifts and de-lifts as per direction of Engineer-in-charge.	1	6742	0.6	0.075	CUM	303.39	3746.5	1136650.64
4	BRICK WORK for foundation having crushing strength not less than 75 Kg/cm <sup>2</sup> with dimensional tolerance $\pm 8$ percent in cement mortar (1:6) in foundation and plinth per cum.	1	6742	0.5	0.3	CUM	1011.3	3592.4	3632994.12
		1	6742	0.375	0.3	CUM	758.475	3592.4	2724745.59

5	BRICK WORK for S/S, having crushing strength not less than 75 Kg/cm <sup>2</sup> with dimensional tolerance $\pm 8$ percent in cement mortar (1:6) in foundation and plinth per cum.	1	6742	0.25	1	CUM	1685.5	3592.4	6054990.2
6	Concrete for plinth M-20 grade with crushed broken granite coarse aggregate of size 20mm downgraded mixed in batching and mixed plant including cost of all materials, machineries and labour and transportation of mixed concrete.	1	6742	0.25	0.1	CUM	168.55	4496.7	757918.785
7	Concrete for coping M-20 grade with crushed broken granite coarse aggregate of size 20mm downgraded mixed in batching and mixed plant including cost of all materials, machineries and labour and transportation of mixed concrete.	1	6742	0.35	0.025	CUM	58.9925	4496.7	265271.575
Total:									1,52,41,311.1
15241311.1 x 311									1,69,28,741.9
280									Or,
									16928742.00

(Rupees One Crore Sixty Nine Lakhs Twenty Eight Thousand Seven Hundred Forty Two Only)

General Manager  
 The Siliguri Collieries Co. Ltd  
 (A Coal Company)  
 Naini Area, Angul, Odisha-759122

Asst. Conservator of Forests  
 Angul Division

Forest Range Officer  
 Chhendipada Range

Divisional Forest Office  
 Angul Forest Division

Counter signed



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- A-III

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021

### Condition No. A 4(ii)

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

### Compliance to Condition No. A 4(ii)

In compliance to this condition, detailed scheme with financial out lay of Rs. 4,65,53,563.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021 and M/s The Singareni Collieries Company Limited do hereby undertake for planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme. (Approved scheme with financial out lay of Rs. 4,65,53,563.00 is enclosed.)

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 8.11.2021



**Scheme**

**For**

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

**In compliance**

**with**

**Condition No. A-04 (ii) of**

**Stage-I Forest Clearance Granted**

**Vide Letter No.8-01/2020-FC, Dated.28.07.2021**

**of Govt. of India, Ministry of Environment, Forest & CC,**

**New Delhi.**

**for**

**Diversion of 783.275 Ha of Forest Land**

**(including Safety Zone of 9.098 Ha.)**

**Within Total Lease area of 912.799 Ha. For Naini Opencast Coal**

**Mining Project**

**of**

**M/S Singareni Collieries Company Ltd (SCCL)**

**In**

**Chhendipada Tahsil, of Angul Forest-Divn in Angul Dist.**

**Odisha.**

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

---

## **1.INTRODUCTION:**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurupal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District. The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land).

The area approved for grant of mining lease is 912.799 ha. The total forest land is 783.275 Ha. out of which 774.177 Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only.

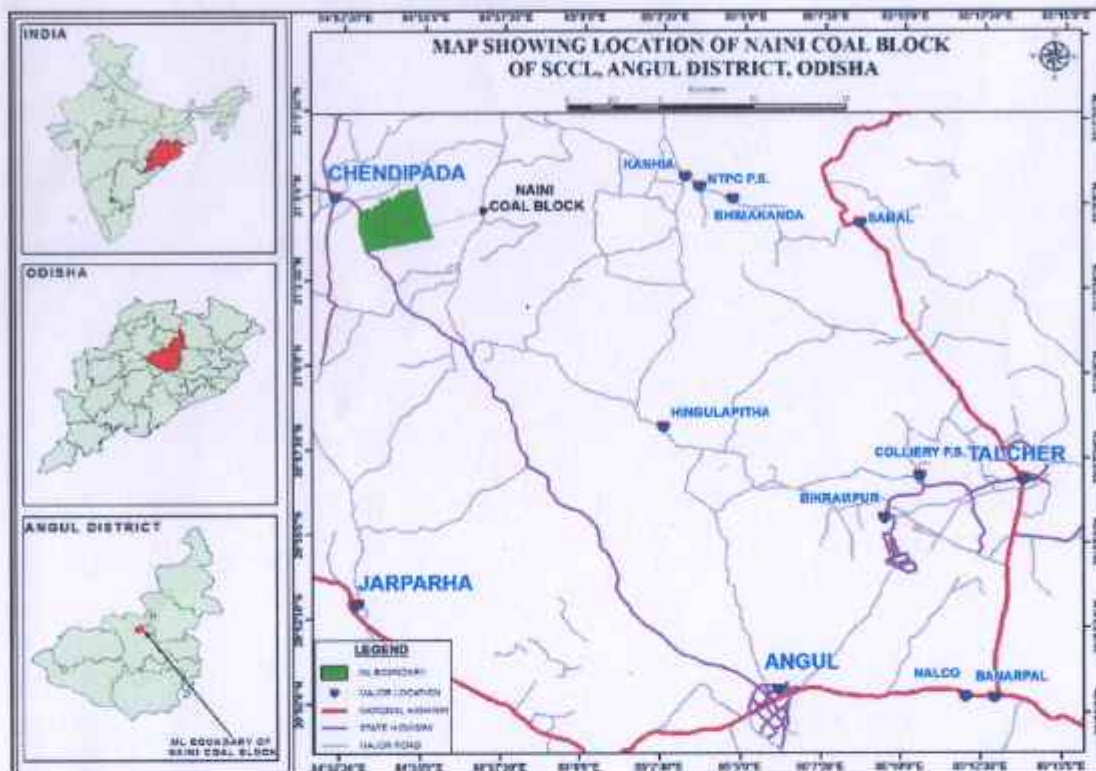
The Stage-I Forest clearance u/s 2of FC Act 1980 was granted by MoEF&CC vide their letter No.8-01/2020-FC Dt.28th July 2021 wherein it has been stipulated as per **condition no. A-04(ii)Planting of adequate draught hardy species and sowing of seeds in the appropriate area of the mining lease to arrest soil erosion.**

## **2. LOCATION**

The mining lease area has been covered in the Survey of India topo sheet No.73 C/16on RF 1:50,000 (2 cm to 1 km) and falls within Angul District of Odisha.The mine spans over an area of 9.13 sq.km between Latitude  $21^{\circ}03'21''$  and  $21^{\circ}05'23''$  N and Longitude  $84^{\circ}52'56''$  and  $84^{\circ}55'17''$  E. administratively it is under the jurisdiction of Chhendipada Tahasil, Angul district.Mining lease area is approachable from Angul covering a distance of 35 km by a black topped road up to Chhendipada.

The nearest railway station is Angul on Talcher-Sambalpur railway line of East Coast Railway at a distance of 35 km from Mines.This railway line connects Puri to Sambalpur.The nearest airport is Bhubaneswar at a distance of 165.0 K.M. The ML area is in Chhendipada Range of Angul Forest division.

## LOCATION MAP



**Fig.1: Location Map of Naini Coal Block, SCCL**

## **Map of the Project**



**Fig.2: Mining Project Map of Naini Coal Block, SCCL**

### **3. TOPOGRAPHY**

The elevation of the lease area varies from 100 mt. above MSL to 160 mt. above MSL. The area is slightly undulating and almost flat and forms a part of Brahmani river belt (Talcher) Coal Fields. The general slope of the lease area is towards north. Gouduni Nala flows eastwards and is the major drainage outlet of the area. This nala joins Tikra River at a distance of 9 kms NE. Tikra river ultimately joins the river Brahmani.

### **4. LAND USE PATTERN**

Sl. No.	Pattern	Area in (Ha.)		
		Forest	Non-Forest	Grand Total
1	Quarry area			762.414
	a) Back filled area	468.232	11.314	
	b) Excavated void	176.925	105.943	
2	Safety Zone/Rationalisation Area	40.857	5.082	45.939
3	Diversion/below River/Nala/canal (Including Settling tanks)	14.489	4.560	19.049
4	Road & Infrastructure area	40.060	0.833	40.893

	a) Coal Washery including CHP	36.017	0.833	36.850
	b) Mine Service facilities	4.043	0.000	4.043
5	Garland Drains	1.765	0.004	1.769
6	Embankment	12.941	1.788	14.729
7	Green Belt	28.006	0.000	28.006
	<b>Grand Total (in ha)</b>	<b>783.275</b>	<b>129.524</b>	<b>912.799</b>

## 5. DETAILS OF FOREST LAND WITHIN THE LEASE AREA

Forest land to be worked for mining and allied purpose ... 774.177 Ha

Area set aside for Safety Zone ... 9.098 Ha  
783.275 Ha

Govt of India, MoEF & CC has approved diversion of forest land of 783.275 Ha as mentioned in the Stage-I approval.

## 6. SOIL TYPE

The soil type occurring in this area is mostly sandy loam having good soil depth with pH varying from 6 to 8.

## 7. CLIMATE

The climate of this area is tropical with hot and humid summer and short spell of winter. Occasional thunder storm during pre-monsoon season is common. Monsoon sets in from late June and continues to middle of September. Maximum temperature comes to 49° c during summer and minimum 10° c during winter.

## 8. DRAINAGE

The Gauduni nalla forming the northern boundary of the block flows from south-west to north-east. This is the main drainage in the mining lease area. Kudaposi nalla flows from south to north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nala flow across the block towards north and join the Gauduni nalla.

However, it is proposed to divert these streams along the boundary of ML and drain into the existing Gauduni nalla. These three streams are planned to be diverted in consultation with the Water Resources Department of the State Government.

## 9. Plan of Plantation during the lease Period

Plan of plantation has been prepared keeping the following points in background:-

- To meet the stipulation made by MoEF in Condition No.04 (ii).
- To prevent spread of fugitive dust generated due to mining and allied activities.
- To attenuate noise generated by the mine.
- To reduce soil erosion.
- To increase the green cover:
- To attract the birds, which are addressed as litmus of nature.
- To provide recreational value to colony inhabitants.

Attempts will be made for plantation of drought resistance species such as Neem (*Azadirachta indica*), Karanja (*Pongamia pinnata*), Asan (*Terminalia alata*), Kusum (*Schleichera oleosa*), Amla (*Emblica officinalis*), Bela (*Aegle marmelos*), Kasi (*Bridellia retusa*), Sunari (*Cassia fistula*), Spathodia (*Spathodia campanulata*), Baula (*Mimosops elengii*) etc.



Picturesque view of planting operation

## **10. Methodology:**

It is proposed to plant the seedlings in pits (45 cm<sup>3</sup>) at about 2.5 m spacing along contours. The dug of earth shall be heaped on the Northern aspect. The pits shall be filled with a mixture of organic manure and good quality soil at a proportion of 1:3. The saplings shall be planted just on the onset of monsoons to ensure adequate survival. The species selected for plantation must be indigenous with fast growing and ability to survive in Xerophytes condition.

The site is leveled one with good soil depth and not prone to any biotic interference due to deployment of watch & ward for 10 years. The plantation will be in block model i.e. 1600 plants/Ha.

### **Schedule for planting of adequate draught hardy species**

#### **BLOCK MODEL**

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

##### **i) Procurement of Seedlings:**

Seedlings of as detailed above shall be purchased from the Forest Dept. Nursery located at Chhendipada. For this we will intimate Range Officer sufficiently ahead.

##### **ii) Alignment and pitting**

Alignment and pitting will be taken up in the month of November-December at perceptible gaps and Pits of size 45cm x 45cm x 45cm will be dug maintaining a spacing of 2.5mtr x 2.5mtr. and dug up earth will be piled preferably on the northern aspect.

##### **iii) Actual Planting**

The seedling will be planted in the dugout pits of size 45cm X 45cm X 45cm with spacing of 2.5mtr X 2.5mtr. Plantation shall be taken up after first regular shower of monsoon and shall be completed by the end of July. Species shall be planted as per suitability of the soil condition. NPK fertilizer @ 30gms per plant shall be given as basal dosage. Anti-termite insecticide shall also be applied to each pit while planting. Casualty if any noticed will be replaced with the excess seedling raised for the purpose. During second year also casualty replacement will be done for which seedling shall be raised.

##### **iv) Weeding, Soil working & Manuring :**

The seedling will be planted in the dugout pits of size 45cm x 45cm x 45cm with spacing of 2.5mtr x 2.5mtr. Plantation shall be taken up after first regular shower of monsoon and shall be completed by the end of July. Species shall be planted as per suitability of the soil condition. NPK fertilizer @ 30gms per plant shall be given as basal dosage. Anti-termite insecticide should also be applied to each pit while planting. Casualty if any noticed will be replaced with the excess seedling procured

for the purpose. During second year also casualty replacement will be done for which seedling shall be procured from Forest Dept.'s Nursery.

**v) Application of insecticides:**

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

The Schedule of operation for preparation of site, pre-planting, planting, post-planting are prescribed herewith.

OPERATIONS	PERIOD OF COMPLETION
i. Advance preparation of site.	November-December
ii. Alignment & Staking of pits	January-February
iii. Digging of pits	February-March
iv. Carriage and planting.	July-August
v. Casualty replacement	August
vi. 1 <sup>st</sup> weeding, soil working, manuring	August-September
vii. Soil & water conservation measuring	September-October
viii. 2 <sup>nd</sup> weeding, soil working, manuring	September-October
ix. Fire line tracing	February-March
X Watch & Ward	July to March

**vi) Post planting operation in 2<sup>nd</sup> year.**

- a. Casualty replacement, ... :July – August
- b. 1<sup>st</sup> weeding, soil working & manuring :August – Sept..
- c. Fire line tracing : February - March
- d. Watch & Ward :Throughout the year

**vii) 3<sup>rd</sup> year.**

- a. Wedding, soil working and application of manure : Aug.-September
- b. Fire line tracing : February - March
- c. Watch & Ward : Throughout the year.

viii) 4<sup>th</sup> year to 10<sup>th</sup> year

- a. Fire line tracing : Feb. - March
- b. Watch & Ward : Throughout the year

# 11. Grass seed sowing

Adjoining to the site where draught hardy species will be planted, 7 (Seven) more Ha of area will be sown with Grass seeds to prevent soil erosion.

**Seeding of grass:** The effective way of arresting active erosion is through seeding of grass pellets. Pellets can be made by mixing clay with farm yard manure in 6:1 ratio, Kneaded with water and seeds and made to sizes of 2 cm. dia and sun dried. Species of grass to be used are Bothriochloa odorata, Themeda triandra, Andropogon monticola, Apludamutica etc. In suitable pockets along nalas and depressions, Pellets will be put at regular intervals and pressed below the ground with a stick.

# 12. SPECIALIZED CELL

Name of Executive	Educational Qualification	Present Designation	Expertise
Ravindra Prabhakar D Choudari	Diploma ( Mining Engineering ), 1 <sup>st</sup> Class	DY GM/PO	39 years
Brajesh Kumar	BE Mining, 1 <sup>st</sup> Class Mines Manager (Coal)	C.MGR/ADDL MGR	22 years
Manoj Kumar Mishra	AMIE (Mining), MBA, PGDCA, 1 <sup>st</sup> Class Mines Manager (Coal)	Addl. MANAGER	26 years

### 13. REQUIREMENT OF FUND

The total cost of the implementation of planting of adequate draught hardy species and showing of seeds in the appropriate area within the mining lease area to arrest soil erosion comes to **Rs. 4,65,53,563.00 (Rupees Four Crore Sixty Five Lakhs Fifty Three Thousand Five Hundred Sixty Three only)**

Sl No.	Description of the work	Unit	Rate	Fund required in Rs.
01	Block Plantation	28.06 Ha	13,74,543.00	3,85,69,676.58
02	Grass seed sowing (Pellet method)	7.0 Ha	32137.00	224959.00
	Total			3,87,94,635.58
	Escalation 20%			77,58,927.12
Grand Total				4,65,53,562.70
				Or
				4,65,53,563.00

(Rupees Four Crore Sixty Five Lakhs Fifty Three Thousand Five Hundred Sixty Three only)

  
20/9/2021  
**General Manager**  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

  
Countersigned  
Divisional Forest Officer  
Divisional Forest Officer  
Angul Division  
Angul Forest Division

Approved for Rs. 4,65,53,563/-

  
20/9/21  
**Regional Chief Conservator**  
of Forests, Angul Circle.

**Annexure - I****Cost Norm for Block Plantation @ 1600 plants/Ha (18 month old seedling)****Wage rate Rs.311.00/-per day**

SI No.	Item of Work	Preferable period of Execution	Person days	Labour (Rs)	Material (Rs)	Total (Rs)
1	2	3	4	5	6	7
<b>PREVIOUS YEAR (ADVANCE WORK) NURSERY RAISING</b>						
1	Nursery Cost (18 month Old Seedlings) @ Rs. 34.84/- part (Rs. 8.68 to be released) for 1760 seedlings (1600+160)	Nov-March	44	13684	2956.80	16640.80
	<b>Total</b>		<b>44</b>	<b>13684</b>	<b>2956.80</b>	<b>16640.80</b>
2	Monitoring & Supervision charge 5 % of the total cost					832.04
	<b>Grand Total</b>		<b>44</b>	<b>13684</b>	<b>2956.80</b>	<b>17472.84</b>
<b>0th Year (Advance work) pre-planting operation</b>						
1	Survey, Demarcation and pillar posting	Nov/ Dec	2	622	0	622
2.	Site preparation	Nov/ Dec	12	3732	0	3732
3.	Alignment and stacking of pits	Jan/ Feb	2	622	0	622
4.	Digging of pits (45 cm cube)	Feb/Mar	135	41985	0	41985
5.	Nursery cost (18 months old seedling) part @ Rs.34.84/- seedling (part @ Rs. 22.14 for 1760 seedlings (1600+160)	April-March	111.67	34729.37	7698.80	42428.17
	<b>Total</b>		<b>262.67</b>	<b>81690.37</b>	<b>7698.80</b>	<b>89389.17</b>
7.	Monitoring & Supervision charge 5 % of the total cost					4469.45
8.	<b>GRAND TOTAL</b>		<b>262.67</b>	<b>81690.37</b>	<b>7698.80</b>	<b>93858.62</b>
<b>1st Year/Planting Year</b>						
1.	Nursery cost (18 months old seedling) balance @ Rs.4.02 for	Apr-June	22	6842	915.20	7757.20

	seedlings (1600+160)					
2.	Fencing for an average of 250 meters/ha @ Rs. 76.80/- per meter for bamboo twigs and bamboo thorn fencing	May/June	38	11818	8560	20378
3.	Carriage and planting casualty replacement and application of insecticides, Manure etc	Jul / Aug	21	6531		6531
4.	Cost of insecticide and fertilizer a) NPK @ 50 gms/plant as basal dose = 80 kg @ Rs 24/- per kg = Rs. 190.00 b) Urea @ 70 gms/plant in two subsequent doses @ Rs 6/- per kg = Rs. 672.00 c) Granular insecticide (Themet, Forate etc) @ 5 gms/plant @ Rs. 80/- per kg = Rs. 640.00	Jul / Aug	0	0	3232	3232
5.	1 <sup>st</sup> weeding (complete weeding)	Aug / Sept	7	2177		2177
6.	Manuring Urea 35 gm	Aug / Sept	5	1555		1555
7.	2 <sup>nd</sup> weeding (complete weeding)	Sept / Oct	5	1555		1555
8.	Soil working (50 cms. Radius around plants) & manuring Urea 35 gms per plant	Sept / Oct	7	2177		2177
9.	Soil conservation measures in the form of staggered trenches of size 2m x 0.5m x 0.5m @ 30nos per ha	Sept / Oct	10	3110		3110
10.	Fire line tracing and inspection path	Feb/Mar	3	933		933
11.	Watch & Ward	July-Mar	270	83970		83970
	<b>Sub Total</b>		<b>388</b>	<b>120668</b>	<b>12707.20</b>	<b>133375.20</b>
12.	Monitoring & Supervision charge 5% of the total cost					6668.76
	<b>Grand Total</b>		<b>388</b>	<b>120668</b>	<b>12707.20</b>	<b>140043.96</b>
<b>2nd Year Maintenance</b>						
1.	Repair and maintenance of	May/June	20	6220	5080	11300

	Bamboo fence including material cost					
2.	Casualty replacement (10%) with nursery cost	Jul/Aug	4	1244	5574.4	6818.4
3.	Weeding (Complete weeding)	Sept / Oct	6	1866		1866
4.	Cost of fertilizer (NPK @ 70 gms/plant) (Rs 24/- per kg & Insecticide @ 5gms/plant for 160 plants 800gms @ Rs 80/- per kg	Sep / Oct	0	0	2752	2752
5.	Soil working (50cms. Radius around plants)	Oct/Nov	7	2177		2177
6.	Application of fertilizer & insecticide	Sep / Oct	4	1244		1244
7.	Fire line tracing and inspection path	Feb/ Mar	3	933		933
8.	Watch & Ward	Apr/ Mar	365	113515		113515
	<b>Sub Total</b>		<b>409</b>	<b>127199</b>	<b>13406.4</b>	<b>140605.4</b>
9.	Monitoring & Supervision charge 5 % of the total cost					7030.27
	<b>Grand Total</b>		<b>409</b>	<b>127199</b>	<b>13406.4</b>	<b>147635.67</b>
<b>3rd Year Maintenance</b>						
1.	Repair and maintenance of Bamboo fence including material cost	May/June	20	6220	1000	7220
2.	Weeding and application of fertilizer	Aug/Sept	7	2177	0	2177
3.	Cost of fertilizer (NPK @ 50gms/plant) @ Rs 24/- per kg		0	0	1920	1920
2.	Soil working (50 cms. Radius around plants) & application of fertilizer	Oct/Nov	7	2177	0	2177
3.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb/ Mar	3	933	0	933
4.	Watch & Ward	Apr/ Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>402</b>	<b>125022</b>	<b>2920</b>	<b>127942</b>
5.	Monitoring & Supervision charge 5 % of the total cost					6397.1

	<b>Grand Total</b>		<b>402</b>	<b>125022</b>	<b>2920</b>	<b>134339.1</b>
<b>4th Year Maintenance</b>						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.40
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.4</b>
<b>5th Year Maintenance</b>						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.40
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.4</b>
<b>6th Year Maintenance</b>						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.40
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.4</b>
<b>7th Year Maintenance</b>						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.40
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.4</b>


8th Year Maintenance						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.40
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.4</b>
9th Year Maintenance						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.40
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.4</b>
10th Year Maintenance						
1.	Fire line tracing ( 2m wide fire line cover 400m length) & cultural operation	Feb / Mar	3	933	0	933
2.	Watch & Ward	Apr / Mar	365	113515	0	113515
	<b>Sub Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>114448</b>
3.	Monitoring & Supervision charge 5 % of the total cost					5722.40
	<b>Grand Total</b>		<b>368</b>	<b>114448</b>	<b>0</b>	<b>120170.4</b>

**Abstract**

Year	Person Days	Labour (Rs)	Material (Rs.)	Monitoring & Supervision charge 5% of the total cost	Total Cost (Rs)
Previous year	44	13684.00	2956.80	832.04	17472.84
0th Year	262.67	81690.37	7698.80	4469.45	93858.62
1st Year	388	120668.00	12707.20	6668.76	140043.96
2nd Year	409	127199.00	13406.40	7030.27	147635.67
3rd Year	402	125022.00	2920.00	6397.10	134339.10
4th Year	368	114448.00	0.00	5722.40	120170.40
5th Year	368	114448.00	0.00	5722.40	120170.40
6th Year	368	114448.00	0.00	5722.40	120170.40
7th Year	368	114448.00	0.00	5722.40	120170.40
8th Year	368	114448.00	0.00	5722.40	120170.40
9th Year	368	114448.00	0.00	5722.40	120170.40
10th Year	368	114448.00	0.00	5722.40	120170.40
<b>TOTAL</b>	<b>4081.67</b>	<b>1269399.37</b>	<b>39689.20</b>	<b>65454.42</b>	<b>13,74,542.99</b> <b>Or</b> <b>13,74,543.00</b>

(Rupees Thirteen Lakhs Seventy Four Thousand Five Hundred Fourty Three only)

  
20/9/2024  
**General Manager**  
Authorized Signatory  
**Singareni Collieries Co. Ltd.**  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

  
**Countersigned**  
**Divisional Forest Officer**  
**Divisional Forest Officer**  
**Angul Division**  
**Angul Forest Division**

# **COST OF GRASS SEED SOWING (pellet method)**


**Wage Rate Rs. 311.00/-**

Sl No.	Item of work	No. of labour	Quantity of materials	Rate Rs/-	Amount Rs.
1.	Site preparation, uprooting of weeds	5		311	1555
2.	Ploughing land by country plough	5 country plough		570	2850
3.	Addition of FYM to the field		3 Truck loads	1067	3201
4.	Cost of Seeds		2 Kg	667	1334
5.	Cost of Pellet preparation with 6:1 soil + FYM mixture	10		311	3110
6.	Cost of Soil and FYM for the above		2.2 Cu.m of soil, 0.04 Cu.m FYM	134 1067	294.8 42.68
7.	Dibbling of pellets at 1.5 x 1.0m	9		311	2799
8.	Weeding unwanted growth	5		311	1555
	<b>TOTAL</b>				<b>16741.48</b>
	<b>2<sup>nd</sup> Year</b>				
1.	Site preparation, uprooting of weeds	3		311	933
2.	Ploughing land by country plough	5 country plough		570	2850
3.	Addition of FYM to the field		1 Truck loads	1067	1067
4.	Cost of Seeds		1 Kg	667	667
5.	Cost of Pellet preparation with 6:1 soil + FYM mixture	5		311	1555
6.	Cost of Soil and FYM for the above		1.1 Cu.M of soil, 0.02 Cu.m FYM	134 1067	147.4 21.34
7.	Dibbling of pellets at 1.5 x 1.0m	5		311	1555
8.	Weeding unwanted growth	4		311	1244
	<b>TOTAL</b>				<b>10039</b>
<b>Sub Total</b>					<b>26,781.22</b>

Escalation 20 %	5356.25
Grand Total	32137.46
	Or
	32137.00

(Rupees Thirty Two Thousand One hundred Thirty Seven only)

  
 20/9/2021  
 General Manager  
 Authorized Signatory  
 The Singbani Collieries Co. Ltd.  
 (A. Govt. Company)  
 Naini Area, Angul, Odisha-759122  


  
 Countersigned  
 Divisional Forest Officer  
 Singbani Forest Division  
 Divisional Forest Officer  
 Angul Division

MAP SHOWING LOCATION OF DRAUGHT HARDY SPP PLANTATION AND GRASS LAND DEVELOPMENT OF NAINI COAL BLOCK OF M/s SCCL LTD. UNDER ANGUL FOREST DIVISION, ODISHA



CO-ORDINATES OF DRAUGHT HARDY SPP PLANTATION & GRASS LAND				
POINT ID	EASTING	NORTHING	LONGITUDE	LATITUDE
1	281479.948	2330044.202	84°53'48.98760"	21°03'29.97288"
2	281469.018	2330059.699	84°53'48.60204"	21°03'30.47184"
3	281443.899	2330090.278	84°53'47.71824"	21°03'31.45500"
4	281436.213	2330102.198	84°53'47.44644"	21°03'31.83912"
5	281437.946	2330118.390	84°53'47.49900"	21°03'32.36652"
6	281442.245	2330128.312	84°53'47.64336"	21°03'32.69088"
7	281453.821	2330136.911	84°53'48.04044"	21°03'32.97528"
8	281467.381	2330138.895	84°53'48.50916"	21°03'33.04548"
9	281487.555	2330140.218	84°53'49.20720"	21°03'33.09732"
10	281508.722	2330139.557	84°53'49.94052"	21°03'33.08472"
11	281514.675	2330141.872	84°53'50.14536"	21°03'33.16248"
12	281544.445	2330174.532	84°53'51.16164"	21°03'34.23708"
13	281566.192	2330180.951	84°53'51.91152"	21°03'34.45488"
14	281592.809	2330187.201	84°53'52.83060"	21°03'34.66944"
15	281602.980	2330188.505	84°53'53.18232"	21°03'34.71624"
16	281628.763	2330197.175	84°53'54.07116"	21°03'35.00928"
17	281676.022	2330239.248	84°53'55.68828"	21°03'36.39708"
18	281690.441	2330272.015	84°53'56.17284"	21°03'37.46844"
19	281706.118	2330320.607	84°53'56.69340"	21°03'39.05460"
20	281723.647	2330368.232	84°53'57.27876"	21°03'40.61016"
21	281843.372	2330307.783	84°54'01.45224"	21°03'38.69676"
22	281863.703	2330210.587	84°54'02.20068"	21°03'35.54568"
23	283922.809	2330606.793	84°55'13.32804"	21°03'49.30272"
24	283402.909	2332214.704	84°54'54.59472"	21°04'41.34936"
25	283476.381	2332227.967	84°54'57.13344"	21°04'41.81160"
26	284013.019	2330553.233	84°55'16.47660"	21°03'47.59992"
27	281910.674	2330130.804	84°54'03.86388"	21°03'32.97240"

Chendipada R F

Bimbadharpur

Dhaurakhaman

Kudapasi

Thalipasi

kasidiha

Tentuloleigopinathpur

Forest Ranger Officer  
Chendipada Range

General Manager  
The Bijuwanagar Cement Co. Ltd.  
1A, Canal Colony  
Ward Area, Angul, Odisha-758125

Asst. Conservator of Forests  
Angul Division

Divisional Forest Officer  
Angul, Division

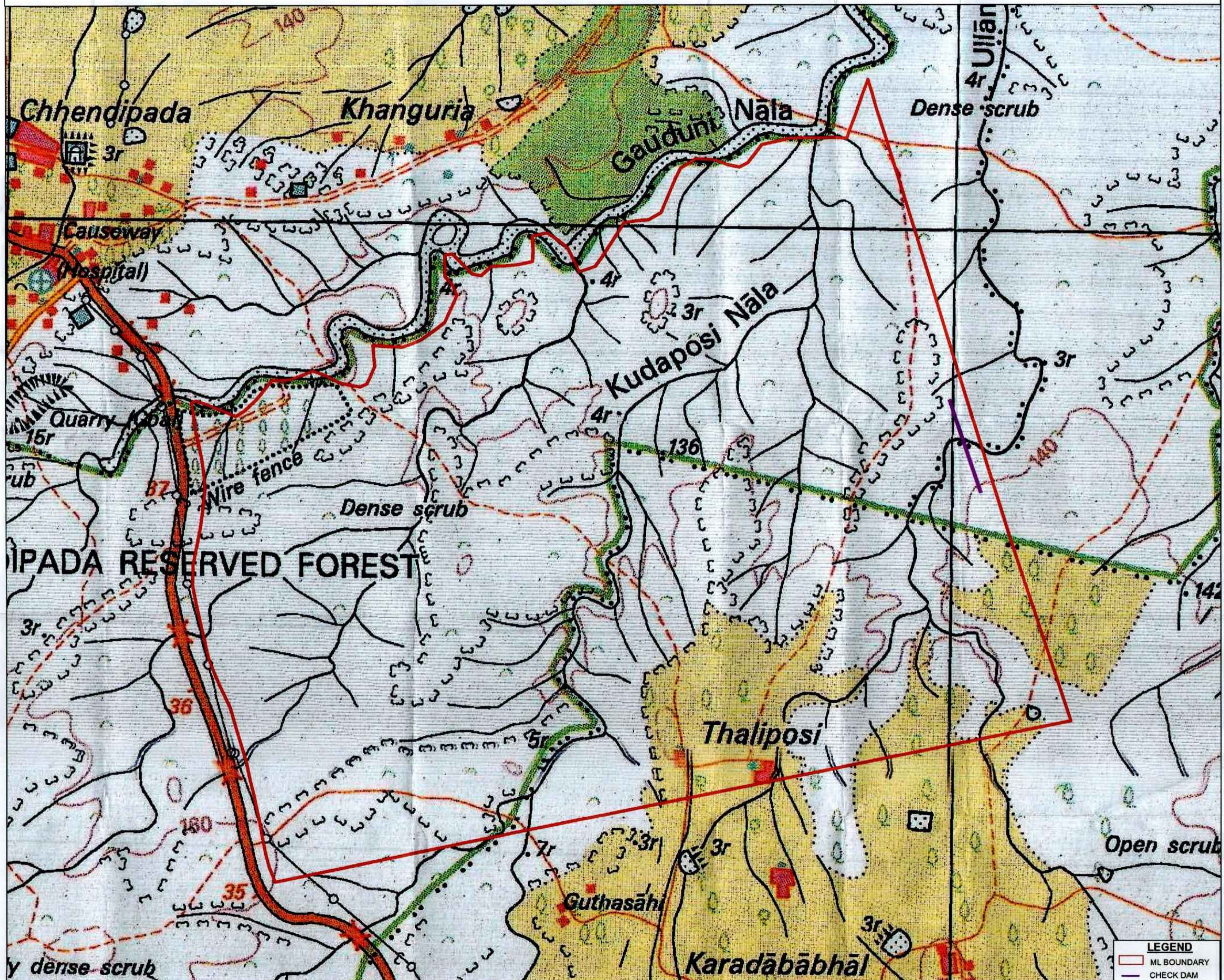
- LEGEND
- ML BOUNDARY
  - SAFETY ZONE
  - VILLAGE BOUNDARY
  - DRAUGHT HARDY SPP PLANTATION & GRASS LAND
  - DRAUGHT HARDY SPP PLANTATION & GRASS LAND BOUNDARY POINTS

# MAP SHOWING LOCATION OF CHECK DAM OVER THE ULLANI NALA PRESENT IN NAINI COAL BLOCK OF M/s SCCL LTD. UNDER ANGUL FOREST DIVISION, ODISHA



SCALE-1:30,000  
Kilometers

0 0.5 1 2



Forest Range Officer  
Chhendipada Range

General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Divisional Forest Officer  
Angul Division

Asst. Conservator of Forests  
Angul Division

Map Prepared by:-

Digital Cartography & Services (DCS) Pvt. Ltd.  
1015, Bhagabat Sandhan  
GGP Canal Road, Rasulgarh, Bhubaneswar-751025  
Email: dcsplbbsr@gmail.com



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL.759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- A-IV

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021

### Condition No. A 4(iii)

Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour.

### Compliance to Condition No. A 4(iii)

In compliance to this condition, detailed scheme with financial out lay of Rs. 4,34,91,712.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021 and M/s The Singareni Collieries Company Limited do hereby undertake for Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour in accordance with the approved scheme. (Approved scheme with financial out lay of Rs. 4,34,91,712.00 is enclosed.)

Place: Angul

Date: 8.11.2021

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122



*Scheme*

*For*

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

**In compliance**

**with**

**Condition No. A- 04 (iii) of**

**Stage-I Forest Clearance Granted**

**Vide Letter No.8-01/2020-FC, Dated.28.07.2021**

**of Govt. of India, Ministry of Environment, Forest & CC,**

**New Delhi.**

**for**

**Diversion of 783.275 Ha of Forest Land**

**(including safety zone of 9.098 Ha.)**

**Within Total Lease area of 912.799 Ha. For Naini opencast coal mining Project**

**of**

**M/S Singareni Collieries Company Ltd (SCCL)**

**In**

**Chhendipada Tahsil, Sub-Divn.- Angul, Dist.Angul**

**Odisha.**

## **CONSTRUCTION OF CHECK DAMS, RETENTION WALL, TOE WALL TO ARREST SLIDING DOWN OF THE EXCAVATED MATERIAL ALONG THE CONTOUR**

### **1. INTRODUCTION**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurpal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District, The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land).

The area approved for grant of mining lease is 912.799 ha. The total forest land is 783.275 Ha. out of which 774.177Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only.

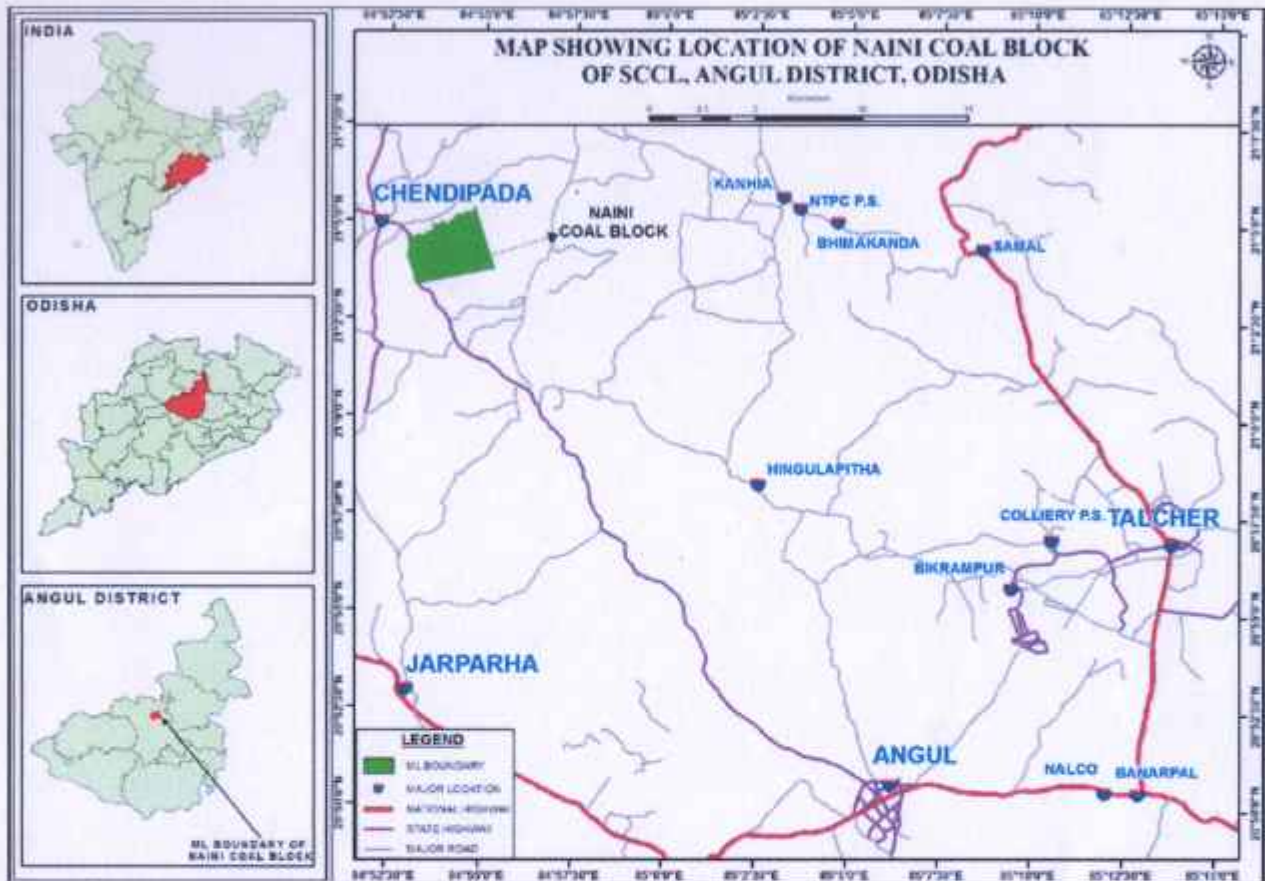
The Stage-I Forest clearance u/s 2 of FC Act 1980 was granted by MoEF & CC vide their letter No.8-07/2020-FC Dt.12th March 2021 wherein it has been stipulated as per **condition no. A-04 (iii) for Construction of Check Dam, Retention/ Toe Walls to arrest sliding down of the excavated material along contour in accordance with the approved Scheme.**

### **2. LOCATION**

The mining lease area has been covered in the Survey of India topo sheet No.73 C/16 on RF 1:50,000 (2 cm to 1 km) and falls within Angul District of Odisha. The mine spans over an area of 9.13 sq.km between Latitude 21°03'21" and 21°05'23" N and Longitude 84°52'56" and 84°55'17" E. administratively it is under the jurisdiction of Chhendipada Tahasil, Angul district. Mining lease area is approachable from Angul covering a distance of 35 km by a black topped road up to Chhendipada.

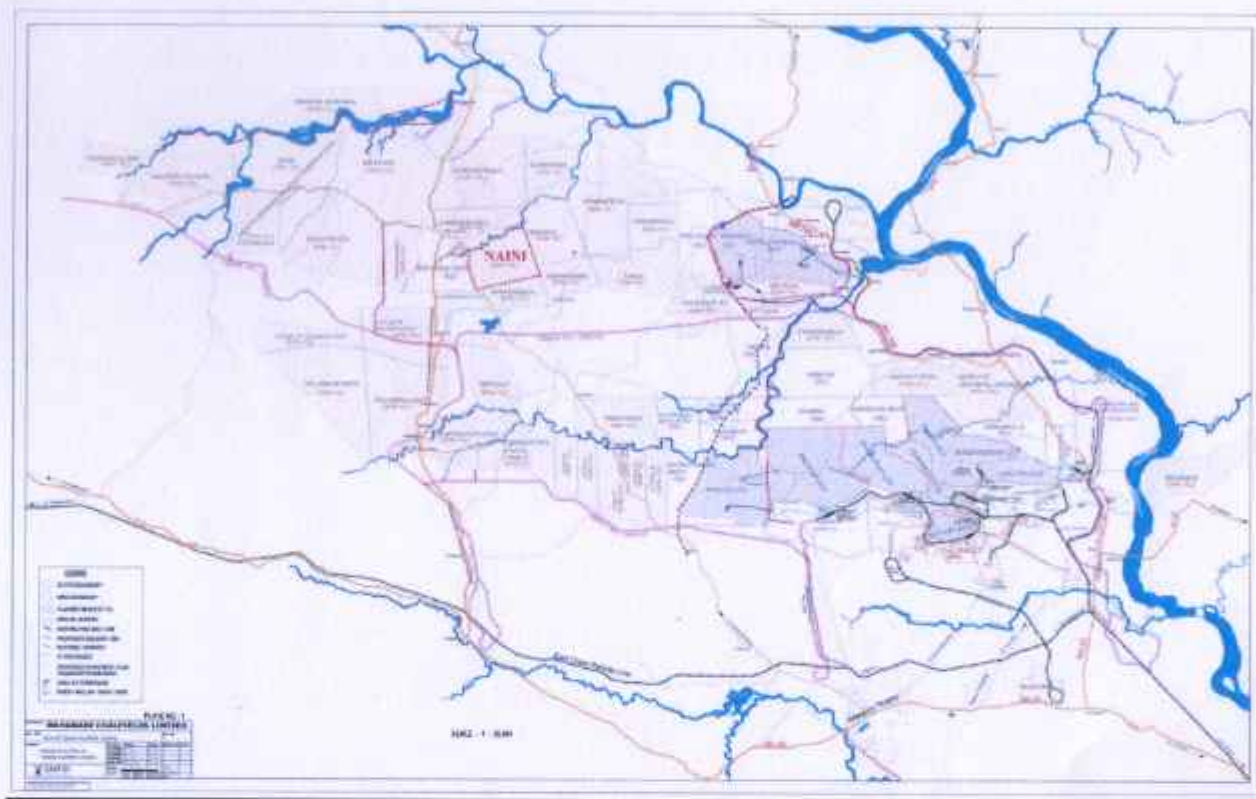
The nearest railway station is Angul on Talcher-Sambalpur railway line of East Coast Railway at a distance of 35 km from Mines. This railway line connects Puri to Sambalpur. The nearest airport is Bhubaneswar at a distance of 165.0 K.M. The ML area is in Chhendipada Range of Angul Forest division.

## LOCATION MAP



**Fig.1: Location Map of Naini Coal Block, SCCL**

### Map of the Project



**Fig.2: Mining Project Map of Naini Coal Block, SCCL**

### **3. TOPOGRAPHY**

The elevation of the lease area varies from 100 mt. above MSL to 160 mt. above MSL. The area is slightly undulating and almost flat and forms a part of Brahmani river belt (Talcher) Coal Fields. The general slope of the lease area is towards north. Gouduni Nala flows eastwards and is the major drainage outlet of the area. This nala joins Tikra River at a distance at a distance of 9 kms. NE. Tikra river ultimately joins the river Brahmani.

### **4. LAND USE PATTERN**

Sl. No.	Pattern	Area in (Ha.)		
		Forest	Non-Forest	Grand Total
1	Quarry area			762.414
	a) Back filled area	468.232	11.314	
	b) Excavated void	176.925	105.943	
2	Safety Zone/Rationalisation Area	40.857	5.082	45.939

3	Diversion/below River/Nala/canal (Including Settling tanks)	14.489	4.560	19.049
4	Road & Infrastructure area	40.060	0.833	40.893
	a) Coal Washery including CHP	36.017	0.833	36.850
	b) Mine Service facilities	4.043	0.000	4.043
5	Garland Drains	1.765	0.004	1.769
6	Embankment	12.941	1.788	14.729
7	Green Belt	28.006	0.000	28.006
	<b>Grand Total (in ha)</b>	<b>783.275</b>	<b>129.524</b>	<b>912.799</b>

## 5. DETAILS OF FOREST LAND WITHIN THE LEASE AREA

Forest land to be worked for mining and allied purpose ... 774.177 Ha

Area set aside for Safety Zone ... 9.098 Ha  
783.275 Ha

## 6. SOIL TYPE

The soil type occurring in this area is mostly sandy loam having good soil depth with pH varying from 6 to 8.

## 7. CLIMATE

The climate of this area is tropical with hot and humid summer and short spell of winter. Occasional thunder storm during pre-monsoon season is common. Monsoon sets in from late June and continues to middle of October. Maximum temperature comes to 49° c during summer and minimum 10° c during winter.

## 8. DRAINAGE

The Gauduni nalla forming the northern boundary of the block flows from south-west to north-east. This is the main drainage in the mining lease area. Kudaposi nalla flows from south to north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nala flow across the block towards north and join the Gauduni nalla.

However, it is proposed to divert these streams along the boundary of ML and drain into the existing Gauduni nalla. These three streams are planned to be diverted in consultation with the Water Resources Department of the State Government.

#### **9. EXISTING VEGETATION**

The area proposed for diversion includes species as detailed below:

<b>Local Name</b>	<b>Botanical Name</b>
Kurum	<i>Adina cordifolia</i>
Jack Fruit	<i>Artocarpus heterophyllus</i>
Gamhar	<i>Gmelina arborea</i>
Tamarind	<i>Tamarindus indica</i>
Jamun	<i>Syzygium cuminii</i>
Babul	<i>Acacia nilotica</i>
Kusum	<i>Slychera oleosa</i>
Mahanim	<i>Ailanthus excelsa</i>
Siris	<i>Albizzia lebbeck</i>
Sissoo	<i>Dalbergia latifolia</i>
Mango	<i>Mangifera indica</i>
Asan	<i>Terminalia alata</i>
Sunajhari	<i>Acacia auriculiformis</i>
Sunari	<i>Cassia fistula</i>
Karanj	<i>Pongamia pinnata</i>

#### **10. OBJECTIVE OF THE SCHEME:**

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 check Dams, Retention Walls/ Toe Walls. Locations are judiciously selected within the leasehold and plans prepared.

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

1. The overall drainage planning has been done in such a manner that it maintains the overall slope direction so that run off distribution is not affected.
2. Garland drains have been planned on all around of external dump (depending on contours).

The garland drain shall be routed through settling tanks to settle down suspended solids and

then the water pass through Check Dams. The clean water will be discharged to natural water courses.

3. Grass and bushes in drains hold back solid particles during the flow of water in the drain. Small stone barriers across the garland drain will check water current and arrest solids. This shall be cleared up periodically.
4. Settling tanks and garland drains shall be cleaned regularly, especially during monsoon.
5. Outside the garland drains the drainage lines shall be reinforced with green cover of non-browsable species like *Jatropha curcas* (Bigoba), *Vitex negundo* (Begunia), *Gliricidia maculate* (Giliri sp.) and *Erythrina indica* (Paldhua) etc.

## **11. PROPOSED PLAN**

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 check dams, retention/toe walls at specified locations within the mining lease. locations have been properly selected within the leasehold.

## **12. METHODOLOGY**

The Central and Southern part of this Coal Block is generally flat land. Northern part is moderately undulated. Overall ground slope is dipping towards North. Maximum elevation is 100m above msl and minimum 160 m.

### **a) Salient features of the drainage management Plan:**

Due to this geological feature of the lease, the external dump will be higher than the adjoining ground level. The materials from the slopes of these dumps are likely to flow during heavy rains and disturb the topography of its adjoining land, till it is completely stabilized by biological means. In order to curb this situation, retaining walls of minimum two & half meter height has been planned all along the peripheral contour of the external dump to arrest the possibility of material running down on the hill slopes. Waste dumping has been planned in a manner such that backfilling can be maximized with a view to reclaim the mined out pit as much as possible and at the same time minimizing height of external dumping. Backfilling will be done

from the external dump and then top soil will be spread on the dumped material and water sprinkling on the soil will be carried out. Grasses will be planted on the soil for initial stabilization of the over burden dump. Subsequently saplings of selected species will be planted finally to stabilize the mined out area.

Hence the Garland drain serves the dual purpose of protection against rolling boulders on the slopes and drainage of water coming down from the O.B. Dump.

Details of proposed External dump which will be in operation upto 15th year as per approved mining plan is furnished below:-

Sl. No.	Dump Name	Dimension	Capacity	GPS Co-ordinates
01	External Dump	283.71 Ha.	167.97 M.cum	Furnished below

External Dump		
Sl. No.	Longitude	Latitude
1	E84° 54' 07.17"	N21° 03' 36.98"
2	E84° 55' 12.52"	N21° 03' 49.55"
3	E84° 54' 53.94"	N21° 04' 41.23"
4	E84° 54' 09.60"	N21° 04' 35.42"
5	E84° 54' 09.48"	N21° 04' 34.39"
6	E84° 54' 05.59"	N21° 04' 01.58"
7	E84° 54' 05.13"	N21° 03' 37.66"

## INSPECTION MONITORING AND EVALUATION

### b) The drainage pattern of overburden dump:

The runoff water will flow through the dump surface along the bund which will be developed at the edge of the dump. The dump surface needs to be terraced so that runoff can flow smoothly to meet the garland drain through the weep holes made in the retaining wall. Finally, the water will flow to the settling pit which has been proposed at the end of the garland

drain. After settling down, over flow water will go to settling pond. In-addition, part of runoff water of coal 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 be drain down to the garland drain of proposed dumps which will help to arrest the solid waste. The channelized water from the proposed garland drain and runoff water will accumulate in the proposed check Dam and after further settling of whatever silt still exists, the clean water will go to the nearest stream.

**c) Slope of the proposed Dump:**

Overall slope of the dump in the planned period will be kept below at an angle of  $28^{\circ}$ . A total of 167.97 million  $m^3$  of waste will be generated during conceptual period. Out of the total conceptual waste about 10% i.e. 16797000  $m^3$  waste will be utilized for road maintenance and balance 90% wastes will be utilized for dumping. An area of 283.71 Ha has been earmarked for O.B. Dumping. The slope of the conceptual dump will be maintained at an angle of  $28^{\circ}$ . During conceptual period the height of the dump will be 120m. The terraces of each dump will have 30m height.

**MEASURES TO BE ADOPTED**

**i) Plan for Construction of Check Dam**

During monsoon there is heavy on-rush of water as a result, runoff arise 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 overburden dumps, haul roads inside the mine and areas cleared of vegetation. **One** check dams will be constructed near proposed dump area. Details of proposed Check Dam is furnished below and location of the said with co-ordinates has been shown in the map.



**Fig.3: Check Dam to restrict Soil erosion & silt flow**

## **ii) Plan for 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 **6742m x 1.5 m bottom/ 1.2 height**. Also, there is a provision for maintenance of the retaining wall during the lease period.



**Fig.5: Picturesque view of Retaining walls**

## **13. INSPECTION, MONITORING AND EVALUATION**

For successful implementation of the above proposed program, 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 these program.

## **14. EXECUTING AGENCY**

In all the cases, the works shall be executed by SCCL having specialized departments headed by qualified persons with outsourced man and machinery as and where required. 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 through close coordination with the Forest Department.

#### 15. SPECIALIZED CELL


Name of Executive	Educational Qualification	Present Designation	Expertise
Ravindra Prabhakar D Choudari	Diploma ( Mining Engineering ), 1 <sup>st</sup> Class	DY GM/PO	39 years
Brajesh Kumar	BE Mining, 1 <sup>st</sup> Class Mines Manager (Coal)	C.MGR/ADDL MGR	22 years
Manoj Kumar Mishra	AMIE (Mining), MBA, PGDCA, 1 <sup>st</sup> Class Mines Manager (Coal)	Addl. MANAGER	26 years

#### 16. REQUIREMENT OF FUNDS

The financial forecast for construction of Check Dams, Retention Walls/ Toe Walls to arrest sliding down of the excavated material will be **4,34,91,712/- (Rupees Four Crores Thirty four Lakhs Ninety One Thousand Seven Hundred Twelve Only)**

  
20/9/2024  
General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122  
Authorized Signatory

Countersigned

  
Divisional Forest Officer  
Angul Division  
Divisional Forest Officer  
Angul Division


**COST FOR CONSTRUCTION OF CHECK DAMS, RETENTION/TOE WALL,  
GARLAND DRAIN & SETTLING TANK**

Sl. No.	Description of the Work	Fund required In Rs.
01	Check Dam	1,85,420.00
02	Retaining Wall 6742 M	2,70,16,788.00
03	Garland drain 6742 M	31,61,215.00
04	Settling Tank	1,52,310.00
05	De-siltation work for Garland drain intermittently and settling pond on L.S.	5,00,000.00
06	Repairs to retaining wall on L.S.	5,00,000.00
	<b>Total</b>	<b>3,15,15,733.00</b>
07	Escalation 20%	<b>63,03,146.60</b>
	<b>Total</b>	<b>3,78,18,879.60</b>
08	Inspection, Monitoring and Evaluation @15%	<b>56,72,831.94</b>
	<b>Grand Total</b>	<b>4,34,91,711.54</b> <b>Or</b> <b>4,34,91,712/-</b>


(Rupees Four Crores Thirty four Lakhs Ninety One Thousand Seven Hundred Twelve Only)

  
**General Manager**  
**Authorized Signatory Singareni Collieries Co. Ltd.**  
**(A. Govt. Company)**  
**Naini Area, Angul, Odisha-759122**

**Countersigned**

  
**Divisional Forest Officer**  
**Angul Division**  
**Divisional Forest Officer**  
**Angul Division**

**APPROVED IN RS. 4,34,91,712/-**

  
**Regional Chief Conservator**  
**of Forests, Angul Circle.**

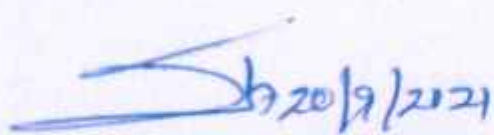
# ESTIMATE FOR CONSTRUCTION OF CHECK DAM

Wage rate Rs.311/Day

Sl No.	Description of items	No	Length	Width	Height	Qty	Rate	Amount in Rs.
1	2	3	4	5	6	7	8	9
1								
	Base	1	4	5.5	0.5	11		
	Wing Wall	4	2	0.5	0.5	2		
	Apron	2	3	5	0.2	6		
	Cut of wall	2	4	0.45	0.5	1.8		
						20.8	167.81	3490.448
2	Ramming and rolling earth work with light H.R.R.					20.8	14.22	295.8
3	Plain cement concrete (1:4:8)							
	Base	1	4	5.5	0.075	1.65		
	Wing Wall	4	2	0.5	0.08	0.32		
	Apron	2	3	5	0.08	2.40		
	Cut of wall	2	4	0.45	0.08	0.29		
						4.66	3746.5	17458.69
4	Cement concrete (1:2:4)							
4a	Below Ground Level							
	Base	1	4	5.5	0.4	8.8		
	Wing Wall	4	2	0.5	0.4	1.6		
	Apron	2	3	5	0.1	3		
	Cut of wall	2	4	0.45	0.5	1.8		

						15.20		
4b	Above Ground Level							
	Base	1	4	3.5	1	14.0		
	Wing Wall	4	2	0.4	1	3.2		
					Total	17.2		
				Grand Total		32.40	4496.7	145693.08
						Total		166938.02 Or, 166938.00
	$\frac{166938 \times 311}{280}$							185420.44 Or, 185420.00

(Rupees One Lakh Eighty Five Thousand Four Hundred Twenty Only)

  
 General Manager  
 The Singareni Collieries Co. Ltd.  
 Authorized Signatory (A. Govt. Company)  
 Naini Area, Angul, Odisha-759122

Countersigned

  
 Divisional Forest Officer  
 Angul Division

Detail Estimate of Retaining wall


Wage rate Rs.311/Day

**ESTIMATE FOR CONSTRUCTION OF RETAINING WALL**

Sl. No.	JOB DESCRIPTION	NO	LENGTH	WIDTH	HEIGHT	UNITS	QUANTITY	RATE Rs.	AMOUNT
1	Earth work in hard soil or gravely soil within 50m initial lead and 1.5m initial lift including rough dressing and breaking clods to maximum 5cm to 7cm and laying in layers not exceeding 0.3m in depth and as per the direction of the Engineer-in-charge.	1	6742	0.7	0.7	CUM	3303.58	167.81	554373.76
2	Filling in foundation and plinth with sand watered and rammed.	1	6742	0.7	0.075	CUM	353.955	323.11	114366.40
3	Cement concrete M-10 grade (PCC 1:4:8 for foundation) with crushed broken granite coarse aggregate of size 40mm downgraded mixed in concrete mixture including cost conveyance and royalty of all materials, machineries and labour and laying in head works and canal structures with required lifts and de-lifts as per direction of Engineer-in-charge.	1	6742	0.6	0.075	CUM	303.39	3746.5	1136650.64
4	BRICK WORK for foundation having crushing strength not less than 75 Kg/cm <sup>2</sup> with dimensional tolerance $\pm 8$ percent in cement mortar (1:6) in foundation and plinth per cum.	1	6742	0.5	0.3	CUM	1011.3	3592.4	3632994.12
		1	6742	0.375	0.3	CUM	758.475	3592.4	2724745.59

5	BRICK WORK for S/S, having crushing strength not less than 75 Kg/cm <sup>2</sup> with dimensional tolerance $\pm 8$ percent in cement mortar (1:6) in foundation and plinth per cum.	1	6742	0.25	2.5	CUM	4213.75	3592.4	15137475.5
6	Concrete for plinth M-20 grade with crushed broken granite coarse aggregate of size 20mm downgraded mixed in batching and mixed plant including cost of all materials, machineries and labour and transportation of mixed concrete.	1	6742	0.25	0.1	CUM	168.55	4496.7	757918.785
7	Concrete for coping M-20 grade with crushed broken granite coarse aggregate of size 20mm downgraded mixed in batching and mixed plant including cost of all materials, machineries and labour and transportation of mixed concrete.	1	6742	0.35	0.025	CUM	58.992	4496.7	265271.575
Total:								24323796.40	
Say								24323796.00	
								27016788.10	
								Or	
								27016788.00	

(Rupees Two Crore Seventy Lakhs Sixteen Thousand Seven Hundred Eighty Eight only)

  
 General Manager  
 Authorized Signatory, Singareni Collieries Co. Ltd.  
 (A. Govt. Company)  
 Naini Area, Angul, Odisha-759122

Countersigned  
 Divisional Forest Officer  
 Divisional Forest Officer  
 Angul Division

# **DETAIL ESTIMATE OF CONSTRUCTION OF GARLAND DRAIN**

**Wage Rate- Rs.311.00/-**

Sl No	Description of items	No	Length	Width	Height	Qty	Unit	Rate	Amount
1	Cleaning of Jungles & bushes	1	6742	7	-	47194	Sqm	1.7	80,229.80
2	Earth work in hard soil in embankment roads with in 50 mtr initial lead & 1.5mtr initial lift including rough dressing & breaking clods to Maximum 5.00 cm to 7.00 cm & laying layers not exceeding 0.30 mtr depth as per specification.	1	6742	3	0.75	15169.5	Cum	167.81	2545593.80
3	Ramming and rolling earth work with light H.R.R. in embankments in layers not exceeding 0.30m in depth as directed by the Engineer-in-charge.	1	6742	3	0.75	15169.5	Cum	14.22	2,15,710.29
4	Rough Stone Dry Packing with local boulder only labour charges (Local boulder will be Supplied by the Company through contractual manner)	2	3	2	0.3	3.6	Cum	1271.1	4575.96
	<b>Total:</b>								<b>28,46,109.85</b>
									<b>Or,</b>
									<b>28,46,110.00</b>
									<b>31,61,214.86</b>
									<b>Or,</b>
									<b>31,61,215.00</b>

**1268978.00x 311.00**

**280**

# ESTIMATE FOR CONSTRUCTION OF SETTLING TANK

Wage rate Rs.311.00/Day

Wage rate Rs.311.00/Da									
Sl. No.	Description of items	No	Length	Width	Height	Qty	Unit	Rate	Amount
1	Earth work in hard soil in embankment roads with in 50 mtr initial lead & 1.50 mtr initial lift including rough dressing & breaking clods to Maximum 5.00 cm to 7.00 cm & laying layers not exceeding 0.30 mtr depth as per specification.	1	4.00	3.00	1.50	18.0	Cum	167.8	3020.40
2	Specification approved by department along with proper compaction with H.R.R Excavation	1	4.00	3.00	1.50	18.0	Cum	14.2	255.60
3	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	1271.1	6101.28
4	Transportation charges for 5.00 km 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-3				4.80	Cum	87.0	417.60
Rate per one No Settling tank									9794.88
Cost of 14 no. Settling tank									1,37,128.32
<u>1,37,128.32 x 311</u> 280									1,52,310.38 Or, 1,52,310.00

20/9/2024  
General Manager

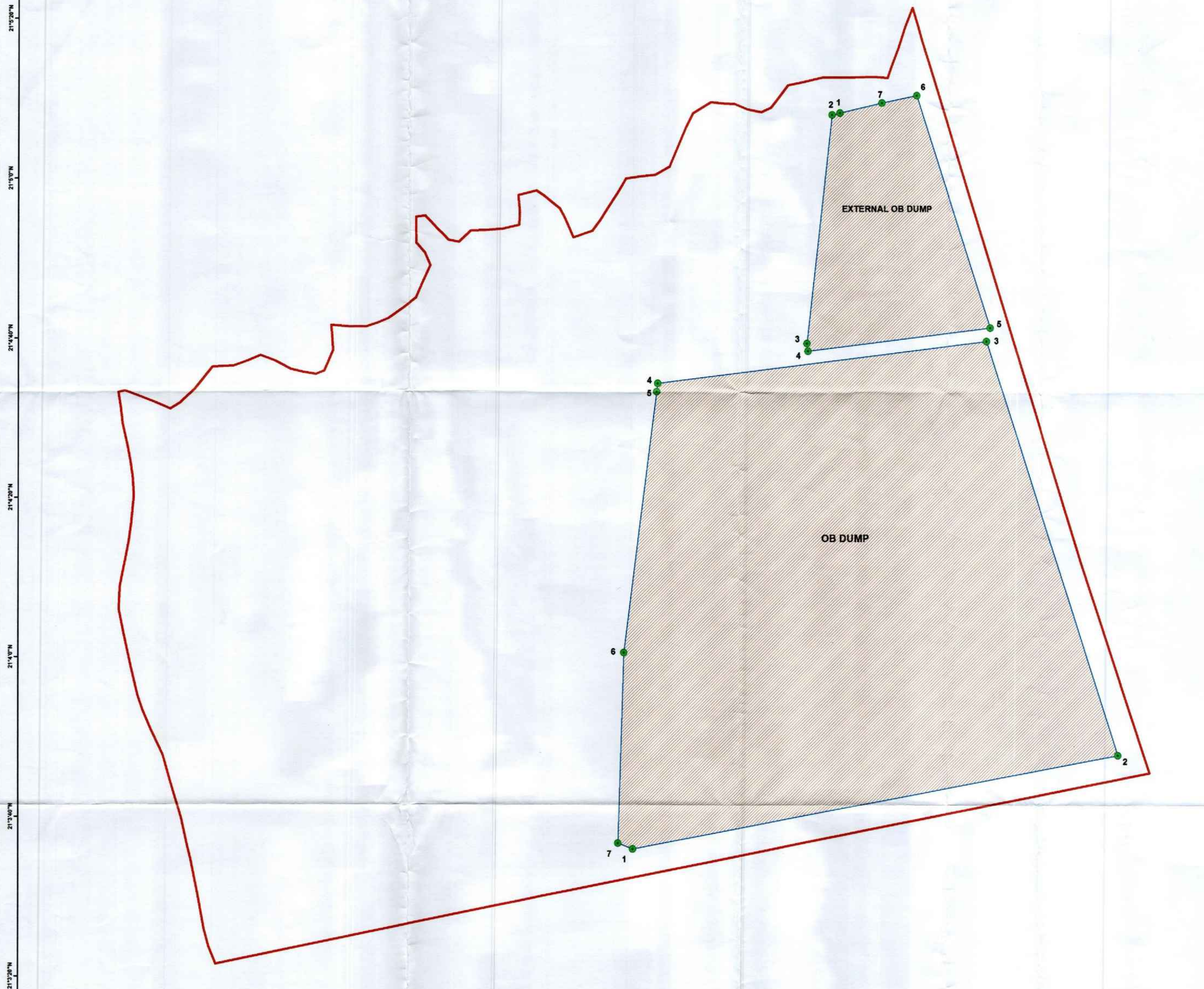
Authorized Signatory  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Main Area, Angul, Odisha-759122

For

Counter signed  
Divisional Forest Officer  
Angul Division

# MAP SHOWING OB DUMP AREA OF NAINI COAL BLOCK OF SCCL LTD.

SCALE-1:8,000  
Meters  
0 100 200 400 600 800



OB dump (Dump stored up to 15 th year)		
G P S COORDINATES		
Point Id	Longitude	Latitude
1	E84° 54' 07.17"	N21° 03' 36.98"
2	E84° 55' 12.52"	N21° 03' 49.55"
3	E84° 54' 53.94"	N21° 04' 41.23"
4	E84° 54' 09.60"	N21° 04' 35.42"
5	E84° 54' 09.48"	N21° 04' 34.39"
6	E84° 54' 05.59"	N21° 04' 01.58"
7	E84° 54' 05.13"	N21° 03' 37.66"

Area for Top soil (considering 0.5m thick to be extracted) External Dump		
G P S CO ORDINATES		
Point Id	Longitude	Latitude
1	E84° 54' 33.69"	N21° 05' 09.55"
2	E84° 54' 32.65"	N21° 05' 09.30"
3	E84° 54' 29.71"	N21° 04' 40.68"
4	E84° 54' 29.85"	N21° 04' 39.71"
5	E84° 54' 54.42"	N21° 04' 42.93"
6	E84° 54' 44.03"	N21° 05' 11.85"
7	E84° 54' 39.36"	N21° 05' 10.89"

Divisional Forest Officer  
Angul, Division

Asst. Conservator of Forests  
Angul Division

Forest Range Officer  
Chhendipada Range

General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-751022

## LEGEND

- ML BOUNDARY
- OB DUMP



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL.759123, ODISHA  
NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- A-V

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021

### Condition No. A 4(iv)

To 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  $28^{\circ}$ .

### Compliance to Condition No. A 4(iv)

In compliance to this condition, detailed scheme with financial out lay of Rs. 1,10,22,131.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021 and M/s The Singareni Collieries Company Limited do hereby undertake for Stabilization of 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  $28^{\circ}$ . (Approved scheme with financial out lay of Rs. 1,10,22,131.00 is enclosed.)

Place: Angul

Date: 8.11.2021

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122



*Scheme*

*For*

**STABILIZE THE OVERBURDEN DUMPS BY APPROPRIATE  
GRADING/BENCHING IN ACCORDANCE WITH THE  
APPROVED SCHEME SO AS TO ENSURE THAT ANGLE OF  
REPOSE AT ANY GIVEN PLACE IS LESS THAN 28°**

*In compliance*

*with*

*Condition No. A-04 (iv) of*

*Stage-I Forest Clearance Granted*

*Vide Letter No. 8-01/2020-FC, Dated. 28.07.2021*

*of Govt. of India, Ministry of Environment, Forests & CC,*

*New Delhi.*

*for*

*Diversion of 783.275 Ha of Forest Land*

*(including safety zone of 9.098 Ha.)*

*Within Total Lease area of 912.799 Ha. For Naini opencast coal mining Project*

*of*

**M/S Singareni Collieries Company Ltd (SCCL)**

**In**

**Chhendipada Tahsil, Sub-Divn.- Angul, Dist.Angul**

**Odisha.**

**STABILIZE THE OVERBURDEN DUMPS BY APPROPRIATE GRADING/BENCHING IN ACCORDANCE WITH THE APPROVED SCHEME SO AS TO ENSURE THAT ANGLE OF REPOSE AT ANY GIVEN PLACE IS LESS THAN 28°**

**1. INTRODUCTION**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurpal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District. The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land).

The area approved for grant of mining lease is 912.799 ha. The total forest land is 783.275 Ha. out of which 774.177 Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only.

The Stage-I Forest clearance u/s 2 of FC Act 1980 was granted by MoEF & CC vide their letter No. 8-01/2020-FC Dt. 28.07.2021 where in it has been stipulated as per **condition no. A-04 (iv) to stabilize overburden dumps by appropriate grading/benching in accordance with the approved Scheme, so as to ensure that angle of repose at any given place is less than 28°.**

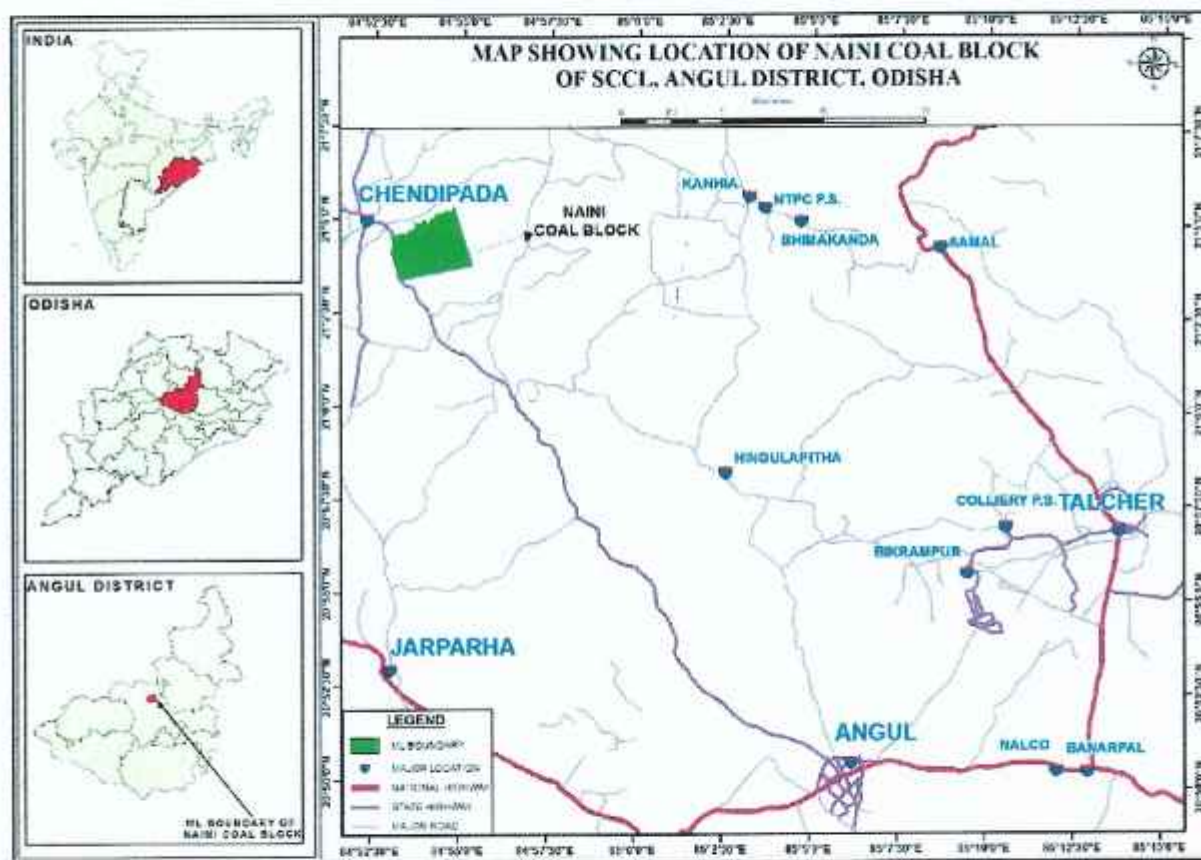
**2. LOCATION**

The mining lease area has been covered in the Survey of India topo sheet No.73 C/16 on RF 1:50,000 (2 cm to 1 km) and falls within Angul District of Odisha. The mine spans over an area of 9.13 sq.km between Latitude 21°03'21" and 21°05'23" N and Longitude 84°52'56" and 84°55'17" E. administratively it is under the jurisdiction of Chhendipada Tahasil, Angul district.

Mining lease area is approachable from Angul covering a distance of 35 km by a black topped road up to Chhendipada.

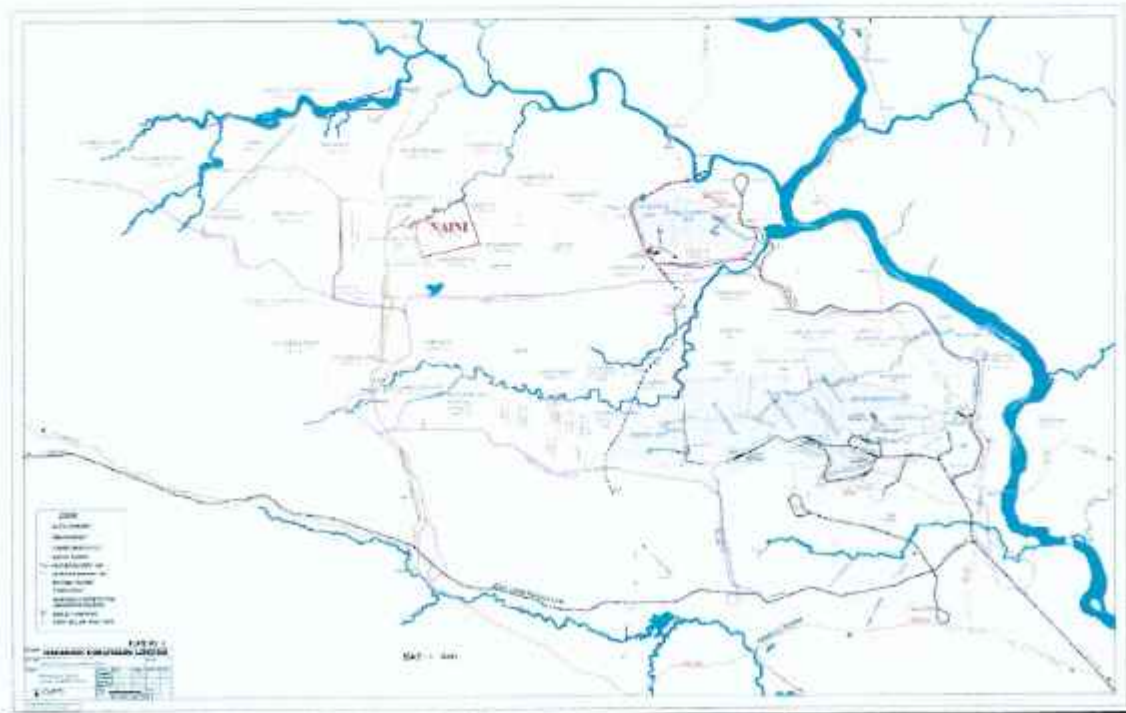
The nearest railway station is Angul on Talcher-Sambalpur railway line of East Coast Railway at a distance of 35 km from Mines. This railway line connects Puri to Sambalpur. The nearest airport is Bhubaneswar at a distance of 165.0 K.M. The ML area is in Chhendipada Range of Angul Forest division.

### LOCATION MAP



**Fig.1: Location Map of Naini Coal Block, SCCL**

### Map of the Project



**Fig.2: Mining Project Map of Naini Coal Block, SCCL**

### **3. TOPOGRAPHY**

The elevation of the lease area varies from 100 mt. above MSL to 160 mt. above MSL. The area is slightly undulating and almost flat and forms a part of Brahmani river belt (Talcher) Coal Fields. The general slope of the lease area is towards north. Gouduni Nala flows eastwards and is the major drainage outlet of the area. This nala joins Tikra River at a distance of 9 kms NE. Tikra river ultimately joins the river Brahmani.

### **4. LAND USE PATTERN**

Sl. No.	Pattern	Area in (Ha.)		
		Forest	Non-Forest	Grand Total
1	Quarry area			762.414
	a) Back filled area	468.232	11.314	
	b) Excavated void	176.925	105.943	
2	Safety Zone/Rationalisation Area	40.857	5.082	45.939
3	Diversion/below River/Nala/canal	14.489	4.560	19.049

	(Including Settling tanks)			
4	Road & Infrastructure area	40.060	0.833	40.893
	a) Coal Washery including CHP	36.017	0.833	36.850
	b) Mine Service facilities	4.043	0.000	4.043
5	Garland Drains	1.765	0.004	1.769
6	Embankment	12.941	1.788	14.729
7	Green Belt	28.006	0.000	28.006
	<b>Grand Total (in ha)</b>	<b>783.275</b>	<b>129.524</b>	<b>912.799</b>

#### 5. DETAILS OF FOREST LAND WITHIN THE LEASE AREA

Forest land to be worked for mining and allied purpose ... 774.177 Ha

Area set aside for Safety Zone ... .. 9.098 Ha  
783.275 Ha

#### 6. SOIL TYPE

The soil type occurring in this area is mostly sandy loam having good soil depth with pH varying from 6 to 8.

#### 7. CLIMATE

The climate of this area is tropical with hot and humid summer and short spell of winter. Occasional thunder storm during pre-monsoon season is common. Monsoon sets in from late June and continues to middle of September. Maximum temperature comes to 49<sup>0</sup> c during summer and minimum 10<sup>0</sup> c during winter.

#### 8. DRAINAGE

The Gauduni nalla forming the northern boundary of the block flows from south-west to north-east. This is the main drainage in the mining lease area. Kudaposi nalla flows from south to north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nala flow across the block towards north and join the Gauduni nalla.

However, it is proposed to divert these streams along the boundary of ML and drain into the existing Gauduni nalla. These three streams are planned to be diverted in consultation with the Water Resources Department of the State Government.

## 9. EXISTING VEGETATION

The area proposed for diversion includes species as detailed below:

Local Name	Botanical Name
Kurum	<i>Adina cordifolia</i>
Jack Fruit	<i>Artocarpus heterophyllus</i>
Gamhar	<i>Gmelina arborea</i>
Tamarind	<i>Tamarindus indica</i>
Jamun	<i>Syzygium cumini</i>
Babul	<i>Acacia nilotica</i>
Kusum	<i>Strychnos oleosa</i>
Mahanim	<i>Ailanthus excelsa</i>
Siris	<i>Albizia lebbek</i>
Sissoo	<i>Dalbergia latifolia</i>
Mango	<i>Mangifera indica</i>
Asan	<i>Terminalia alata</i>
Sunajhari	<i>Acacia auriculiformis</i>
Sunari	<i>Cassia fistula</i>
Karanj	<i>Pongamia pinnata</i>

## 10. PHASE WISE MINING ACTIVITY AND MANAGEMENT OF OVERBURDEN DUMP

### a. Method of Mining

There is a cluster of Coal mines in Chhendipada. Taking into consideration the topography of the deposit, estimated geological reserve 340 million ton, the deposits will be mined by fully mechanized method by deployment of major earth moving machines like surface minor, blast hole drill to over burden, hydraulic shovel, dumpers, dozers etc on three shift basis

### b. Waste Generation

There is no land available for locating the external dump as the area on east, west, north and south is Coal bearing. Overburden to be removed for extraction of 340 million ton Coal will be 870.07 M cum. Out of the total conceptual waste about 10% i.e 87.007 M cum waste will be utilized for road maintenance and balance 90% i.e 783.063 M cum waste will be utilized for dumping. An area of 283.71 hectares has been earmarked for external OB dump for

the initial 15 years and 468.232 Ha is earmarked internal OB dump i.e. backfilled area after extraction of coal, which will be in operation from 11 th year to 30 th year.

### **c. The salient features of OB / waste dump management practices**

Retaining wall and garland drain would 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  $28^{\circ}$ .
- (ii) Terrace shall have inward slope with a provision of catch drain.
- (iii) The dump edge will be covered with bund. Garland drains will be constructed adjacent to proposed dumps 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 is to be made up of half concrete with number of cemented stairs to check the heavy flow off of water as well as to reduce gully formation due to constant run off.

## **11. THE OBJECTIVES OF THE PROPOSED PLAN**

The objectives of the proposed plan are as follows:

- i) To fulfill the stipulation, i.e., Condition no.A-04 (iv) imposed in the Stage-I approval granted vide Letter No. 8-01/2020-FC dated 28.07.2021 of MoEF & CC to prepare plan for **stabilize the overburden dumps by appropriate grading/benching in accordance with the approved Scheme, so as to ensure that angle of repose at any given place is less than  $28^{\circ}$ .**
- ii) To adopt proper Management and scheduling of overburden materials so as to minimize external dumping.
- iii) To provide methodologies and implement the proposed works in time bound manner to prevent slope failures there by providing stable OB dump slopes.
- iv) To stabilize the over burden dumps by plantation.
- v) To prevent overflow of eroded soil from the fines, OB dump areas which lead to siltation in the streams.

## 12. 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.

## 13. PROPOSED METHODOLOGY

To achieve the above objectives, it has been proposed to take up both biological and structural works to prevent erosion of surface soil. The vegetative method is to be adopted mostly in the upper reaches whereas the structural measures in the lower reaches.

### MEASURES PROPOSED

#### A. Biological measures

##### i) Plantation and Grass seed sowing

Soil erosion is moderate in this locality since the forest canopy is having density of less 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 & grass seeds sown broad-cast over an area of 148.676 ha (Block plantation – 62.286 ha + Grass seed sowing - 86.39 ha) on the surface of O.B. Dump. The over burden dump will have a series of terraces. So it is proposed to make Block Plantation in all the terraces so also grass seed sowing. The list of species proposed for plantation is as follows.

Sl.	Local Name	Scientific name
1	Amla	<i>Emblica officinalis</i>
2	Karanja	<i>Pongamia glabra</i>
3	Asan	<i>Terminalia alata</i>
4	Kurum	<i>Adina cordifolia</i>
5	Neem	<i>Azadirachta indica</i>
6	Barakoli	<i>Ziziphus mauritiana</i>
7	Kusuma	<i>Schleichera oleosa</i>
8	Bel	<i>Aegle marmelos</i>
9	Sunari	<i>Cassia fistula</i>
10	Kasi	<i>Bridelia retusa</i>

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

**ii) Procurement of Seedlings:**

Seedlings of as detailed above shall be purchased from the Forest Dept. Nursery located at Chhendipada. For this we will intimate DFO, Angul and Range Officer, Chhendipada sufficiently ahead.

**iii) Alignment and pitting:**

Alignment and pitting will be taken up in the month of November-December at perceptible gaps and Pits of size 45cm x 45cm x 45cm will be dug maintaining a spacing of 2.5mtr x 2.5mtr. and dug up earth will be piled preferably on the northern aspect.

**iv) Actual Planting:**

The seedling will be planted in the dugout pits of size 45cm x 45cm x 45cm with spacing of 2.5mtr x 2.5mtr. Plantation should be taken up after first regular shower of monsoon and should be completed by the end of July. Species shall be planted as per suitability of the soil condition. NPK fertilizer @ 30gms per plant should be given as basal dosage. Anti-termite insecticide should also be applied to each pit while planting. Casualty if any noticed will be replaced with the excess seedling procured for the purpose. During second year also casualty replacement will be done for which seedling shall be procured from Forest Dept.'s Nursery.

**v) Weeding, Soil working & Manuring:**

For establishment and better growth of the planted seedlings, weeding, soil working and manuring are necessary. It is prescribed to carry out two weeding, soil working and manuring during first year and one weeding and soil working during second and third year. During the first year and second year first weeding and manuring shall be carried out during August-September and the second one during October.-November. First weeding shall be an entire area weeding (scraping) and the second will be of strip weeding along the contour. The weeding of third year will be an area weeding which will be carried out during August – Sept. After each weeding, soil working will be done around each plant at radius of 0.5mtr and manuring of each plant will be done.

**vi) Application of insecticides:**

The plantation site after planting good healthy seedling may cause influx of insects, which usually eat and damage the tender leaves and roots of the plants. To get rid of such insects attack application of the insecticides will be taken up in required doses at the time of planting. Spraying of insecticides, if required, shall be done preferably in a sunny day before forenoon.

The Schedule of operation for preparation of site, pre-planting, planting, post-planting are prescribed herewith.

OPERATIONS - 0 <sup>th</sup> year+ 1 <sup>st</sup> year	PERIOD OF COMPLETION
i. Advance preparation of site.	Nov- February
ii. Alignment & Staking of pits	January- February
iii. Digging of pits	February - March
iv. Carriage and planting.	July - August
v. Casualty replacement	August
vi. 1 <sup>st</sup> weeding, soil working, manuring	September- October
vii. Soil & water conservation measure	September- October
viii. 2 <sup>nd</sup> weeding, soil working, manuring	September- October
ix. Fire line tracing	February - March
x. Watch & Ward	July to March

**Post planting operation in 2<sup>nd</sup> year.**

- a. Casualty replacement : July-August
- b. 1<sup>st</sup> weeding, soil working & manuring : August-September
- c. Fire line tracing : February-March
- d. Watch & ward : Throughout the year

**3<sup>rd</sup> year**

- a. Weeding, soil working & application of manure : August-September
- b. Fire line tracing : February-March
- c. Watch & ward : Throughout the year

#### 4<sup>th</sup> year to 10<sup>th</sup> year

- |                      |                       |
|----------------------|-----------------------|
| a. Fire line tracing | : February-March      |
| b. Watch & ward      | : Throughout the year |

#### vii) Grass Seed Sowing

Over burden dump of this coal mine will be done. This over burden will be subsequently back filled in the mined out area during reclamation. Till then the surface of the over burden need to be protected to prevent soil erosion and choking of streams down below. Grass seeds mixed with sand will be sown broad cast over the surface of the over burden dump. This area contains sandy loam soil in the surface and gravels may come up mixed with Coal during excavation. In such area species like *Heteropogon contortus*, *Chrysopogon fulvas*, *Themeda triandra* and *Cynodon dactylon* will be sown broadcast over 86.39 Ha.

#### B. Structural Measures

Vegetative means of erosion control are the most feasible and economic measures. However, as the pressure on land will be increasing, it is necessary to bring even highly eroded land under utilization. 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. 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) Terracing of OB Dump Slope

It is proposed to construct berm & terraces over a length of 20.762 Km 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 the OB will be deposited for 10 years the terracing will commence.

### **Details of the proposed External OB Dump**

The volume of external OB dump is 167.97 M cum over an area of 283.71 Ha.

Terraces will be made at an interval of every 30 M. Height of the Dump at the conceptual period will be 120 M. So, there will be 4 terraces.

Length of Terrace (T1) = 6593m

Length of Terrace (T2) = 6057 m

Length of Terrace (T3) = 4467m

Length of Terrace (T4) = 3645m

**Total= 20,762m**

#### **ii) Plan for 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 20.762 Km x 2.5 height. Also, there is a provision for maintenance of the retaining wall during the lease period.

#### **iii) Plan for construction of Garland drain:**

A shallow trench (3.0 m wide x 1.5 m deep) will be dug for storage of runoff accumulated for draining surface water before it is released to the natural water course. Details of proposed Garland drain 6742 m L x 3.0m wide x 1.5m depth shall be constructed during the lease period with location as shown in the map.

#### **iv) Plan for construction of Settling Tank:**

It is a process that involves separation of solid material from slurry. 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 fourteen settling tanks. Detail of proposed Settling Tanks is shown in the map.

### **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.

### **v) Plan for construction of Check Dam:**

During monsoon there is heavy on-rush of water as a result, runoff arise 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 overburden dumps, haul roads inside the mine and areas cleared of vegetation. One check dams will be constructed near proposed dump area. Detail of proposed Check Dam is furnished below.

## **14. INSPECTION, MONITORING AND EVALUATION**

For successful implementation of the above works under the present 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. Budgetary provision of 15% of the total project cost has been earmarked.

## **15. EXECUTIVE AGENCY**

The works in the present Scheme shall be executed by the User Agency having specialized departments headed by qualified persons 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 ensured. The entire work shall be carried out in co-ordination with the Forest Department.

A-4(iv)

**16. SPECIALIZED CELL**

Name of Executive	Educational Qualification	Present Designation	Expertise
Ravindra Prabhakar D Choudari	Diploma ( Mining Engineering ), 1 <sup>st</sup> Class Mines Manager (Coal)	DY GM/PO	39 years
Brajesh Kumar	BE Mining, 1 <sup>st</sup> Class Mines Manager (Coal)	C.MGR/ADDL MGR	22 years
Manoj Kumar Mishra	AMIE (Mining), MBA, PGDCA, 1 <sup>st</sup> Class Mines Manager (Coal)	Addl. MANAGER	26 years

**17. REQUIREMENT OF FUNDS**

The financial forecast for stabilizing over burden dump will be 11022131/-.  
(Rupees One Crore Ten Lakhs Twenty Two Thousand One Hundred Thirty One only.)

13/09/2021  
General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Authorized Signatory

Koul

Forest Range Officer  
Chhendipada Range

Countersigned

Divisional Forest Officer  
Angul Division  
Angul, Division

Asst. Conservator of Forests  
Angul Division

### TERRACING OF THE DUMP SLOPE

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

Location – Over Burden Dump, Naini

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

Width & height of the terrace – 30 m. & 30 m.

Rate for engagement of HEMM – Rs.1794.40/hr. i.e. Rs.1794.40/3.38 =530.88 i.e. Rs.531 per running meter.

Total rate is Rate X running meter = Rs.530.88 X 20,762 = Rs.11022130.56

Therefore, terracing to be done over a length of 20,762 RM is Rs. 11022131/-.

**(Rupees One Crore Ten Lakhs Twenty Two Thousand One Hundred Thirty One only.)**

*The Singareni Collieries Company Ltd (SCCL) do hereby undertake to execute the item of works mentioned in this scheme in a phased manner during the lease period at the project cost.*

20/9/2021  
General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Forest Range Officer  
Chhendipada Range

Asst. Conservator of Forests  
Angul Division

Countersigned

Divisional Forest Officer  
Angul Division

Approved Rs. 1,10,22,131/-

Regional Chief Conservator  
of Forests, Angul Circle.



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA  
NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- A-VI

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021

Condition No. A 4(V)

Top soil management plan.

Compliance to Condition No. A 4(V)

In compliance to this condition, detailed scheme with financial out lay of Rs. 3,36,10,774.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021 and M/s The Singareni Collieries Company Limited do hereby undertake that no damage shall be caused to the top-soil and M/s The Singareni Collieries Company Limited will follow the top soil management plan. (Approved scheme with financial out lay of Rs. 3,36,10,774.00 is enclosed.)

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 8.11.2021



*For*

**STRICT ADHERENCE TO THE PRESCRIBED TOP  
SOIL MANAGEMENT.**

**In compliance**

**with**

**Condition No. A-04 (v) of**

**Stage-I Forest Clearance Granted**

**Vide Letter No. 8-01/2020-FC, Dated. 28.07.2021**

**of Govt. of India, Ministry of Environment, Forest & CC,**

**New Delhi.**

**for**

**Diversion of 783.275 Ha of Forest Land**

**(including safety zone of 9.098 Ha.)**

**Within Total Lease area of 912.799 Ha. For Naini opencast coal mining Project**

**of**

**M/S Singareni Collieries Company Ltd (SCCL)**

**In**

**Chhendipada Tahsil, Sub-Divn.- Angul, Dist.Angul**

**Odisha.**

## **SCHEME FOR STRICT ADHERENCE TO THE PRESCRIBED TOP SOIL MANAGEMENT**

### **1. INTRODUCTION**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurpal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District. The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land).

The area approved for grant of mining lease is 912.799 ha. The total forest land is 783.275 Ha. out of which 774.177 Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. Shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only.

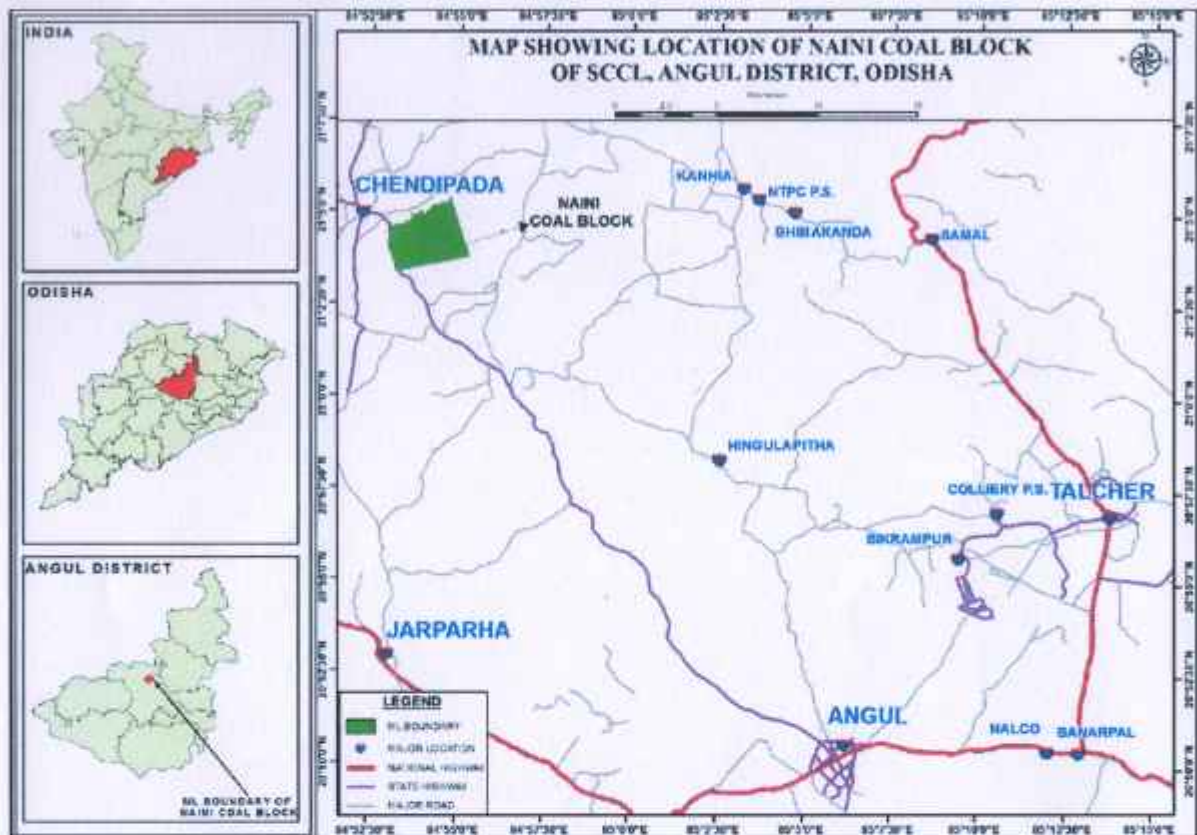
The Stage-I Forest clearance u/s 2 of FC Act 1980 was granted by MoEF & CC vide their letter No. 8-01/2020-FC Dt. 28.07.2021 where in it has been stipulated as per **condition no.A-04 (V) to strict adherence to the prescribed Top Soil Management.**

### **9. LOCATION**

The mining lease area has been covered in the Survey of India topo sheet No73 C/16 on RF 1:50,000 (2 cm to 1 km) and falls within Angul District of Odisha. The mine spans over an area of 9.13 sq.km between Latitude 21°03'21" and 21°05'23" N and Longitude 84°52'56" and 84°55'17" E. administratively it is under the jurisdiction of Chhendipada Tahasil, Angul district. Mining lease area is approachable from Angul covering a distance of 35 km by a black topped road up to Chhendipada.

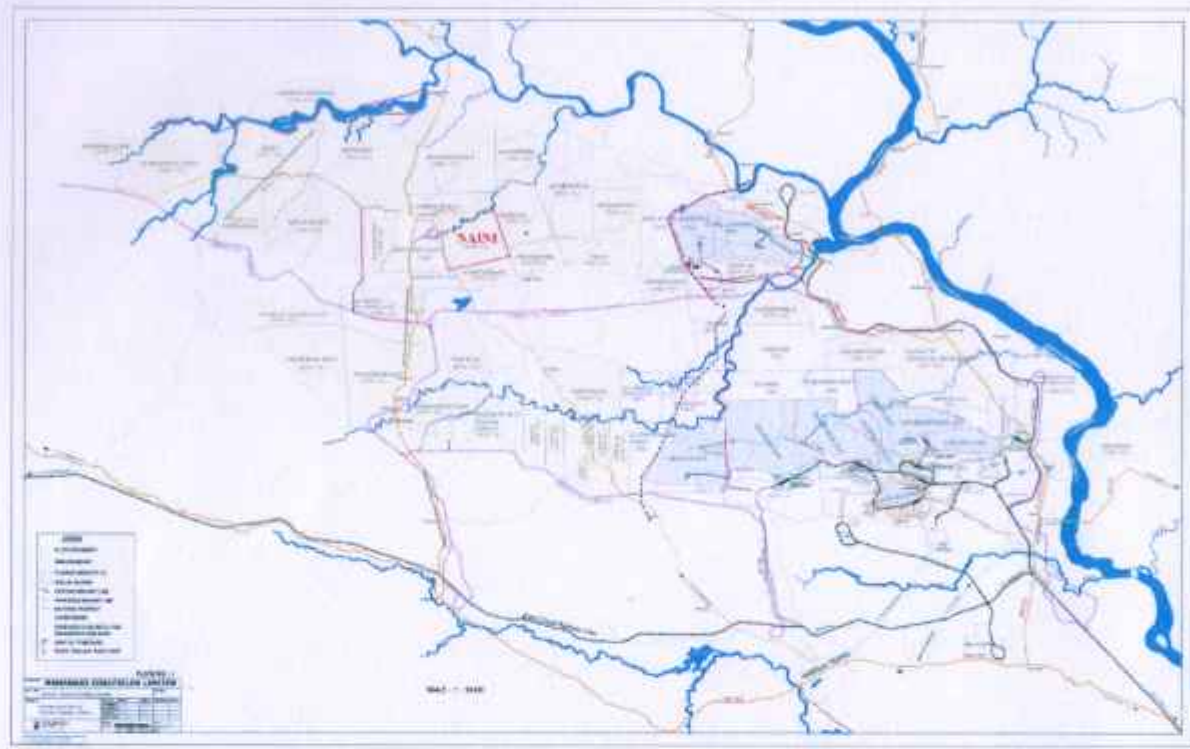
The nearest railway station is Angul on Talcher-Sambalpur railway line of East Coast Railway at a distance of 35 km from Mines. This railway line connects Puri to Sambalpur. The nearest airport is Bhubaneswar at a distance of 165.0 K.M. The ML area is in Chhendipada Range of Angul Forest division.

## LOCATION MAP



**Fig.1: Location Map of Naini Coal Block, SCCL**

## Map of the Project



**Fig.2: Mining Project Map of Naini Coal Block, SCCL**

## **9. TOPOGRAPHY**

The elevation of the lease area varies from 100 mt. above MSL to 160 mt. above MSL. The area is slightly undulating and almost flat and forms a part of Brahmani river belt (Talcher) Coal Fields. The general slope of the lease area is towards north. Gouduni Nala flows eastwards and is the major drainage outlet of the area. This nala joins Tikra River at a distance at a distance of 9 kms NE. Tikra river ultimately joins the river Brahmani.

## **4. LAND USE PATTERN**

Sl. No.	Pattern	Area in (Ha.)		
		Forest	Non-Forest	Grand Total
1	Quarry area			762.414
	a) Back filled area	468.232	11.314	
	b) Excavated void	176.925	105.943	
2	Safety Zone/Rationalisation Area	40.857	5.082	45.939

3	Diversion/below River/Nala/canal (Including Settling tanks)	14.489	4.560	19.049
4	Road & Infrastructure area	40.060	0.833	40.893
	a) Coal Washery including CHP	36.017	0.833	36.850
	b) Mine Service facilities	4.043	0.000	4.043
5	Garland Drains	1.765	0.004	1.769
6	Embankment	12.941	1.788	14.729
7	Green Belt	28.006	0.000	28.006
	<b>Grand Total (in ha)</b>	<b>783.275</b>	<b>129.524</b>	<b>912.799</b>

## 5. DETAILS OF FOREST LAND WITHIN THE LEASE AREA

Forest land to be worked for mining and allied purpose ... 774.177 Ha

Area set aside for Safety Zone ... 9.098 Ha  
783.275 Ha

## 6. SOIL TYPE

The soil type occurring in this area is mostly sandy loam having good soil depth with pH varying from 6 to 8.

## 7. CLIMATE

The climate of this area is tropical with hot and humid summer and short spell of winter. Occasional thunder storm during pre-monsoon season is common. Monsoon sets in from late June and continues to middle of September. Maximum temperature comes to 49° c during summer and minimum 10° c during winter.

## 8. DRAINAGE

The Gauduni nalla forming the northern boundary of the block flows from south-west to north-east. This is the main drainage in the mining lease area. Kudaposi nalla flows from south to north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nala flow across the block towards north and join the Gauduni nalla.

However, it is proposed to divert these streams along the boundary of ML and drain into the existing Gauduni nalla. These three streams are planned to be diverted in consultation with the Water Resources Department of the State Government.

## 9. EXISTING VEGETATION

The area proposed for diversion includes species as detailed below:

Local Name	Botanical Name
Kurum	<i>Adina cordifolia</i>
Jack Fruit	<i>Artocarpus heterophyllus</i>
Gamhar	<i>Gmelina arborea</i>
Tamarind	<i>Tamarindus indica</i>
Jamun	<i>Syzygium cumini</i>
Babul	<i>Acacia nilotica</i>
Kusum	<i>Slychera oleosa</i>
Mahanim	<i>Ailanthus excelsa</i>
Siris	<i>Albizia lebbek</i>
Sissoo	<i>Dalbergia latifolia</i>
Mango	<i>Mangifera indica</i>
Asan	<i>Terminalia alata</i>
Sunajhari	<i>Acacia auriculiformis</i>
Sunari	<i>Cassia fistula</i>
Karanj	<i>Pongamia pinnata</i>

## 10. PLAN FOR TOP SOIL MANAGEMENT

Average 0.5m thick top soil is available. The excavated top soil over 38, 12,070 cum shall be stored separately before commencement of mining activities in the proposed area and stacked separately at the earmarked area in 10m height top soil dump. Top soil will be preserved by planting grass on slopes and top of the dump. All the overburden waste dumps will have a maximum height of 30m and slope of 28°. At the end of mining, all the dumps will be biologically stabilized. Top soil will be preserved as per top soil management method detailed below.

This Topsoil Management Plan has made provision for soil stripping and stockpiling procedures to minimize top soil degradation and to ensure maximum availability of suitable soil for future reclamation within M.L. area of Naini. Prior to mining, top soil is to be stripped in areas likely to be disturbed for mining operation and stored. A comprehensive top soil

management plan has been prepared keeping in view the Conservation and regeneration of plants and afforestation in and around the sites where top soil is to be stored.

## **11. OBJECTIVES**

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

- i) To meet the stipulation no. A-04 (V) of Stage-I Forest clearance accorded vide letter No. 8-01/2020-FC dated 28.07.2021 of MoEF & CC, GOI, New Delhi i.e. **"Strict Adherence to the prescribed top Soil Management"**.
- ii) To identify top soil resources, and to follow stripping guidelines for optimum recovery.
- iii) To identify stockpile locations and dimensions.
- iv) To manage and conserve the top soil reserves by implementing biological measures.
- v) To provide sufficient stable top soil for reclamation work of dumps, back filled areas and degraded lands.

## **12. PLAN FOR MANAGEMENT OF TOP SOIL TO BE GENERATED FROM MINING**

The top soil of ML area is scanty which is present in extremely thin layers i.e. 0.5m. Whatever top soil is available will be excavated during the development of unbroken patches 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 reclamation works in the mine as per this plan. The top soil will be stored temporarily until it is being used for dump reclamation. The details of top soil to be generated during life of the lease periods will be as follows:

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

## **13. FUTURE TOP SOIL GENERATION FROM MINING ACTIVITIES**

Soil studies have shown that the average thickness of topsoil will be around 0.5m. The quantity of topsoil to be stripped in a phased manner from the site, which will be used during life

of the lease area for reclamation of the existing OB dumps, backfilled and other barren/degraded areas.

Prior to stripping, the area will be cleared by removing the weed 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- organism) conducive to growth of plant.

#### **14. METHODOLOGY**

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

- i) Top soil stock piles has been identified within the quarry area.
- ii) Stripping off the top soil by dozer or by small shovel dumper combination rather than scrapers to minimize structural degradation.
- iii) Construction of stock piles with a "rough" surface condition to reduce erosion hazard.
- iv) Improvement of drainage and promotion of re-vegetation.
- v) Stabilization of Top soil surface by biological measures i.e. by sowing seeds of grass with other leguminosae (Fabaceae) species.
- vi) To utilize stripped top soil as soon as possible for reclamation in a phased manner in accordance with the reclamation plan as prescribed in the Mining Plan approved.

#### **15. PLAN FOR MANAGEMENT OF EXCAVATED TOP SOIL**

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

Appropriate delineation of areas for storage of top soil: A small area has been planned & accordingly the area will be demarcated for storage of top soil. According to Land Use Pattern in the approved Mining plan 48.03 ha area has been earmarked for storage of top soil. Hence as per the stipulation of the Stage-I approval order, this area will be utilised for storage of Top soil within the lease area.

The total lease area is to be worked in 30 years. In the initial 10 year total OB will be dumped in external dump. Internal dump commences from 11<sup>th</sup> year and from 16<sup>th</sup> year to 30<sup>th</sup> year total OB

extracted will be dumped in the internal dump yard and considering 0.5m thick top soil is available the total quantity of top soil will be  $762.414 \times 0.5 = 38,12,072$  cum. only. The surface area aimed at for mining is 762.414 Ha.

Toe Wall up to a height of 1.0 mt. will be erected around the top soil heaped. The cost norm of Toe wall construction has been provided in **Annexure-2**.

The topsoil stripping will be completed by using bulldozers and tippers of smaller capacity in case of good quantum. In areas where the topsoil is relatively thin, the same will be removed in such a way so as to prevent mixing of topsoil and sub-soil.

Stockpiles will have erosion control by constructing loose boulder wall with cement sand.

Permanent measures include establishment of vegetation, grass seed sowing with Legc/minocea (*L-abaceae*) like Green gram (*Vigna radiate*), Black gram (*Vigna mungo*), Horse gram (*Macrotyloma uniflorum*) and broadcasting of seeds of local shrubs / grasses will be done to mitigate soil erosion and dust emissions. The total area for sowing of grass seeds comes to 48.03 Ha. The cost norm of Grass seeding has been provided in **Annexure-1**.

## **16. PLAN FOR CONSERVATION OF TOP SOIL IN BARREN LANDS**

The forest land of the region is prone to soil erosion as the entire landscape will be affected due to mining & ancillary activities 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.

## **17. TOP SOIL CONSERVATION PLAN**

<b>Area from which top soil will be collected during 1<sup>st</sup> five years</b>	<b>Top soil to be deposited over</b>
<b>762.414 Ha.</b>	<b>48.03 Ha.</b>

During 1<sup>st</sup> 15 years where OB extracted is dumped in the external dump yard after completion dumping in each deck i.e 30m, 60m, 90m and 120 m the Top soil will be collected and stored preferably over the proposed sites to avoid damage. As the mining operation progresses, the top soil will be collected and stored. 120m will be covered with top soil. Further from 15<sup>th</sup> year to 30<sup>th</sup> year where internal dumping takes place soon after completion of dumping in 30m, 60m, 90m and 120m. Similar Procedure will be followed. Surface of the top soil will be sown 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.

## **18. INSPECTION, MONITORING AND EVALUATION**

For successful implementation of the above scheme, Intensive inspection and technical guidance from local forest officials & concerned technical wing of SCCL will be sought. Budgetary provision for 15% of the total cost has been earmarked.

## **19. EXECUTING AGENCY**

In all the cases, the works shall be executed by SCCL having specialized departments headed by qualified persons with outsourced man and machinery as and where required. 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 through close co-ordination with the Forest Department.

## **20. SPECIALIZED CELL**

<b>Name of Executive</b>	<b>Educational Qualification</b>	<b>Present Designation</b>	<b>Expertise</b>
Ravindra Prabhakar D Choudari	Diploma ( Mining Engineering ), 1 <sup>st</sup> Class Mines Manager (Coal)	DY GM/PO	39 years
Brajesh Kumar	BE Mining, 1 <sup>st</sup> Class Mines Manager (Coal)	C.MGR/ADDL MGR	22 years

A-4(M)

Manoj Kumar Mishra	AMIE (Mining), MBA, PGDCA, 1 <sup>st</sup> Class Mines Manager (Coal)	Addl. MANAGER	26 years
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## 21. REQUIREMENT OF FUNDS

The total cost of implementation of measures for Top Soil Management will be Rs. 3,36,10,774/- (Rupees Three Crore Thirty Six Lakhs Ten Thousand Seven Hundred Seventy Four only) only. This budget will be subject to increase in amount considering the increase in material cost and labour charges.

20/9/2021  
General Manager  
Authorized Signatory Co. Ltd.  
(A Govt. Company)  
Naint Area, Angul, Odisha-759122

  
Asst. Conservator of Forests  
Angul Division



Forest Range Officer  
Chhendipada Range

Countersigned

  
Divisional Forest Officer  
Angul Forest Division  
Angul, Division

A-4(v)

**TOTAL COST OF TOP SOIL CONSERVATION & MANAGEMENT****Wage Rate Rs. 311.00/-Day**

Sl.No.	Description of the work	Funds Required (In Rs.)
1	<p>Unbroken/Virgin area from where top soil can be collected = 762.414 Ha</p> <p>A. Stripping cost:- 0.5 ha./hr. @ Rs. 3379.00/- Therefore for 762.414 Ha. Cost/ 0.5Ha = 1524.82 hrs. + 2 hours marching. = 1526.82 hrs. x Rs. 3379.00/- = <b>Rs. 51,59,124.78</b></p> <p>B. Loading &amp; Transportation cost from site to top soil stockpile comes to be = 1659 m East x 1174 m South = 19,74,666 x 0.5 m = 9,73,833 m<sup>3</sup>/6 = 1,62,306 m<sup>3</sup> (tonnage factor 1.6) = 27,051 mt. @ Rs. 38.58/Mt. = <b>Rs. 10,43,628/-</b></p> <p>C. Cost of leveling with 625 manpower @ Rs 311.00 i.e. <b>Rs. 1,94,375.00</b></p>	63,97,127.78
2	Cost of sowing of grass seed over 48.03 ha @ <b>Rs. 21,440.00/-</b> Per ha.	10,29,763.20
3	Cost of erection of 6742 m dry toe wall around top soil stock pile	1,69,28,742.00
	<b>TOTAL:</b>	<b>2,43,55,632.98</b>
	Price escalation @ 20%	48,71,126.60
	<b>TOTAL:</b>	<b>2,92,26,759.58</b>
4	Inspection, Monitoring & Evaluation 15% of the total cost.	43,84,013.94
	<b>GRAND TOTAL:</b>	<b>3,36,10,773.51</b> <b>Or</b> <b>3,36,10,774.00</b>

**(Rupees Three Crore Thirty Six Lakhs Ten Thousand Seven Hundred Seventy Four only)**

General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Forest Range Officer  
Chhendipada Range

Countersigned  
Divisional Forest Officer  
Angul Forest Division  
Angul, Division

Asst. Conservator of Forests  
Angul Division

Regional Chief Conservator  
of Forests, Angul Circ'e.

Approved for Rs. 3,36,10,774/-

A-4(V)

Annexure-1COST OF GRASS SEED SOWING PER HA

Wage Rate Rs. 311.00/-Day

Sl No.	Purpose	No of Labour/ Quantity of materials	Rate (Rs.)	Amount (Rs.)
1	Spreading of good earth and FYM including carriage	20 Nos	311.00	6220
2	Adding FYM and good earth	2 TL FYM	1,000/TL FYM	2000
		2TL good earth	1,000/TL Good earth	2000
3	Cost of grass seed 50kg/per ha.		100/kg	5000
4	Broadcast sowing	20 nos.	311.00	6220
<b>Total</b>				<b>21,440</b>

(Rupees Twenty One Thousand Four Hundred Forty) only

20/9/2021  
General Manager  
Authorised Signatory  
The State of Odisha Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Countersigned  
Divisional Forest Officer  
Divisional Forest Officer  
Angul Forest Division  
Angul, Division

Forest Range Officer  
Chhendipada Range

Asst. Conservator of Forests  
Angul Division

Annexure - 2

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

Wage rate Rs.311.00/Day

Sl. No.	Description of items	No	Length	Widt h	Height	Qty	Unit	Rate	Amount
1	Earth work in hard soil or gravely soil within 50 mtr initial lead & 1.50 mtr initial lift including rough dressing & breaking clods to Maximum 5.00 cm to 7.00 cm & laying layers not exceeding 0.30 mtr in depth and as per the direction of the Engineer-in-charge.	1	6742	0.7	0.7	CUM	3303.58	167.81	554373.76
2	Filling in foundation and plinth with sand watered and rammed	1	6742	0.7	0.075	CUM	353.955	323.11	114366.4
3	Cement concrete M-10 grade (PCC 1:4:8 for foundation) with crushed broken granite coarse aggregate of size 40mm downgraded mixed in concrete mixture including cost conveyance and royalty of all materials, machineries and labour and laying in head works and canal structures with required lifts and de-lifts as per direction of Engineer-in-charge.	1	6742	0.6	0.075	CUM	303.39	3746.5	1136650.64
4	BRICK WORK for foundation having crushing strength not less than 75 Kg/cm2 with dimensional tolerance $\pm 8$ percent in cement mortar (1:6) in foundation and plinth per cum.	1	6742	0.5	0.3	CUM	1011.30	3592.4	3632994.12
		1	6742	0.375	0.3	CUM	758.475	3592.4	2724745.59
5	BRICK WORK for S/S, having crushing	1	6742	0.25	1	CUM	1685.5	3592.4	6054990.2

	strength not less than 75 Kg/cm <sup>2</sup> with dimensional tolerance $\pm 8$ percent in cement mortar (1:6) in foundation and plinth per cum.								
6	Concrete for plinth M-20 grade with crushed broken granite coarse aggregate of size 20mm downgraded mixed in batching and mixed plant including cost of all materials, machineries and labour and transportation of mixed concrete.	1	6742	0.25	0.1	CUM	168.55	4496.7	757918.785
7	Concrete for coping M-20 grade with crushed broken granite coarse aggregate of size 20mm downgraded mixed in batching and mixed plant including cost of all materials, machineries and labour and transportation of mixed concrete.	1	6742	0.35	0.025	CUM	58.992	4496.7	265271.575
Total:									1,52,41,311.1
<u>15241311.1 x 311</u>									1,69,28,741.9
280									Or, 1,69,28,742

(Rupees One Crore Sixty Nine Lakhs Twenty Eight Thousand Seven Hundred Fourty Two only)

*General Manager*  
The Singareni Collieries  
Authorized Signatory  
(A Govt Company)  
Naini Area, Angul, Odisha-7

*Forest Range Officer*

Asst. Conservator of Forests  
Angul Division

*Countersigned*  
Divisional Forest Officer  
Divisional Forest Officer  
Angul Forest Division

A-4(EV)

84°50'0"E

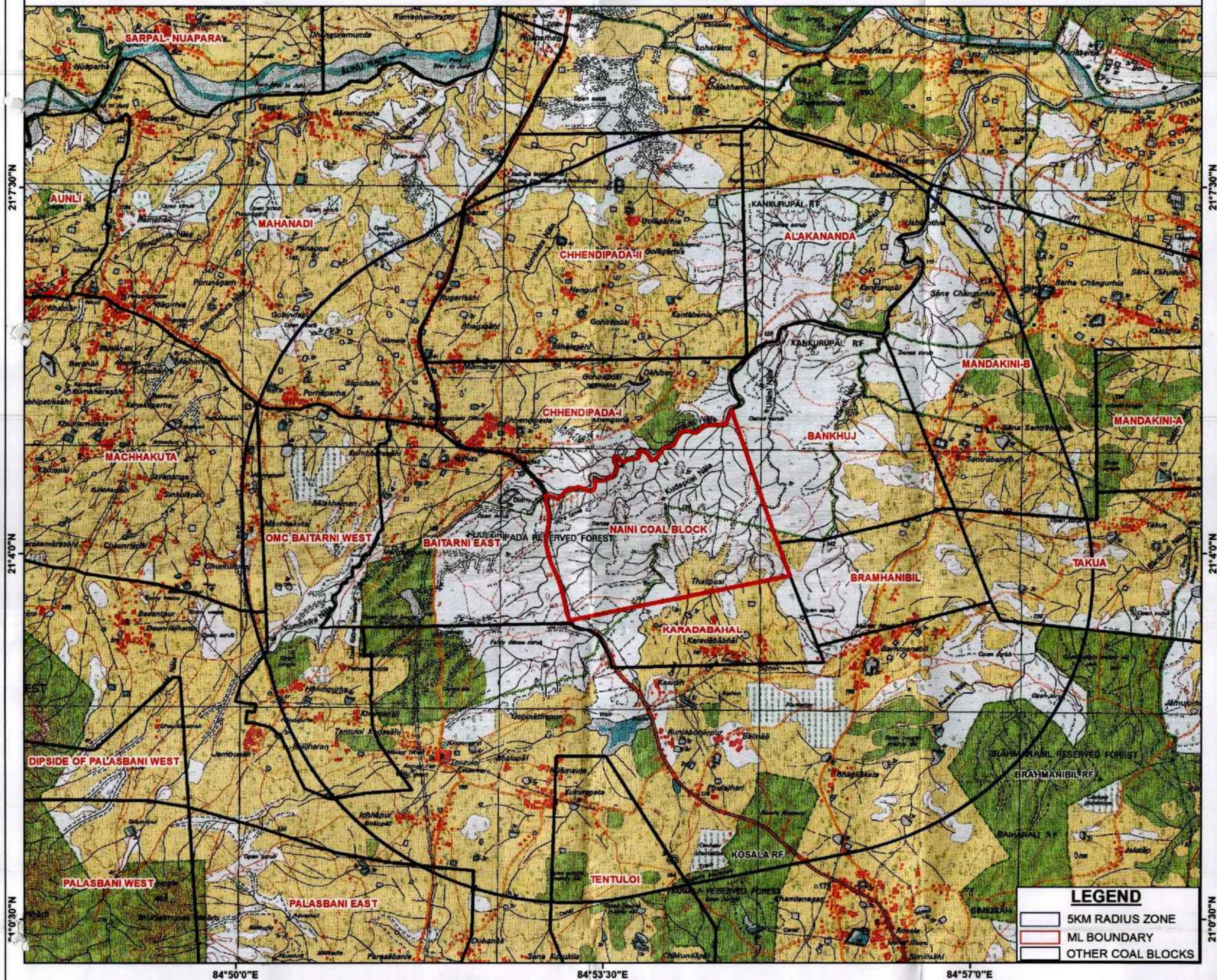
84°53'30"E

84°57'0"E

**TOPO MAP SHOWING 5 KM RADIUS FROM THE LEASE BOUNDARY  
OF NAINI COAL MINES PROJECT OF SCCL, ANGUL  
SHOWING POSITION OF KOSALA & BRAHMANIBIL RESERVED FOREST FOR SCHEME No-A-6**

SCALE-1:50,000

Kilometers



84°50'0"E

84°53'30"E

84°57'0"E

Map Prepared by:-

Asst. Conservator of Forests  
Angul Division

Divisional Forest Officer  
Angul, Division

General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Digital Cartography & Services (DCS) Pvt. Ltd  
1015, Bhagabat Sandhan  
GGP Canal Road, Rasulgarh, Bhubaneswar-751025  
Email: dcsplbbsr@gmail.com



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL.759123, ODISHA  
NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- A-VII

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021

### **Condition No. A (6)**

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.

### **Compliance to Condition No. A (6)**

In compliance to this condition, detailed scheme with financial out lay of Rs. 4,01,50,653.00 has been prepared and enclosed which is approved by RCCF, Angul Circle vide Memo No. 4428 5F.FC-44/2021. Dated.02.11.2021 and M/s The Singareni Collieries Company Limited do hereby undertake for desilting of the village tanks and other water bodies located in the villages namely Thalipasi, Karadabahal, Bhalukhaman, Brahmanbil, Santarabandha. within five Km radius from the mine lease boundary to mitigate the impact of siltation of such tanks/ water bodies. (Approved scheme with financial out lay of Rs. 4,01,50,653.00 is enclosed.)

Place: Angul

Date: 8.11.2021

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122



*Scheme*

*For*

**GAP PLANTING, SOIL & MOISTURE CONSERVATION ACTIVITIES TO  
RESTOCK AND REJUVENATE DEGRADED OPEN FORESTS (HAVING  
CROWN DENSITY < 0.4, IF ANY LOCATED IN THE AREA WITHIN 100M  
OUTER PERIMETER OF MINING LEASE**

**In compliance**

**with**

**Condition No. A (6) of**

**Stage-I Forest Clearance Granted**

**Vide Letter No.8-01/2020-FC, Dated.28.07.2021**

**of Govt. of India, Ministry of Environment, Forest & CC,**

**New Delhi.**

**for**

**Diversion of 783.275 Ha of Forest Land**

**(including safety zone of 9.098 Ha.)**

**Within Total Lease area of 912.799 Ha. Naini Opencast Coal Mining Project**

**of**

**M/S Singareni Collieries Company Ltd (SCCL)**

**In**

**Chhendipada Tahsil, Sub-Divn.- Angul, Dist.Angul**

**Odisha.**

**GAP PLANTING, SOIL & MOISTURE CONSERVATION ACTIVITIES TO RESTOCK AND REJUVENATE DEGRADED OPEN FORESTS (HAVING CROWN DENSITY < 0.4, IF ANY LOCATED IN THE AREA WITHIN 100M OUTER PERIMETER OF MINING LEASE**

**1. INTRODUCTION**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurpal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District. The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land).

The area approved for grant of mining lease is 912.799 ha. The total forest land is 783.275 Ha. out of which 774.177 Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only.

The Stage-I Forest clearance u/s 2 of FC Act 1980 was granted by MoEF & CC vide their letter No. 8-01/2020-FC Dt. 28.07.2021 where in it has been stipulated as per **condition no. A (6) Gap Planting, Soil & Moisture Conservation Activities to restore and rejuvenate the degraded open forest (having crown density < 0.4) if any, located in the area within 100 m from outer perimeter of the mining lease.**

**2. LOCATION**

The mining lease area has been covered in the Survey of India topo sheet No73 C/16 on RF 1:50,000 (2 cm to 1 km) and falls within Angul District of Odisha. The mine spans over an area of 9.13 sq.km between Latitude 21°03'21" and 21°05'23" N and Longitude 84°52'56" and 84°55'17" E. administratively it is under the jurisdiction of Chhendipada Tahasil, Angul district. Mining lease area is approachable from Angul covering a distance of 35 km by a black topped road up to Chhendipada.

The nearest railway station is Angul on Talcher-Sambalpur railway line of East Coast Railway at a distance of 35 km from Mines. This railway line connects Puri to Sambalpur. The nearest airport is Bhubaneswar at a distance of 165.0 K.M. The ML area is in Chhendipada Range of Angul Forest division.

### LOCATION MAP



Fig.1: Location Map of Naini Coal Block, SCCL

### **Map of the Project**



**Fig.2: Mining Project Map of Naini Coal Block, SCCL**

### **3. TOPOGRAPHY**

The elevation of the lease area varies from 100 mt. above MSL to 160 mt. above MSL. The area is slightly undulating and almost flat and forms a part of Brahmani river belt (Talcher) Coal Fields. The general slope of the lease area is towards north. Gouduni Nala flows eastwards and is the major drainage outlet of the area. This nala joins Tikra River at a distance of 9 kms NE. Tikra river ultimately joins the river Brahmani.

### **4. LAND USE PATTERN**

Sl. No.	Pattern	Area in (Ha.)		
		Forest	Non-Forest	Grand Total
1	Quarry area			762.414
	a) Back filled area	468.232	11.314	
	b) Excavated void	176.925	105.943	
2	Safety Zone/Rationalization Area	40.857	5.082	45.939
3	Diversion/below	14.489	4.560	19.049

	River/Nala/canal (Including Settling tanks)			
4	Road & Infrastructure area	40.060	0.833	40.893
	a) Coal Washery including CHP	36.017	0.833	36.850
	b) Mine Service facilities	4.043	0.000	4.043
5	Garland Drains	1.765	0.004	1.769
6	Embankment	12.941	1.788	14.729
7	Green Belt	28.006	0.000	28.006
	<b>Grand Total (in ha)</b>	<b>783.275</b>	<b>129.524</b>	<b>912.799</b>

## 5. DETAILS OF FOREST LAND WITHIN THE LEASE AREA

Forest land to be worked for mining and allied purpose ... 774.177 Ha

Area set aside for Safety Zone ... .. 9.098 Ha  
783.275 Ha

## 6. SOIL TYPE

The soil type occurring in this area is mostly sandy loam having good soil depth with pH varying from 6 to 8.

## 7. CLIMATE

The climate of this area is tropical with hot and humid summer and short spell of winter. Occasional thunder storm during pre-monsoon season is common. Monsoon sets in from late June and continues to middle of September. Maximum temperature comes to 49° c during summer and minimum 10° c during winter.

## 8. DRAINAGE

The Gauduni nalla forming the northern boundary of the block flows from south-west to north-east. This is the main drainage in the mining lease area. Kudapasi nalla flows from south to north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nala flow across the block towards north and join the Gauduni nalla.

However, it is proposed to divert these streams along the boundary of ML and drain into the existing Gauduni nalla. These three streams are planned to be diverted in consultation with the Water Resources Department of the State Government.

## 9. EXISTING VEGETATION

The area proposed for diversion includes species as detailed below:

Local Name	Botanical Name
Kurum	<i>Adina cordifolia</i>
Jack Fruit	<i>Artocarpus heterophyllus</i>
Gamhar	<i>Gmelina arborea</i>
Tamarind	<i>Tamarindus indica</i>
Jamun	<i>Syzygium cumini</i>
Babul	<i>Acacia nilotica</i>
Kusum	<i>Strychnos oleosa</i>
Mahanim	<i>Ailanthus excelsa</i>
Siris	<i>Albizia lebbek</i>
Sissoo	<i>Dalbergia latifolia</i>
Mango	<i>Mangifera indica</i>
Asan	<i>Terminalia alata</i>
Sunajhari	<i>Acacia auriculiformis</i>
Sunari	<i>Cassia fistula</i>
Karanj	<i>Pongamia pinnata</i>

## 10. OBJECTIVE OF THE SCHEME

The main objective of the present scheme is to fulfill the condition no.A-6 which envisages to undertake gap plantation, 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. The steps to be followed are as under:

- To restock and rejuvenate the degraded forest land ANR plantation within 100m from the outer perimeter of the lease area.
- To Demarcate and fence the area in ground to dispense with biotic interferences.
- To improve the micro edaphic conditions by undertaking suitable soil and moisture conservation measures within the ANR Plantation.
- 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 in general.

However the perimeter of the mining lease is surrounded by other mines as follows.

North :-Chhendipada-I Coal Mines

East:- Bankhui & Brahmanibil Coal Mines

South:- Karadabahal Coal Mines

West:-Baitarani East Coal Mines

So the DFO, Angul has to provide Degraded Forest land within 5 Km. of the mining lease to execute the plantation as per the above mentioned scheme i.e. 6-A.The Reserved Forest coming within 5 Km radius of Naini Coal Block are Brahmanabil RF & Kosala RF. Necessary Map Provided.

#### **11. PROPOSED TECHNIQUE**

To achieve the above objectives, it has been proposed to take up ANR plantation @200 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:

#### **12. SURVEY AND DEMARCATION OF BOUNDARY**

The boundary of this lease area is as detailed bellow:-

North ... Gauduni Nala

South ... Karadabahal Coal Mines.

East ... Bankhui & Brahmanibil Coal Mines

West ... Baitarani East Coal Mines.

The only feasibility of taking up plantation in degraded Forest is Brahmanabil RF & Kosala RF, located at the southern side of the Coal Block. However the exact area of plantation will be finalized as per the direction of Divisional Forest Officer, Angul

The identified degraded forest lands will be surveyed clearly with reference to the Topo Map and reserve forest boundary and demarcated by posting R.C.C pillars at every curvature point of boundary line and the Scheme proposes financial implication for the same.

The species available in the identified area are as under:-

Local Name	Botanical name	Family
Achu	<i>Morinda tinctoria</i>	Rubiaceae
Amla	<i>Emblica officinalis</i>	Euphorbiaceae
Asan	<i>Terminalia alata</i>	Combretaceae
Bahada	<i>Terminalia belerica</i>	Combretaceae
Bara	<i>Ficus bengalensis</i>	Moraceae
Bela	<i>Aegle marmelos</i>	Rutaceae
Chakunda	<i>Cassia siamea</i>	Fabaceae
Chhatian	<i>Alstonia scholaris</i>	Apocynaceae
Dhaman	<i>Grewia tilaefolia</i>	Tiliaceae
Gambhari	<i>Gmelina arboria</i>	Verbenaceae
Harida	<i>Terminalia chebula</i>	Combretaceae
Karada	<i>Cleistanthus collinus</i>	Euphorbiaceae
Kurum	<i>Adina cordifolia</i>	Rubiaceae
Nima	<i>Azadirachta indica</i>	Meliaceae
Sal	<i>Shorea robusta</i>	Dipterocarpaceae

### 13. 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 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 growth of 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.

During the 1<sup>st</sup> 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 shoot in case of desired species will be done in the subsidiary silvicultural activities.

#### **14. PLANTING & POST-PLANTING**

The area will be re-stocked by raising plantation (artificial regeneration) @ 200 plants /Ha in ANR (assisted Natural Regeneration) 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 area as mentioned in Point no.14.

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 100m within the outer perimeter of mining lease of Naini' - SCCL. 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 ANR model.
- ii) Clearly demarcation of 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.

## 15. LAND SCHEDULE

Since the area to be identified within Brahmanabil RF & Kosala RF., no land schedule is required.

## 16. SELECTION OF SITE FOR GAP PLANTING

The above degraded forest land is situated within the 100m outer perimeter of the mining lease. The proposed area has been selected considering proximity of the mining lease area. The main purpose of the plantation will be to invoice the local VSS. The VSS members will have a share in the usufruct in future which will cater to their need, so far as bonafide requirement of fuel wood and small timber is concerned. The topography of the site is sloppy in nature. The soil is mostly rocky/sandy loam type at patches and depth of the soil is of limited extent. The gap plantation will be carried out over an area of 5.0 Ha in one patch.

### Choice of species for plantation

As far as possible, care shall be taken to select indigenous species for plantation. The list of species to be adopted for the plantation is as follows:

Sl No	Local Name	Scientific Name
1	Amla	Emblica officinalis
2	Bamboo	Dendrocalamus strictus
3	Karanja	Pongamia pinnata
4	Asan	Terminalia alata
5	Sisoo	Dalbergia sissoo
6	Gambhar	Gmelina arborea
7	Neem	Azadirachta indica
8	Harida	Terminalia chebula
9	Bahada	Terminalia bellirica
10	Kasi	Bridelia retusa

## 17. RAISING OF NURSERY

Seedlings required for the plantation shall be raised in Nursery of Forest Dept. which will meet the requirement. The Nursery should have a capacity of raising adequate seedlings. The selection

of sapling will be undertaken in consultation with Forest Dept. All the infrastructures will be provided by SCCL. Work will commensurate one year before the year of plantation so that one and half year seedlings will be available for plantation. About 10% extra seedlings shall be raised to compensate casualty in nursery. Standard nursery practices shall be followed for raising seedling in polyglots.

#### **18. ALIGNMENT AND STACKING**

Alignment, stacking 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 2.5 mtr @200 plants per hectare.

#### **19. PLANTING**

The seedlings will be planted in dug out pits of 30 cm<sup>3</sup> maintaining a spacing of 2.5 mtr between the pits @ 200 seedling per hectare. Plantation should be taken up after first regular shower of monsoon and should be completed by end of august. NPK/DAP fertilizer @ 30 gms /plant should be given as basal dose. Anti-termite and insecticide like @ 5 gm /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 seedling shall be raised.

#### **20. WEEDING, SOIL WORKING AND MANURING**

For establishment and better growth of the planted seedlings, weeding, soil working and manuring are necessary. It is prescribed to carry out two weeding, soil working and manuring during first year and one weeding and soil working during second and third year. During the first year and second year first weeding and manuring shall be carried out during August-September and the second one during October.-November. First weeding shall be an entire area weeding (scraping) and the second will be of strip weeding along the contour. The weeding of third year will be an area weeding which will be carried out during August – Sept. After each weeding, soil working will be done around each plant at radius of 0.5mtr and manuring of each plant will be done.

## **21. APPLICATION OF INSECTICIDES**

The plantation site after planting good healthy seedling may cause influx of insects, which usually eat and damage the tender leaves and roots of the plants. To get rid of such insects attack application of the insecticides will be taken up in required doses at the time of planting. Spraying of insecticides, if required, shall be done preferably in a sunny day before forenoon.

## **22. 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 ANR plantation has been furnished in **Annexure-I**.

## **23. POINTS OF IMPORTANCE**

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

- All care to be taken to raise healthy seedlings of minimum 45 cm and 20% extra of the required stock be raised. Complete 1 year seedlings shall be used in case of Asan, Arjun, Phasi, Neem, Harida, Bahada, Kasi etc. However, in case of Sisoo, Gambhar, Chakunda etc 12 months old seedlings can be used. Pitting shall be invariably done during February — March. 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 70 grams Urea and 50-200 gms of Vermi Compost of NPK and 5 grams of granular insecticide 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. Engaging requisite watchers as per norm who shall take up tracing of inspection path and fire line and maintenance of fence and provide watch and ward for the entire life of plantation i.e. 10 years.

- All-out efforts be taken to keep the plantation free from grazing, fire and other biotic interference.

## **24. SOIL CONSERVATION MEASURES**

To check soil erosion and the rain water draining out of the area, it has been proposed to take up special conservation measures by digging staggered trenches along the contour over the area @ 250 Nos. per hectare. The size of the trenches will be 2 mtr x 0.5 mtr x 0.5mtr. Digging of staggered trenches will be done during September of 1<sup>st</sup> year. Agave planting will also be taken up on the dugout soil of the trench for its stabilization and to restrict the dugout soil from re-filling into the trench.

## **25. WATCH AND WARD**

To protect the area against grazing, fire accident and other biotic interference it is proposed in the cost estimate for ANR Plantation to engage watchers for ten years from the year of plantation.

## **26. 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.

## **27. SPECIALIZED CELL**

<b>Name of Executive</b>	<b>Educational Qualification</b>	<b>Present Designation</b>	<b>Expertise</b>
Ravindra Prabhakar D Choudari	Diploma ( Mining Engineering ), 1 <sup>st</sup> Class Mines Manager (Coal)	DY GM/PO	39 years

Brajesh Kumar	BE Mining, 1 <sup>st</sup> Class Mines Manager (Coal)	C.MGR/ADDL MGR	22 years
Manoj Kumar Mishra	AMIE (Mining), MBA, PGDCA, 1 <sup>st</sup> Class Mines Manager (Coal)	Addl. MANAGER	26 years


## 28. REQUIREMENT OF FUNDS


The total cost of implementation of proposed scheme will be Rs. 1, 59, 44,322.00 (Rupees One Crore Fifty Nine Lakhs Forty Four Thousand Three Hundred & Twenty Two) only.

  
**Authorised Signatory**  
 The Singareni Collieries Co. Ltd.  
 (A Govt. Company)  
 Naini Area, Angul, Odisha-759122

  
**Asst. Conservator of Forests**  
 Angul Division

**Countersigned**

  
**Divisional Forest Officer**  
 Angul Forest Division  
 Angul, Division

  
**Forest Range Officer**  
 Chhendipada Range

TOTAL COST OF GAP PLANTING, SOIL & MOISTURE CONSERVATION (WITHIN 100 MTR. OUTER PERIMEETER OF MINING LEASE)REQUIRED TO BE PLANTED IN NEAR BY BRAHMANABIL RF & KOSALA RF DUE TO PRESENCE OF OTHER MINES BLOCK WITHIN 100 MTR BOUNDARY OF THIS COAL BLOCK ,TO RESTOCK AND REJUVENATE THE DEGRADED OPEN FOREST.

Wage Rate Rs. 311.00/-Day


1	ANR Plantation with 200 seedling per Ha over 105.9 ha	1,32,86,935
	Add 20% escalation	26,57,387.03
	<b>Grand Total</b>	<b>1,59,44,322.00</b>

(Rupees One Crore Fifty Nine Lakhs Forty Four Thousand Three Hundred & Twenty Two only)

  
Authorised Signatory  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122


Countersigned

  
Divisional Forest Officer  
Angul Forest Division  
Angul, Division

  
Asst. Conservator of Forests  
Angul Division

  
Forest Range Officer  
Chendipada Range

Approved for Rs. 1,59,44,322/-

  
Regional Chief Conservator  
of Forests, Angul Circle.

**Annexure – I****Cost Norm for AIDED NATURAL REGENERATION (ANR) @ 200 plants per Ha (ANR Plantation) (18 Months old seedlings)**

For the year maintenance						
Wage rate @ Rs. 311						
Sl No.	Item of Work	Preferable period of Execution	Person days	Labour (Rs)	Material (Rs)	Total (Rs)
<b>Previous year (advance work) Nursery raising</b>						
1	Nursery Cost (18 Month Old Seedling) Part @38.04/Seedling (Rs 9.48 To Be Released) For 220 Seedling (200+20)	Nov-March	5.7	1772.7	313.6	2086.3
	<b>S. Total</b>		<b>5.7</b>	<b>1772.7</b>	<b>313.6</b>	<b>2086.3</b>
2	Monitoring & Supervision charges 5% of the cost					104.315
	<b>Total</b>					<b>2190.615</b>
<b>0th Year (advance work)</b>						
3	Survey, Demarcation and pillar posting, GPS Reading with mapping	Nov-Dec	2	622	0	622
4	Site preparation	Nov-Dec	2	622	0	622
5	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan- Feb	5	1555	0	1555
6	Nursery cost (18 months old seedling) part @ Rs.38.05/-seedling (Rs.24.14 to be released) for 220 seedlings (200+20)	Apr-March	14.2	4416.2	2684.4	7100.6
7	Contingency and Unforeseen Expenditures		0	0	133	133
	<b>S. Total</b>		<b>23.2</b>	<b>7215.2</b>	<b>2817.4</b>	<b>10032.6</b>
8	Monitoring & Supervision charges 5% of the cost					501.63
	<b>Total</b>					<b>10534.23</b>
<b>1st Year/Planting Year</b>						
9	Nursery cost (18 months old seedling) balance @	Apr-June	2.9	901.9	72.4	974.3

	Rs.4.42 for 220 seedlings.					
10	Pitting 45cm x 45cm x 45cm cube size	May-June	18	5598	0	5598
11	Carriage and planting casualty replacement and application of insecticides manure etc.	July-Aug	5	1555	0	1555
12	Complete weeding, Soil working and manuring	Aug-Sept	6	1866	0	1866
13	Cost of vermicompost 200 gms/plant @ Rs.20/- per kg =Rs.800.00 and Granular Insecticide 5 gm/ per plant @ Rs.80/- per kg =Rs.80.00	Aug-Sept	0	0	880	880
14	Cost of Chemical Fertilizer (a) Urea 70gms/plant in two subsequent doses @ Rs.6/- per kg = Rs.84.00 (b) NPK 50 gms/plant @ Rs.24/- per Kg= Rs.240.00 as basal dose	Jul-Aug	0	0	324	324
15	Silvicultural Operation including clearance of weed, climber, cutting, high stump cutting, singling of shoot etc.	Sep-Oct	15	4665	0	4665
16	Soil Conservation measures in the form of staggered trenches of 2m L*0.5m*0.5m @ 60nos/ha or its equivalent	Sept/Oct	20	6220	0	6220
17	Fire line tracing and inspection path	Feb-March	3	933	0	933
18	Watch & Ward		24	7464	0	7464
19	Contingency and unforeseen expenditure		0	0	304	304
	<b>S.Total</b>		<b>93.9</b>	<b>29202.9</b>	<b>1580.4</b>	<b>30783.3</b>
20	Monitoring & Supervision charges 5% of the cost					1539.165
	<b>Total</b>					<b>32322.465</b>
<b>2nd Year maintenance</b>						
21	Casualty Replacement 10% with nursery cost (20 Nos seedling @ 38.05/-)	July-Aug	1	311	761	1072

22	Weeding (complete weeding) and cultural operation	Sep-Oct	2	622	0	622
23	Soil working and manuring	Sep-Oct	2	622	0	622
24	Cost of vermicompost @ 200gm/plant @ Rs.20/- per Kg= Rs.800.00 And Granular Insecticides 5gms/ per plant @ Rs. 80/- per KG = Rs. 80.00	Sep-Oct		0	808	808
25	Soil conservation measures (Renovation of staggered trenches etc)	Sep-Oct	8	2488	0	2488
26	Fire line tracing and inspection path (2m wide fire line over 400m long)	Feb-March	1	311	0	311
27	Watch & Ward	April-March	24	7464	0	7464
28	Contingency and Unforeseen expenditure		0	0	181	181
	<b>S.Total</b>		<b>38</b>	<b>11818</b>	<b>1750</b>	<b>13568</b>
29	Monitoring & Supervision charges 5% of the cost					678.4
	<b>Total</b>					<b>14246.4</b>
<b>3rd Year maintenance</b>						
30	Weeding (complete weeding) and cultural operations	Aug-Sept	1	311	0	311
31	Soil working	Aug-Sept	1	311	0	311
32	Fire line tracing and inspection path (2m wide fire line over 400m long)	Feb-March	1	311	0	311
33	Watch & Ward	April-March	24	7464	0	7464
34	Contingency and Unforeseen expenditure	Feb-March	0	0	200	200
	<b>S.Total</b>		<b>27</b>	<b>8397</b>	<b>200</b>	<b>8597</b>
35	Monitoring & Supervision charges 5% of the cost					429.85
	<b>Total</b>					<b>9026.85</b>
<b>4th Year maintenance</b>						
37	Fire line tracing and inspection path (2m wide fire line over 400m long) & cultural	Feb-March	1	311	0	311
38	Watch, Ward & Cultural	April-March	24	7464	0	7464

	Operations					
	<b>S.Total</b>		<b>25</b>	<b>7775</b>	<b>0</b>	<b>7775</b>
39	Monitoring & Supervision charges 5% of the cost					388.75
	<b>Total</b>					<b>8163.75</b>
<b>5th Year maintenance</b>						
38	Fire line tracing and inspection path (2m wide fire line over 400m long) & cultural	Feb-March	1	311	0	311
39	Watch, Ward & Cultural Operations	April-March	24	7464	0	7464
	<b>S.Total</b>		<b>25</b>	<b>7775</b>	<b>0</b>	<b>7775</b>
40	Monitoring & Supervision charges 5% of the cost					388.75
	<b>Total</b>					<b>8163.75</b>
<b>6th Year maintenance</b>						
41	Fire line tracing and inspection path (2m wide fire line over 400m long) & cultural	Feb-March	1	311	0	311
42	Watch, Ward & Cultural Operations	April-March	24	7464	0	7464
	<b>S.Total</b>		<b>25</b>	<b>7775</b>	<b>0</b>	<b>7775</b>
43	Monitoring & Supervision charges 5% of the cost					388.75
	<b>Total</b>					<b>8163.75</b>
<b>7th Year maintenance</b>						
44	Fire line tracing and inspection path (2m wide fire line over 400m long) & cultural	Feb-March	1	311	0	311
45	Watch, Ward & Cultural Operations	April-March	24	7464	0	7464
	<b>S.Total</b>		<b>25</b>	<b>7775</b>	<b>0</b>	<b>7775</b>
46	Monitoring & Supervision charges 5% of the cost					388.75
	<b>Total</b>					<b>8163.75</b>
<b>8th Year maintenance</b>						
47	Fire line tracing and inspection path (2m wide fire line over 400m long) &	Feb-March	1	311	0	311

	cultural					
48	Watch, Ward & Cultural Operations	April-March	24	7464	0	7464
	<b>S.Total</b>		<b>25</b>	<b>7775</b>	<b>0</b>	<b>7775</b>
49	Monitoring & Supervision charges 5% of the cost					388.75
	<b>Total</b>					<b>8163.75</b>
<b>9th Year maintenance</b>						
50	Fire line tracing and inspection path (2m wide fire line over 400m long) & cultural	Feb-March	1	311	0	311
51	Watch, Ward & Cultural Operations	April-March	24	7464	0	7464
	<b>S.Total</b>		<b>25</b>	<b>7775</b>	<b>0</b>	<b>7775</b>
52	Monitoring & Supervision charges 5% of the cost					388.75
	<b>Total</b>					<b>8163.75</b>
<b>10th Year maintenance</b>						
53	Fire line tracing and inspection path (2m wide fire line over 400m long) & cultural	Feb-March	1	311	0	311
54	Watch, Ward & Cultural Operations	April-March	24	7464	0	7464
	<b>S.Total</b>		<b>25</b>	<b>7775</b>	<b>0</b>	<b>7775</b>
	Monitoring & Supervision charges 5% of the cost					388.75
	<b>Total</b>					<b>8163.75</b>

\* Watch & ward should be engaged throughout the year. As 105.9 Ha ANR area is very less so watch & ward has been estimated accordingly for better result.

\*\* Nursery cost has been taken from cost norm for Urban Plantation for 1000 saplings (Tall seedling Plantation of 18 months old)

### Abstract

Year	Person Days	Labour Cost (Rs)	Material Component	Monitoring & Supervision charge 5% of the total cost	Total Cost (Rs)
Previous Year	5.7	1772.7	313.6	104.315	2190.615
0 <sup>th</sup> Year	23.2	7215.2	2817.4	501.63	10534.23
1 <sup>st</sup> Year	93.9	29202.9	1580.4	1539.165	32322.465
2 <sup>nd</sup> Year	38	11818	1750	678.40	14246.4
3 <sup>rd</sup> Year	27	8397	200	429.85	9026.85
4 <sup>th</sup> Year	25	7775	0	388.75	8163.75
5 <sup>th</sup> Year	25	7775	0	388.75	8163.75
6 <sup>th</sup> Year	25	7775	0	388.75	8163.75
7 <sup>th</sup> Year	25	7775	0	388.75	8163.75
8 <sup>th</sup> Year	25	7775	0	388.75	8163.75
9 <sup>th</sup> Year	25	7775	0	388.75	8163.75
10 <sup>th</sup> Year	25	7775	0	388.75	8163.75
<b>TOTAL</b>	<b>362.8</b>	<b>112830.8</b>	<b>6661.4</b>	<b>5974.61</b>	<b>125466.81</b>

Cost of ANR plantation over 105.9 Ha

Rs. 1, 25,466.81/- x 105.9 Ha = 1, 32, 86,935.17/- or 1, 32, 86,935.00/-

**(Rupees One Crore Thirty Two Lakhs Eighty Six Thousand Nine Hundred Thirty Five only)**

20/9/2021  
**Authorized Signatory**  
The Singareni Collieries Co. Ltd  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

**Asst. Conservator of Forests**  
Angul Division

**Countersigned**

**Divisional Forest Officer**  
Angul Forest Division  
Angul, Division

**Forest Range Officer**  
Chhendipada Range

# MAP SHOWING WATERBODY, PONDS/TANKS WITHIN 5 K.M. RADIUS ALONG WITH GPS CO-ORDINATES OF NAINI COAL BLOCK OF SCCL LTD.



CO-ORDINATES OF WATERBODY POINTS											
SL No.	EASTING	NORTHING	LONGITUDE	LATITUDE	VILLAGE NAME	SL No.	EASTING	NORTHING	LONGITUDE	LATITUDE	VILLAGE NAME
1	279291.966	2325074.506	84°52'35.51073"	21°00'47.48603"	KURUPETA	71	287223.132	2333266.023	84°57'06.43814"	21°05'17.13612"	SANTARABANDHA
2	278726.815	2325188.806	84°52'15.89349"	21°00'50.95688"	KURUPETA	72	279799.967	2333367.623	84°52'49.28010"	21°05'17.27958"	CHENDIPADA
3	278902.264	2325639.657	84°52'04.03428"	21°01'05.46613"	TENTULOKODASAH	73	275552.179	2333408.475	84°50'22.13823"	21°05'16.75098"	PODAPADA
4	282054.222	2325677.757	84°54'10.86181"	21°01'08.28191"	PHULAHARI	74	279203.066	2333418.423	84°52'28.58259"	21°05'18.67212"	CHENDIPADA
5	278758.565	2325715.857	84°52'16.74940"	21°01'08.10280"	KURUPETA	75	278250.564	2333450.173	84°51'55.57747"	21°05'19.28984"	GADAPASI
6	280212.718	2325849.208	84°53'07.03046"	21°01'13.06560"	KURUPETA	76	281527.171	2333520.023	84°53'49.03352"	21°05'22.97824"	KHANGURIA
7	284987.928	2325874.608	84°55'52.33989"	21°01'15.92495"	BAHAILJUNGLE	77	276238.774	2333587.069	84°50'45.83458"	21°05'22.85864"	PODAPADA
8	277590.163	2326007.958	84°51'36.16460"	21°01'17.08999"	TENTULOKODASAH	78	278098.164	2333710.523	84°51'50.17800"	21°05'27.68614"	GADAPASI
9	284816.477	2326071.458	84°55'46.31568"	21°01'22.25170"	BAHAILJUNGLE	79	278783.965	2333716.873	84°52'13.92849"	21°05'28.19130"	CHENDIPADA
10	279399.916	2326128.608	84°52'38.76270"	21°01'21.79715"	KURUPETA	80	277165.982	2333716.873	84°57'04.25760"	21°05'31.76807"	SANTARABANDHA
11	285953.129	2326235.459	84°56'25.55513"	21°01'30.98647"	BISWANATHPUR	81	279799.967	2333907.374	84°52'49.03111"	21°05'34.82452"	CHENDIPADA
12	278168.014	2326592.159	84°51'55.89927"	21°01'36.31222"	TENTULOKODASAH	82	286880.231	2334008.974	84°56'54.22929"	21°05'41.14372"	SANTARABANDHA
13	280415.918	2326611.209	84°53'13.71611"	21°01'37.92268"	KURUPETA	83	281482.720	2334034.374	84°53'47.25845"	21°05'39.67862"	CHENDIPADAJUNGLE
14	278847.465	2326668.359	84°52'19.38752"	21°01'39.10307"	KURUPETA	84	278073.822	2334048.132	84°51'49.17792"	21°05'38.64959"	GADAPASI
15	284727.577	2326763.610	84°55'42.92683"	21°01'44.71389"	BHAGILAKATA	85	277783.838	2334175.133	84°51'39.07472"	21°05'42.65113"	GADAPASI
16	282136.772	2326941.410	84°54'13.14518"	21°01'49.39390"	KUNABHARIPUR	86	275961.384	2334221.699	84°50'35.92924"	21°05'43.36510"	PODAPADA
17	282841.623	2327043.010	84°54'37.50311"	21°01'52.99705"	PHULAHARI	87	282441.572	2334301.075	84°54'20.34915"	21°05'48.75914"	DAHIBAR
18	279609.467	2327081.110	84°52'45.57929"	21°01'52.84954"	NUAMOUZA	88	276566.752	2334437.600	84°50'56.79601"	21°05'50.64929"	PODAPADA
19	277552.063	2327182.710	84°51'34.30018"	21°01'55.25921"	TENTULOKODASAH	89	278954.357	2334518.033	84°52'19.45912"	21°05'54.30743"	BAHALSAHI
20	282378.072	2327238.761	84°54'21.32369"	21°02'00.08824"	PHULAHARI	90	277197.520	2334590.000	84°51'18.57286"	21°05'55.87896"	MAMURIASAH
21	285629.279	2327341.461	84°56'13.88798"	21°02'03.87775"	BHAGILAKATA	91	275944.451	2334615.400	84°50'35.15786"	21°05'56.15481"	PODAPADA
22	282822.573	2327455.761	84°54'36.65638"	21°02'06.40601"	BALINALI	92	277468.454	2334647.150	84°51'27.93070"	21°05'57.85619"	MAMURIASAH
23	286524.631	2327455.761	84°56'44.83821"	21°02'07.96882"	BISWANATHPUR	93	278001.855	2334693.717	84°51'46.38488"	21°05'59.60305"	MAMURIASAH
24	284619.627	2327474.811	84°55'38.86946"	21°02'07.78723"	BHAGILAKATA	94	279538.558	2334717.000	84°52'39.60269"	21°06'01.02861"	BAHALSAHI
25	276859.911	2327576.411	84°51'10.15302"	21°02'07.75429"	TENTULOKODASAH	95	276564.636	2334886.334	84°50'56.51254"	21°06'05.23443"	PODAPADA
26	278472.814	2327582.761	84°52'05.99369"	21°02'08.66373"	TENTULOI	96	280078.309	2334918.084	84°52'58.20614"	21°06'07.79875"	BAHALSAHI
27	282162.172	2327627.211	84°54'13.71267"	21°02'11.69762"	KUNABHARIPUR	97	287712.083	2334948.776	84°57'22.62544"	21°06'12.04197"	CHANGUDIA
28	278745.865	2327665.311	84°52'15.40946"	21°02'11.46559"	TENTULOI	98	281553.629	2334964.651	84°53'45.28861"	21°06'09.94860"	GOHIRAPASI
29	282251.072	2327760.562	84°54'16.73013"	21°02'16.70311"	KUNABHARIPUR	99	280444.493	2335011.218	84°53'10.84752"	21°06'10.98442"	BAHALSAHI
30	286530.981	2327881.212	84°56'44.86840"	21°02'21.80169"	BRAHMANBIL	100	276325.452	2335059.901	84°50'48.14631"	21°06'10.77101"	PANAPASI
31	281203.320	2327925.662	84°53'40.37689"	21°02'20.98868"	KURUPETAJUNGLE	101	277929.888	2335070.485	84°51'43.71670"	21°06'11.81852"	MAMURIASAH
32	282314.572	2328459.063	84°54'18.61117"	21°02'28.80314"	KASIDHIA	102	276683.169	2335078.951	84°51'00.52814"	21°06'11.54752"	PANAPASI
33	276656.711	2328509.863	84°51'02.68220"	21°02'38.00739"	HANDIGODA	103	287407.282	2335234.527	84°57'11.93953"	21°06'21.20349"	CHANGUDIA
34	275970.909	2328516.213	84°50'38.93359"	21°02'37.91292"	HANDIGODA	104	277788.071	2335265.218	84°51'38.71361"	21°06'28.08639"	MAMURIASAH
35	285400.678	2329087.714	84°56'05.18995"	21°03'00.54699"	BRAHMANBIL	105	287731.133	2335266.277	84°57'23.14404"	21°06'28.37097"	CHANGUDIA
36	285711.829	2329214.714	84°56'15.90762"	21°03'04.80629"	BRAHMANBIL	106	279628.542	2335354.118	84°52'49.35319"	21°06'21.86417"	BAHALSAHI
37	285940.429	2329278.215	84°56'23.79528"	21°03'06.96656"	BRAHMANBIL	107	277377.437	2335358.352	84°51'24.44615"	21°06'20.93400"	MAMURIASAH
38	285800.729	2329494.115	84°56'18.86099"	21°03'13.92613"	BRAHMANBIL	108	278581.823	2335360.468	84°52'06.16433"	21°06'21.52895"	MAMURIASAH
39	283292.474	2329627.465	84°54'51.94296"	21°03'17.20039"	KARADABAHAL	109	280539.744	2335375.285	84°53'13.97939"	21°06'22.85982"	NANGULI
40	286149.980	2329671.915	84°56'30.87572"	21°03'19.85298"	BRAHMANBIL	110	280118.526	2335398.568	84°52'59.37770"	21°06'23.43459"	NANGULI
41	282339.972	2330021.166	84°54'18.78002"	21°03'29.59216"	THALIPASI	111	281191.678	2335468.419	84°53'36.51974"	21°06'26.16832"	NANGULI
42	283406.774	2330205.316	84°54'55.63933"	21°03'36.03289"	KUDAPASI	112	287159.632	2335475.827	84°57'03.25288"	21°06'28.94379"	CHANGUDIA
43	277774.313	2330218.016	84°51'40.58561"	21°03'34.01987"	FOREST	113	285013.328	2335520.277	84°55'48.88150"	21°06'29.48521"	KANKARAPAL
44	287972.433	2330478.367	84°57'33.62912"	21°03'46.82982"	KHAJURIKHAI	114	277766.905	2335550.969	84°51'37.84726"	21°06'27.36550"	MAMURIASAH
45	275666.109	2330554.567	84°50'27.42417"	21°03'44.03545"	MACHHAKUTAJUNGLE	115	282042.580	2335612.352	84°54'05.92960"	21°06'31.21268"	GOLAGADIAJUNGLE
46	275475.608	2330560.917	84°50'20.82440"	21°03'44.15792"	MACHHAKUTAJUNGLE	116	277483.271	2335817.669	84°51'27.89782"	21°06'35.91050"	MAMURIASAH
47	285819.779	2330668.867	84°56'18.99452"	21°03'52.12176"	BRAHMANBIL	117	281075.261	2335857.886	84°53'32.30820"	21°06'38.77813"	CHHOTAGOLAGADIA
48	277418.712	2331246.719	84°51'27.79275"	21°04'07.30284"	CHENDIPADAJUNGLE	118	287318.382	2335882.228	84°57'08.57100"	21°06'42.22115"	CHANGUDIA
49	285940.429	2331449.919	84°56'22.82302"	21°04'17.56208"	SANTARABANDHA	119	278454.823	2335889.636	84°52'01.51924"	21°06'38.67434"	MAMURIASAH
50	285972.179	2331615.019	84°56'23.84867"	21°04'22.94233"	SANTARABANDHA	120	285514.979	2335901.278	84°56'06.08803"	21°06'42.08227"	KANKARAPAL
51	286200.780	2331703.919	84°56'31.72612"	21°04'25.92826"	SANTARABANDHA	121	280349.243	2335944.670	84°53'07.11817"	21°06'41.28574"	NANGULI
52	286981.831	2331843.620	84°56'58.71462"	21°04'30.79696"	SANTARABANDHA	122	278202.939	2336058.970	84°51'52.71507"	21°06'44.06867"	MAMURIASAH
53	277621.913	2332097.620	84°51'34.43372"	21°04'35.05039"	CHENDIPADAJUNGLE	123	285273.678	2336091.778	84°55'57.64302"	21°06'48.17287"	KANKARAPAL
54	277291.712	2332161.120	84°51'22.96848"	21°04'36.97011"	CHENDIPADAJUNGLE	124	285432.428	2336117.178	84°56'03.13112"	21°06'49.06561"	KANKARAPAL
55	287966.083	2332370.671	84°57'32.56955"	21°04'48.34091"	SANTARABANDHA	125	278437.889	2336164.803	84°52'00.80478"	21°06'47.61133"	MAMURIASAH
56	277806.063	2332377.021	84°51'40.68135"	21°04'44.21280"	CHENDIPADA	126	277352.037	2336190.203	84°51'23.17788"	21°06'47.96224"	MAMURIASAH
57	286962.781	2332440.521	84°56'57.78863"	21°04'50.19251"	SANTARABANDHA	127	281253.062	2336200.787	84°53'38.31008"	21°06'50.00097"	CHHOTAGOLAGADIA
58	279505.017	2332535.771	84°52'41.52645"	21°04'50.13798"	FOREST	128	280988.478	2336354.954	84°53'29.01796"	21°06'58.83149"	CHHOTAGOLAGADIA
59	278244.214	2332567.521	84°51'55.76745"	21°04'50.59619"	CHENDIPADA	129	285648.329	2336536.279	84°56'10.42203"	21°07'02.78034"	KANKARAPAL
60	277945.763	2332726.271	84°51'45.35723"	21°04'55.62627"	CHENDIPADA	130	280237.060	2336660.104	84°53'02.90215"	21°07'04.49287"	CHHOTAGOLAGADIA
61	278250.564	2332815.172	84°51'55.87238"	21°04'58.64892"	CHENDIPADA	131	279388.275	2336715.138	84°52'33.47261"	21°07'05.91378"	CHHOTATENTULI
62	278885.565	2332891.372	84°52'17.82986"	21°05'01.40218"	CHENDIPADA	132	282362.197	2337030.522	84°54'16.35390"	21°07'17.44874"	GOLAGADIA
63	275655.367	2332952.067	84°50'25.92655"	21°05'01.96108"	PODAPADA	133	282230.964	2337153.289	84°54'11.75134"	21°07'21.38314"	GOLAGADIA
6											



*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**

**In compliance  
with  
Condition No. A (7) of  
Stage-I Forest Clearance Granted  
Vide Letter No.8-01/2020-FC, Dated.28.07.2021  
of Govt. of India, Ministry of Environment, Forest & CC,  
New Delhi.  
for  
Diversion of 783.275 Ha of Forest Land  
(including safety zone of 9.098 Ha.)  
Within Total Lease area of 912.799 Ha. Naini Opencast Coal Mining Project  
of  
M/s. The Singareni Collieries Company Ltd (SCCL)  
In  
Chhendipada Tahsil, Sub-Divn.- Angul, Dist.Angul  
Odisha.**

# **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**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurpal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District. The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land)

The area approved for grant of mining lease is 912.799 ha. The total forest land is 783.275 Ha. out of which 774.177 Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only.

The Stage-I Forest clearance u/s 2 of FC Act 1980 was granted by MoEF & CC vide their letter No. 8-01/2020-FC Dt. 28.07.2021 where in it has been stipulated as per **condition no. A. 7 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.**

## **2. LOCATION**

The mining lease area has been covered in the Survey of India topo sheet No73 C/16 on RF 1:50,000 (2 cm to 1 km) and falls within Angul District of Odisha. The mine spans over an area of 9.13 sq.km between Latitude 21°03'21" and 21°05'23" N and Longitude 84°52'56" and 84°55'17" E. administratively it is under the jurisdiction of Chhendipada Tahasil, Angul district.

Mining lease area is approachable from Angul covering a distance of 35 km by a black topped road up to Chhendipada.

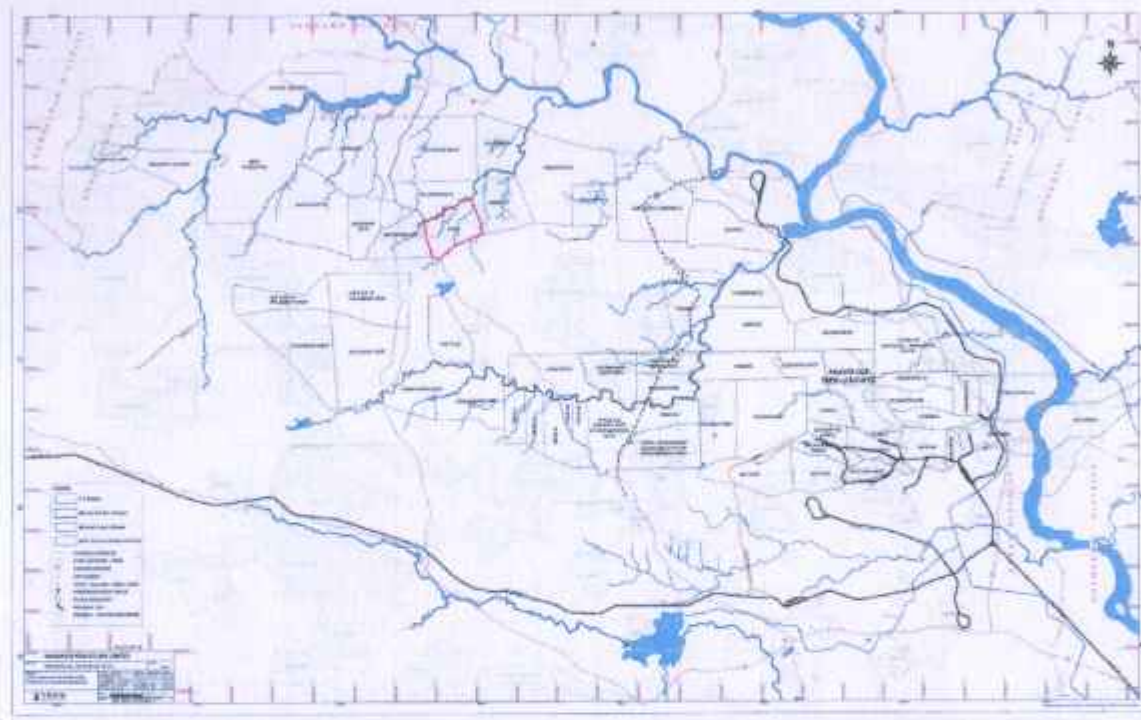
The nearest railway station is Angul on Talcher-Sambalpur railway line of East Coast Railway at a distance of 35 km from Mines. This railway line connects Puri to Sambalpur. The nearest airport is Bhubaneswar at a distance of 165.0 K.M. The ML area is in Chhendipada Range of Angul Forest division.

### LOCATION MAP



Fig.1: Location Map of Naini Coal Project, SCCL

### Map of the Project



**Fig.2: Mining Project Map of Naini Coal Block, SCCL**

### **3. TOPOGRAPHY**

The elevation of the lease area varies from 100 mt. above MSL to 160 mt. above MSL. The area is slightly undulating and almost flat and forms a part of Brahmani river belt (Talcher) Coal Fields. The general slope of the lease area is towards north. Gouduni Nala flows eastwards and is the major drainage outlet of the area. This nala joins Tikra River at a distance of 9 kms NE. Tikra river ultimately joins the river Brahmani.

### **4. LAND USE PATTERN**

Sl. No.	Pattern	Area in (Ha.)		
		Forest	Non-Forest	Grand Total
1	Quarry area			762.414

	a) Back filled area	468.232	11.314	
	b) Excavated void	176.925	105.943	
2	Safety Zone/Rationalisation Area	40.857	5.082	45.939
3	Diversion/below River/Nala/canal (Including Settling tanks)	14.489	4.560	19.049
4	Road & Infrastructure area	40.060	0.833	40.893
	a) Coal Washery including CHP	36.017	0.833	36.850
	b) Mine Service facilities	4.043	0.000	4.043
5	Garland Drains	1.765	0.004	1.769
6	Embankment	12.941	1.788	14.729
7	Green Belt	28.006	0.000	28.006
	<b>Grand Total (in ha)</b>	<b>783.275</b>	<b>129.524</b>	<b>912.799</b>

## 5. DETAILS OF FOREST LAND WITHIN THE LEASE AREA

Forest land to be worked for mining and allied purpose ... 774.177 Ha

Area set aside for Safety Zone ... .. 9.098 Ha

783.275 Ha

## 6. SOIL TYPE

The soil type occurring in this area is mostly sandy loam having good soil depth with pH varying from 6 to 8.

## 7. CLIMATE

The climate of this area is tropical with hot and humid summer and short spell of winter. Occasional thunder storm during pre-monsoon season is common. Monsoon sets in from late June and continues to middle of October. Maximum temperature comes to 47° c during summer and minimum 10° c during winter.

## 8. DRAINAGE

The Gauduni nalla forming the northern boundary of the block flows from south-west to north-east. This is the main drainage in the mining lease area. Kudaposi nalla flows from south to

north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nala flow across the block towards north and join the Gauduni nalla.

However, it is proposed to divert these streams along the boundary of ML and drain into the existing Gauduni nalla. These three streams are planned to be diverted in consultation with the Water Resources Department of the State Government.

## **9. 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 run-off 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 interval as well as taking adequate preventive measures.

## **10. SELECTION OF PONDS**

For the purpose as mentioned in condition no. A-7 of the Stage-I approval letter, a survey of ponds were surveyed within 5 km vicinity of the lease area. The details of the ponds surveyed are listed below.

Pond Details			
Sl. No	Village situated in	longitude	latitude
1	Situated in Thalipasi village	84°54'18.78002"	21°03'29.59216"
2	Situated in Karadabahal village	84°54'51.94296"	21°03'17.20039"
3	Situated in Bhalukhaman village	84°51'34.30018"	21°02'02.08824"
4	Situated in Brahmanbil village	84°56'30.87572"	21°03'19.85258"
5	Situated in Santarabandha village	84°56'23.84867"	21°04'22.94233"

## **11. 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 Gauduni Nala which is flowing west to east along Northern boundary of this Coal Block. The area has an overall ground slope is dipping towards North East. 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.

## **12. 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, 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 m<sup>3</sup> shall be de-silted by mechanical means and the rest shall be handled manually. It is proposed to deploy one 0.9 m<sup>3</sup> 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 concerned BDO and 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) 1<sup>st</sup> 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 weeds and polythene bags / bottle thrown by strangers.
- Plantation of trees on 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.

**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**.

**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, Champua, 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 mythological purposes. The detailed estimate of plantation programme is enclosed in **Annexure-3**.

### **13. INSPECTION AND MONITORING**

After commencement of mining operation start, this scheme will be implemented. For successful implementation of the above mitigative measures, intensive inspection and technical guidance from concerned technical wing is required. Sufficient fuel/conveyance charges for technical

experts shall be provided by the user agency for proper execution of these programmes. Budgetary provision of 15% of the total project cost has been earmarked on this score.

#### 14. EXECUTIVE AGENCY

All the works under the present scheme shall be executed by SCCL without sourced 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 local administration.

#### 15. SPECIALIZED CELL

Name of Executive	Educational Qualification	Present Designation	Expertise
Ravindra Prabhakar D Choudari	Diploma ( Mining Engineering ), 1 <sup>st</sup> Class Mines Manager (Coal)	DY GM/PO	39 years
Brajesh Kumar	BE Mining, 1 <sup>st</sup> Class Mines Manager (Coal)	C.MGR/ADDL MGR	22 years
Manoj Kumar Mishra	AMIE (Mining), MBA, PGDCA, 1 <sup>st</sup> Class Mines Manager (Coal)	Addl. MANAGER	26 years

#### 16. REQUIREMENT OF FUNDS

The total cost of this scheme for de-silting and improvement of the selected pond in Thalipasi, Karadabahal, Bhalukhaman, Brahmanbil and Santarabandha is **4,01,50,653/- say (Rupees Four Crore One Lakhs Fifty Thousand Six Hundred Fifty Three Only) only.**

  
**General Manager**  
**Authorized Signatory**  
 Odisha Minerals Co. Ltd.  
 (A Govt. Company)  
 Naini Area, Angul, Odisha - 754122

  
**Asst. Conservator of Forests**  
 Angul Division

  
**Forest Range Officer**  
 Chhendipada Range

**Countersigned**  
  
**Divisional Forest Officer**  
 Angul Division

  
**Regional Chief Conservator**  
 of Forests, Angul Circle.

**APPROVED Rs. 4,01,50,653/-**

**TOTAL COST OF THE PROJECT**

Sl. No.	Description of Job	Estimate for Pond of Thalipasi	Estimate for Pond of Karadaba hal	Estimate for Pond of Bhalukha man	Estimate for Pond of Brahman bil	Estimate for Pond of Santar aband ha	Total fund required (Rs.)
1	<p>Excavation, loading, unloading &amp; carriage by mechanical means of all kinds of soil including stony earth, gravel &amp; morrum etc. Inter spread with boulders up to 1/2 cum size with lifts &amp; de-lifts including trimming of slopes &amp; bed to design section &amp; depositing the excavated materials away from work site as per the specification &amp; directed by EIC with an initial lead of 1.00 KM from the place of excavation complete.</p> <p>Providing rough stone (15cm-30cm) dry packing in apron &amp; all top four sides berm with our local (boulder supplied by management).</p> <p>Construction of bathing Ghat with local boulder. Room near bathing ghat for change of clothes by women</p> <p>Construction of Bench on the embankment for sitting.</p>	24849410/-					24849410/-

2	Tulsi Chaura	10,911.00	10,911.00	10,911.00	10,911.00	10,911.00	10,911.00	54,555.00
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. @ Rs. 15000/- per pond	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	75,000.00
4	Provision for plantation on all three slides to control Soil erosion (plant will be supplied by management) and resting place of villagers coming for bathing	778142.2	778142.2	778142.2	778142.2	778142.2	778142.2	3,890,711.00
5	Provision for annual maintenance of pond for cleaning aquatic weeds from pond & cutting, of bushes from apron & berms.	45,000.00	45,000.00	45,000.00	45,000.00	45,000.00	45,000.00	225,000.00
	Total	29,094,676.00						
	Escalation 20%	5818935.20						
	Total	34,913,611.20						
	Inspection, monitoring and evaluation 15% of the total Project cost	5237041.68						
	Grand Total	4,01,50,652.88						
	Or	4,01,50,653/-						
	say							

**DESILTING THE POND, CONSTRUCTION OF BATHING GHAT & BENCH AT  
CHHENDIPADA & BISWANATHPUR POND BY M/S SCCL**

Sl No	Items	Location	No	L	B	H	Qty	Unit	Rate	Amount
1	Pumping of water by diesel						38	hours	374	14212
2	De-silting the pond	Thalipasi	1	454	355	1.52	244978.40	cum		
		Karadabahal	1	202	121	1.7	41551.4	cum		
		Bhalukhaman	1	306	197	1.14	68721.48	cum		
		Brahmanbil	1	270	163	1.12	49291.20	cum		
		Santara bandha	1	170	105	1.31	23383.50	cum		
							427925.98	cum	50.6	21653054.59
3	Removing weeds & bush from the bund of the pond	Thalipasi	4	60	4		960	sqm		
		Karadabahal	4	60	4		960	sqm		
		Bhalukhaman	4	60	4		960	sqm		
		Brahmanbil	4	60	4		960	sqm		
		Santara bandha	4	60	4		960	sqm		
							4800	sqm	1.70	8160
4	Removing amary from the pond	Thalipasi	4	60	7		1680	sqm		
		Karadabahal	4	60	7		1680	sqm		
		Bhalukhaman	4	60	7		1680			
		Brahmanbil	4	60	7		1680			
		Santara bandha	4	60	7		1680			
							8400	sqm	23.11	194124
5	Rough stone masonry for bathing ghat	Thalipasi	4	10	.6	.45	10.8			
			2	10	2.5	.45	22.5			
		Karadabahal	4	10	.6	.45	10.8			

			2	10	2.5	.45	22.5			
		Bhalukhaman	4	10	.6	.45	10.8			
			2	10	2.5	.45	22.5			
		Brahmanbil	4	10	.6	.45	10.8			
			2	10	2.5	.45	22.5			
		Santara bandha	4	10	.6	.45	10.8			
			2	10	2.5	0.45	22.5	cum		
							166.50	cum	1282.50	213536.25
6	20mm cp 1:4	Thalipasi	1	10	3.2		32	sqm		
		Karada bahal	1	10	3.2		32	sqm		
		Bhalukhaman	1	10	3.2		32	sqm		
		Brahmanbil	1	10	3.2		32	sqm		
		Santara bandha	1	10	3.2		32	sqm		
		Step face	100	2.5	0.2		50	sqm		
		Change room floor	5	5	2		50	sqm		
							260	sqm	197.90	51454
7	Neat cement punning	Thalipasi	1	10	3.2		32	sqm		
		Karada bahal	1	10	3.2		32	sqm		
		Bhalukhaman	1	10	3.2		32	sqm		
		Brahmanbil	1	10	3.2		32	sqm		
		Santara bandha	1	10	3.2		32	sqm		
		Step face	40	2.5	0.2		20	sqm		
		Change room floor	2	5	0		20	sqm		
							200	sqm	19.87	3974
8	Earth work in excavation	Change room								

		Thalipa si	1	3	0.4	0.4	0.48			
			2	1.2 5	0.4	0.4	0.4			
			1	2	0.4	0.4	0.32			
			1	6	0.4	0.4	0.96			
		Karada bahal	1	3	0.4	0.4	0.48			
			2	1.2 5	0.4	0.4	0.4			
			1	2	0.4	0.4	0.32			
			1	6	0.4	0.4	0.96			
		Bhaluk haman	1	3	0.4	0.4	0.48			
			2	1.2 5	0.4	0.4	0.4			
			1	2	0.4	0.4	0.32			
			1	6	0.4	0.4	0.96			
		Brahma nbil	1	3	0.4	0.4	0.48			
			2	1.2 5	0.4	0.4	0.4			
			1	2	0.4	0.4	0.32			
			1	6	0.4	0.4	0.96			
		Santara bandha	1	3	0.4	0.4	0.48			
			2	1.2 5	0.4	0.4	0.4			
			1	2	0.4	0.4	0.32			
			1	6	0.4	0.4	0.96			
		Bench	30	2.5	0.4	0.4	12			
							22.8	cum	171.5 9	3912.25
9	CC 1:3:6	Change room								
		Thalipa si	1	3	0.4	0.1	0.12			
			2	1.2 5	0.4	0.1	0.1			
			1	2	0.4	0.1	0.08			
			1	6	0.4	0.1	0.24			
		Karada bahal	1	3	0.4	0.1	0.12			
			2	1.2 5	0.4	0.1	0.1			
			1	2	0.4	0.1	0.08			
			1	6	0.4	0.1	0.24			

		Bhaluk haman	1	3	0.4	0.1	0.12			
			2	1.2 5	0.4	0.1	0.1			
			1	2	0.4	0.1	0.08			
			1	6	0.4	0.1	0.24			
		Brahma nbil	1	3	0.4	0.1	0.12			
			2	1.2 5	0.4	0.1	0.1			
			1	2	0.4	0.1	0.08			
			1	6	0.4	0.1	0.24			
		Santara bandha	1	3	0.4	0.1	0.12			
			2	1.2 5	0.4	0.1	0.1			
			1	2	0.4	0.1	0.08			
			1	6	0.4	0.1	0.24			
		Bench	30	0.5	0.4	0.1	0.6			
		Flooring	5	5	2	0.1	5			
							8.3	cum	3831. 8	31803.94
10	CC 1:2:4	Bathing ghat	10	10	2.5	0.05	12.5	cum	4505. 60	56320
11		Change room								
		Thalipa si	1	3	0.2 4	3.2	2.304			
			2	1.2 5	0.2 4	3.2	1.92			
			1	2	0.2 4	3.2	1.536			
			1	6	0.2 4	3.2	4.608			
		Karada bahal	1	3	0.2 4	3.2	2.304			
			2	1.2 5	0.2 4	3.2	1.92			
			1	2	0.2 4	3.2	1.536			
			1	6	0.2 4	3.2	4.608			
		Bhaluk haman	1	3	0.2 4	3.2	2.304			
			2	1.2 5	0.2 4	3.2	1.92			
			1	2	0.2 4	3.2	1.536			
			1	6	0.2	3.2	4.608			

					4					
		Brahma nbil	1	3	0.2 4	3.2	2.304			
			2	1.2 5	0.2 4	3.2	1.92			
			1	2	0.2 4	3.2	1.536			
			1	6	0.2 4	3.2	4.608			
		Santara bandha	1	3	0.2 4	3.2	2.304			
			2	1.2 5	0.2 4	3.2	1.92			
			1	2	0.2 4	3.2	1.536			
			1	6	0.2 4	3.2	4.608			
		Bench	30	0.5	0.2 4	0.8	2.88			
							54.72	cum	6280. 40	34663.488
12	12mm cp 1:6	Change room								
		Thalipasi	1	3		3	9			
			2	1.2 5		3	7.5			
			1	2		3	6			
			1	6		3	18			
		Karadab ahal	1	3		3	9			
			2	1.2 5		3	7.5			
			1	2		3	6			
			1	6		3	18			
		Bhalukh aman	1	3		3	9			
			2	1.2 5		3	7.5			
			1	2		3	6			
			1	6		3	18			
		Brahma nbil	1	3		3	9			
			2	1.2 5		3	7.5			
			1	2		3	6			
			1	6		3	18			
		Santarab	1	3		3	9			

		andha								
			2	1.2 5		3	7.5			
			1	2		3	6			
			1	6		3	18			
		Bench	30	0.5		0.1	1.5			
							204	sqm	187.9 0	38331.6
13	Lift charge for B W 1:6	Change room		.						
		Thalipasi	1	3	0.2 4	2.4	1.73			
			2	1.2 5	0.2 4	2.4	1.44			
			1	2	0.2 4	2.4	1.15			
			1	6	0.2 4	2.4	3.46			
		Karadab ahal	1	3	0.2 4	2.4	1.73			
			2	1.2 5	0.2 4	2.4	1.44			
			1	2	0.2 4	2.4	1.15			
			1	6	0.2 4	2.4	3.46			
		Bhalukh aman	1	3	0.2 4	2.4	1.73			
			2	1.2 5	0.2 4	2.4	1.44			
			1	2	0.2 4	2.4	1.15			
			1	6	0.2 4	2.4	3.46			
		Santarab andha	1	3	0.2 4	2.4	1.73			
			2	1.2 5	0.2 4	2.4	1.44			
			1	2	0.2 4	2.4	1.15			
			1	6	0.2 4	2.4	3.46			
							38.9	cum	150.2 3	5843.94
14	Lift charge for C p	Change room								
		Thalipasi	2	3		2.4	14.4			
			4	1.2		2.4	12			

				5						
			2	2		2.4	9.6			
			2	6		2.4	28.8			
		Karadab ahal	2	3		2.4	14.4			
			4	1.2 5		2.4	12			
			2	2		2.4	9.6			
			2	6		2.4	28.8			
		Bhalukh aman	2	3		2.4	14.4			
			4	1.2 5		2.4	12			
			2	2		2.4	9.6			
			2	6		2.4	28.8			
		Brahma nbil	2	3		2.4	14.4			
			4	1.2 5		2.4	12			
			2	2		2.4	9.6			
			2	6		2.4	28.8			
		Santarab andha	2	3		2.4	14.4			
			4	1.2 5		2.4	12			
			2	2		2.4	9.6			
			2	6		2.4	28.8			
							324	sqm	8.40	2721.6
16	Roofing with GCI sheet		5	5	3		75	sqm	150.2 23	11266.72
17	Carrying cutting to size & erecting strl steel		5	3	5	4.5	337.5	kg		
							0.3375	MT	4961. 86	1674.63
18	White wash 3 coats on new surface	Change room								
		Thalipasi	2	3		2.4	14.4			
			4	1.2 5		2.4	12			
			2	2		2.4	9.6			
			2	6		2.4	28.8			
		Karadab ahal	2	3		2.4	14.4			
			4	1.2 5		2.4	12			

			2	2		2.4	9.6			
			2	6		2.4	28.8			
		Bhalukh aman	2	3		2.4	14.4			
			4	1.2 5		2.4	12			
			2	2		2.4	9.6			
			2	6		2.4	28.8			
		Brahma nbil	2	3		2.4	14.4			
			4	1.2 5		2.4	12			
			2	2		2.4	9.6			
			2	6		2.4	28.8			
		Santarab andha	2	3		2.4	14.4			
			4	1.2 5		2.4	12			
			2	2		2.4	9.6			
			2	6		2.4	28.8			
							324	sqm	20.40	6609.60
								<b>Sub Total</b>		<b>22331662.61</b>
19	Cement						27.5	MT	8672.5	238493.75
20	Angle						.338	MT	59811.93	20216.4
<b>Total</b>										22590372.79
<b>Contingency @ 10%</b>										2259037.28
								<b>Grand Total</b>		<b>24849410.069</b>
									<b>say</b>	<b>24849410/-</b>

**Annexure-2**

**CONSTRUCTION OF TULSI CHAURA ON THE BATHING GHAT**

**@ Rs.311.00**

Sl. No.	Description of Items	Unit	Nos	L	B	H	Qty	Rate	Amount
1	Earthwork in excavation	M3	1	5	0.4	0.3	0.6	171.59	102.954
2	Plain cement concrete 1:3:6	M3	1	5	0.35	0.1	0.175	3831.8	670.565
3	Brick Work (1:6) (Above G.L. In Super Structure)	M3	1	5	0.25	1.5	1.875	3624.3	6795.5625
4	12 mm thick plaster (1:6)	M2	1	5		1.5	7.5	187.9	1409.25
5	Applying Lime Wash	M2					7.5	20.4	153
<b>Sub Total</b>									9131.3315
<b>Contingency 10%</b>									913.13315
<b>Total Amount</b>									10,044.4646
									Or, 10,044.00
<b>10,044.00 X 311.00</b>									10,910.53
<b>286.30</b>									Or, 10,911.00

20/9/2021  
General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122  
Authorized Signatory

  
Asst. Conservator of Forests  
Angul Division

Countersigned  
  
Divisional Forest Officer  
Angul Forest Division

  
Forest Range Officer  
Chhendipada Range

**Annexure-3**

**COST NORM FOR PLANTATION OF FRUIT BEARING SPECIES  
ALONG THE POND EMBANKMENT @ Rs. 311.00 per MD 400 PLANTS  
PER KM. IN 2 ROWS**

Sl No.	Item of work	Man days	Labour rate @ 311.00	Material cost in Rs.	Total (Rs.)
<b>0th year advance work/pre-planting/1st Yr. plant</b>					
1	Site preparation & alignment	2	622	0	622
2	Pitting 45cm x 45cm x 45cm cube	25	7775	0	7775
3	Cost of 400 nos. of 1.6 yr. old seedling @ Rs. 38.04/- per seedling 440 nos	0	0	15216	15216
4	Carriage of plants & planting	6	1866	0	1866
5	1st weeding & manuring	2	622	0	622
6	Casualty replacement	2	622	0	622
7	Soil working, application of insecticides	2	622	0	622
8	Cost of FYM & fertilizer including transportation	0	0	3589	3589
9	Cost of Iron gabion 400 Nos @ 1636/-per gabion on LS	0	0	654400	654400
10	Misc expenditure	0	0	2991	2991
11	Cost of engaging one watcher per year (9 months)	234	72774	0	72774
12	Watering at least 5 days in a month for 4 months (8 person x 6 times in a month x 4 month)	192	59712	0	59712
13	Const. of 2 nos. Sign-board on LS. @ Rs 1500/- per signboard	0	0	3000	3000
	<b>Total :-</b>	<b>465</b>	<b>144615</b>	<b>679196</b>	<b>823811</b>
<b>2nd Year Operation</b>					
14	Weeding, soil working, manuring (twice)	4	1244.00	0	1244.00
15	Casualty replacement 15% including cost of seedling including cost of seedlings (60 Nos. @ 38.04/-)	2	622	2282.4	2904.40
16	Cost of fertilizer & pesticides	0	0	1794	1794
17	Gabion maintenance including painting @ Rs.52/-	20	6220	20800	27020

18	Misc expenditure	0	0	1500	1500
19	Watering at least 6 days in a month for 8 months (8 person x 5 times in a month x 8 month)	320	99520	0	99520
20	Const. of engaging one watcher for year (12 month)	365	113515	0	113515
	<b>Total :-</b>	<b>711</b>	<b>221121.00</b>	<b>26376.40</b>	<b>247497.40</b>
<b>3rd Year Operation</b>					
21	Weeding, soil working	3	933	0	933
22	Gabion maintenance	20	6220	20800	27020
23	Cost of engaging one watcher for year (12 month)	365	113515	0	113515
24	Unforeseen	0	0	1500	1500
25	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	99520	0	99520
	<b>Total :-</b>	<b>708</b>	<b>220188</b>	<b>22300</b>	<b>242488</b>
<b>4th Year Operation</b>					
26	Weeding, soil working	3	933	0	933
27	Gabion maintenance	20	6220	20800	27020
28	Cost of engaging one watcher for year (12 month)	365	113515	0	113515
29	Unforeseen	0	0	1500	1500
30	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	99520	0	99520
	<b>Total :-</b>	<b>708</b>	<b>220188</b>	<b>22300</b>	<b>242488</b>
	<b>Grand Total :-</b>	<b>2592</b>	<b>8,06,112.00</b>	<b>7,50,172.40</b>	<b>15,56,284.40</b>

(Rupees Fifteen Lakhs Fifty Six Thousand Two Hundred Eighty Four only)

20/9/2021  
General Manager  
The State Paper Mills Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Asst. Conservator of Forests  
Angul Division

Countersigned

Divisional Forest Officer  
Angul Forest Division  
Angul, Division

Forest Range Officer  
Chhendipada Range

**ABSTRACT**

Sl No.	Year	Amount In Rs.
1	1st Year	8,23,811.00
2	2nd Year	2,47,497.40
3	3rd Year	2,42,488.00
4	4th Year	2,42,488.00
	Total:	15,56,284.40
Total Expenditure for 400 plants =		15,56,284.40
Expenditure for 200 plant =		7,78,142.20

20/9/2024  
 General Manager  
 Authorized Signatory  
 The Singareni Collieries Co. Ltd.  
 (A Govt. Company)  
 Naini Area, Angul, Odisha-759122

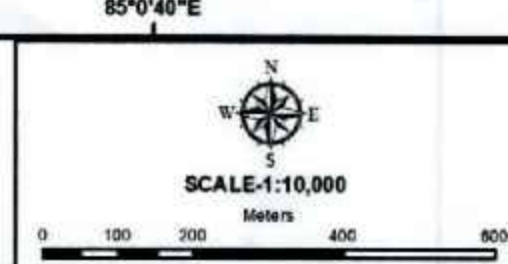
Countersigned

Divisional Forest Officer  
 Angul Forest Division

Forest Range Officer  
 Chhendipada Range

Asst. Conservator of Forests  
 Angul Division

MAP SHOWING PROPOSED AREA OF 14 Ha.(1.5TIME OF SAFETY ZONE AREA 9.098 Ha.) FOR COMPENSATORY AFFORESTATION  
WITHIN NIALU-LODHAIJHARI-SAPAKATA RF UNDER KANIHA FOREST RANGE FOR NAINI COAL BLOCK OF SCCL, LTD



NIALU-LODHAIJHARI-SAPAKATA RF

NIALU RESERVED FOREST

CO-ORDINATES OF CA LAND BOUNDARY				
POINT ID	EASTING	NORTHING	LONGITUDE	LATITUDE
1	288613.837	2345216.745	84°57'49.29984"	21°11'46.20012"
2	288337.323	2345251.065	84°57'39.70008"	21°11'47.19984"
3	287937.412	2345336.201	84°57'25.80012"	21°11'49.80012"
4	287844.094	2345415.234	84°57'22.52988"	21°11'52.32984"
5	287773.662	2345345.081	84°57'20.12004"	21°11'50.02008"
6	288148.406	2345142.752	84°57'33.19992"	21°11'43.59984"
7	288377.899	2345041.356	84°57'41.19984"	21°11'40.40016"
8	288521.491	2344990.289	84°57'46.19988"	21°11'38.79996"
9	288654.139	2344985.507	84°57'50.79996"	21°11'38.69988"
10	288678.267	2345111.939	84°57'51.58008"	21°11'42.82008"

Asst. Conservator of Forests  
Angul Division

Divisional Forest Officer  
Angul, Division

Forester  
Kaniha Range

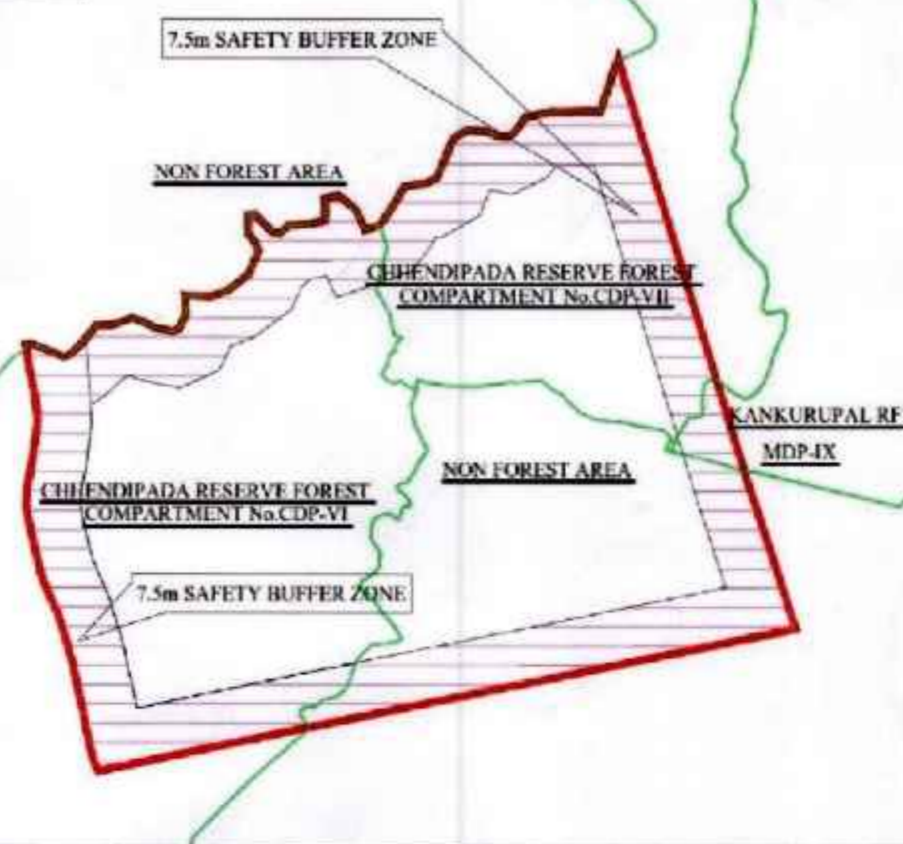
Range Officer  
Kaniha Range, Kaniha

LEGEND	
●	CA LAND BOUNDARY POINTS
▨	CA LAND BOUNDARY
—	RF BOUNDARY

Map Prepared by:-

Digital Cartography & Services (DCS) Pvt. Ltd.  
1015, Bhaganagar, Bhubaneswar  
GGP Canal Road, Rasulgari, Bhubaneswar-751025  
Email: dcsplbbs@gmail.com

# KEY PLAN



7.5m SAFETY BUFFER ZONE

NON FOREST LAND

NAINI COAL BLOCK

BOUNDARY

NAINI COAL BLOCK BOUNDARY

NON FOREST LAND

CHHENDIPADA RESERVE FOREST  
COMPARTMENT No.CDP-VII

7.5m SAFETY BUFFER ZONE

NON FOREST LAND

NAINI COAL BLOCK BOUNDARY

GAUDUNI NALLAH

KUDAPASI NALLAH

KANKURUPAL RF  
MDP-IX

CHHENDIPADA RESERVE FOREST  
COMPARTMENT No.CDP-VI

DHAURA KHAMAN VILLAGE

NON FOREST LAND

KUDAPASI VILLAGE

BIMBADHARA PUR VILLAGE

THALIPASI VILLAGE

KASIDARA VILLAGE

TENTULOI  
GOPINATHAPUR VILLAGE

NON FOREST LAND

CHHENDIPADA RESERVE FOREST  
COMPARTMENT No.CDP-V

ROAD TO ANGGUL

NAINI COAL BLOCK BOUNDARY

S.No.	SAFETY ZONE AREA	AREA IN Ha.
1	RESERVE FOREST	7.583
2	VILL. & DLC FOREST	1.515
	TOTAL	9.098
3	NON FOREST (PRIVATE)	1.064
	TOTAL	10.162

INDEX:  
CHHENDIPADA R.F  
KANKURUPAL R.F  
NON FOREST LAND  
NAINI BOUNDARY  
SAFETY ZONE  
NALLAH  
VILLAGE / REVINUE FOREST



PLAN No. Naini Area/MDP/IX/2014 DATE: 10.10.14

THE SINGARENI COLLIERIES COMPANY LIMITED  
(GOVT. COMPANY)  
NAINI OPENCAST PROJECT (COAL)

SAFETY ZONE AREA PLAN  
PLAN SHOWING THE SAFETY ZONE AREA (10.162 Ha.)  
FOR PROPOSED 783.275 Ha. FOREST LAND DIVERSION  
FOR NAINI OPENCAST PROJECT

Scale: 1:5000

By Supdt. Survey Officer  
Naini Area, Angul

Project Officer  
Naini Area, Angul

The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Divisional Forest Officer  
Angul, Division

Asst. Conservator of Forests  
Angul Division

Forest Range Officer  
Chhendipada Range

General Manager  
The Singareni Collieries Co. Ltd.  
Naini Area, Angul, Odisha-759122





# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL.759123, ODISHA  
NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE-A-VIII

## UNDERTAKING


MoEF & CC File No.8-01/2020-FC Dt. 28.07.2021

### Condition No. A (7)

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

### Compliance to Condition No. A (7)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake to pay the cost of felling of trees as per the demand notice raised by the State Forest Department.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 8.11.2021



Annexure - 8

**OFFICE OF THE DIVISIONAL FOREST OFFICER  
BOUDH FOREST DIVISION, BOUDH**

Phone/ Fax No. 06841-222073 e-mail - boudhdfo@gmail.com

Memo No. 2939 4F-80/2018 Dt. 08/07/2020

To

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

Sub:-

Proposal for diversion of 783.275 Ha. of forest land consisting of 643.095 Ha. of RF in Chhendipada & Kankurupal Reserved Forest and 140.180 Ha. of village Forest Land in Chhendipada Range of Angul Division for Naini Coal Block (Open Cast) under Angul District Odisha of M/s Singareni Collieries Company Ltd.

Ref:-

Your Memo no. 11654 dt. 17.06.2020 and this office memo no. 6303 dt. 25.10.2017

With reference to the above cited memos on the captioned subject, it is to intimate you that the point wise compliance report as raised by the Govt. of India, MoEF & CC, New Delhi vide their letter F. No.8-01/2020-FC dt. 17.04.2020 relating to the above project is furnished below.

I a- The total forest land involved in Naini Coal Block is 783.275 Ha. for which 1566.55 Ha. of degraded forest land is required for Compensatory Afforestation, out of which 1083 Ha. (Bankamundi RF 542Ha. & Goudadei RF 541Ha.) of degraded forest was identified and a scheme prepared and submitted earlier vide this office memo no. 6302 dt. 25.10.2017 to the DFO, Angul Division. But the Ministry of MoEF & CC, New Delhi has observed that the identified area is more than the requirement area and directed that the CA area should be the exact required area i.e. 1566.55Ha. or 1567 Ha. Further, the Ministry of MoEF & CC, New Delhi has intimated that, 541Ha. CA land identified in Goudadei RF earlier, wherein 22 Ha. is MDF which is not suitable and admissible for Compensatory Afforestation purpose in accordance with guidelines by the Ministry of MoEF & CC, New Delhi and 9.8 Ha. shown planted area has been excluded from total area.

Moreover, out of the required CA land i.e. 1567Ha., 565 Ha. of degraded forest land have been identified in Tikhari RF of Bolangir Forest Division, out of proposed 600 Ha excluding a tune of 35 Ha of MDF area, which was approved

by the PCCF, FD & Nodal Officer, FC Act O/o the Principal C.C.F, Odisha, Bhubaneswar and the balance area i.e. 1002Ha. (Bankamundi RF 542Ha. & Goudadei RF 460Ha.) in respect of this Division, the revised KML/Shape file and CA map is enclosed herewith for authentication and onward transmission to the Govt. of India, MoEF & CC, New Delhi.


b- Further, in case of Goudadei R.F proposed area of 541Ha. Compensatory Afforestation land identified earlier comes to 9.8Ha. of plantation area and 22Ha. MDF area has been excluded as per DSS. Again taking into consideration about presence of existing regeneration and tree species with some canopy cover has been excluded from the area and a tune of 460Ha. area of Goudadei R.F has been included in the Compensatory Afforestation area, which can accommodated 800 Plants per Ha.,

Accordingly, Compensatory Afforestation land Bankamundi R.F 542Ha. & Goudadei R.F 460Ha. total 1002Ha identified for which a revised Compensatory Afforestation scheme @ 800 Plants per Ha. in ANR with Gap plantation made of degraded forest land is prepared with a financial outlay of Rs. 16,56,04,676/- (Rupees Sixteen Crore Fifty six Lakhs Twenty Four Thousand Six Hundred Seventy Six) only and submit herewith for necessary approval at your end.

c- As per the Site Inspection of Range Officer, Boudh, no plantation has been carried out in the past over the revised identified area.

This is for favour of kind information and necessary action.

Encl: As above

  
Divisional Forest Officer  
Boudh Division

Memo No. 2940

Dt. 08/07/2020

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

  
Divisional Forest Officer  
Boudh Division



**OFFICE OF THE DIVISIONAL FOREST OFFICER : BALANGIR**  
**FOREST DIVISION** AT / PO / DIST :- Balangir- ODISHA  
 Phone & Fax – 06652-232948 (O), Email – [dfobalangir@gmail.com](mailto:dfobalangir@gmail.com)

Memo No 2497 /4F-Misc  
 Dated, Bolangir the \_\_\_\_\_ th June '2020.

To  
 The Principal Chief Conservator of Forests,  
 Forest diversion & Nodal Officer, F.C.Act.  
 Odisha, Bhubaneswar.

Sub: Proposal for diversion of 783.275 ha. of forest land consisting of 643.095 ha. of R.F in Chhendipada & Kankurupal Reserve Forest and 140.180 ha. of village Forest land in Chhendipada Range of Angul Division for Naini Coal Block (Open Cast) under Angul District, Odisha of M/S Singareni Collieries Company Ltd.

Ref: Your memo No.11654 dt.17.6.2020.

In inviting a reference to the above cited memo, it is to intimate you that the pointwise compliance report as raised by the Govt. of India, MoEF & CC, New Delhi vide their letter F No.8-01/2020-FC dt.17.4.2020 relating to the above project is furnished below.

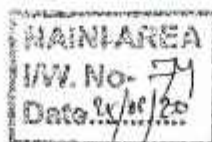
**1 a-** The total forest land involved in Naini Coal Block is 783.275 ha. for which 1566.55 ha. of degraded forest land is required for Compensatory Afforestation out of which 600 ha. of degraded forest was identified and a scheme prepared and submitted earlier. Out of the total, 35 ha. of land in Tikhari RF is MDF which is not suitable and admissible for Compensatory Afforestation purpose in accordance with guidelines by the Ministry of MoEF & CC, New Delhi. Now after excluding the above MDF patches of 35 ha. the KML/Shape file of 565 ha. CA Map is enclosed herewith after authentication for onward transmission to the Govt. of India, MoEF & CC, New Delhi.

**b.** After deducting 35 ha. of MDF the balance area is now coming under open forest category as per DSS and 800 plants can be accommodated over the area. The Compensatory Afforestation Scheme with a financial outlay of Rs.7,92,46,600/- (Rupees Seven Crore Ninty Two Lakhs Forty Six thousand Six hundred) only over 565 ha. of degraded forest land was approved by the PCCF, FD & Nodal Officer, FC Act.

**c.** No plantation has been carried out in the past over the identified area.

This is for favour of your information and necessary action.

Encl: As above



Divisional Forest Officer  
 Bolangir Forest Division

Memo No. \_\_\_\_\_/4F, Dtd. \_\_\_\_\_/

Copy forwarded to the Regional Chief Conservator of Forests, Bhawanipatna Circle for favour of his information and necessary action with reference to memo No.11655 dt.17.6.2020 of the PCCF,Forest Division and Nodal Officer,F.C.Act.O/O the PCCE,Odisha,Bhubaneswar.

*SL*  
Divisional Forest Officer  
Bolangir Forest Division

Memo No. 2449 /4F, Dtd. 19/6/20

Copy forwarded to the General Manager,M/S Singareni Collieries Company Limited(SOCL)H.No.129 of NAC,Mishrapada,Angul 759122 for his information and necessary action.

*SL*  
Divisional Forest Officer  
Bolangir Forest Division



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- A-IX

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021

### Condition No. A 9(iii)

Cost of implementation of the provisions of the Wildlife Management Plan, on pro rata basis, shall be deposited into the account of CAMPA of the State.

### Compliance to Condition No. A 9(iii)

In compliance to this condition, as suggested by the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha, vide letter No. 10807/CWLW-FDWC-FD-0034-2021 dated 05.11.2021, M/s The Singareni Collieries Company Limited do hereby undertake to deposit Rs 7,48,49,518/- into the account of CAMPA of the State towards Regional Wildlife Management Plan, as per the demand raised by the DFO, Angul vide letter no. 8859/110/DRP/2021 Dated 06.11.2021.

M/s The Singareni Collieries Company Limited further undertakes to bear the differential cost for preparation and implentation of Wild Life/Elephant Management Plan on pro-rata basis as suggested by the Special Secretary to Government, Forest, Environment & Climate Change Department vide letter No. FE-DIV-FLD-0026-2021-19295/FE&CC dated 02.11.2021.

Place: Angul

Date: 8.11.2021

Authorized Signatory

General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

## OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS (WILDLIFE) &amp;

## CHIEF WILDLIFE WARDEN, ODISHA

Department of Forest and Environment, Government of Odisha

PRAKRUTI BHAWAN, PLOT NO.1459, SAHEED NAGAR, BHUBANESWAR-751007

Phone: 0674-2602250. Website: [www.wildlife.odisha.gov.in](http://www.wildlife.odisha.gov.in), Email: [odishawildlife@gmail.com](mailto:odishawildlife@gmail.com)No. 10807 / CWLW-FDWC-FD-0034-2021Dated, Bhubaneswar the 05 Nov, 2021

To

Sri Surendra Pandey, IFS (Retd.),

Advisor (Forestry),

The Singareni Collieries Company Ltd.,

(A Government Company),

Singareni Bhavan, Red Hills,

P.B.No.18, Khairatabad, Hyderabad - 500004, Telengana


**Sub:- Naini Coal mining Project- Compliance of stipulations made in the Stage-I approval accorded by MoEF&CC, GOI in Angul district of Odisha in favour of Singareni Collieries Company (SCCL- preparation of Wildlife/ Elephant Management Plan, request to accept undertaking. - regarding**

Sir,


With reference to your letter No.ADF/SCCL/HYD/AUG-7 dated 21.08.2021 on the above subject, I am directed to enclose herewith a copy of letter No.FE-DIV-FLD-0026-2021-19295/FE&CC dated 02.11.2021 of State Government in FE&CC Department addressed to this office for your reference and taking further needful action in the matter.

Yours faithfully

Encl: As above

  
 Conservator of Forests (ET)
Memo No. 10808 dt 09/11/2021

Copy along with a copy of the letter of user agency and State Government as cited above forwarded to the DFO, Angul Division/ RCCF, Angul Circle for information and necessary action. The DFO, Angul Division is requested to raise demands for deposit of proportionate cost of RWLMP in State CAMPA fund as well as an undertaking from the user agency bear the differential cost for preparation and implementation of Wildlife/ Elephant Management Plan on pro-rata basis as per conditions of Govt. of India on preparation of plan.

  
 Conservator of Forests (ET)

P.T.O.

Memo No. 10807 dt 02/11/2021

Copy along with a copy of the above referred letter of user agency forwarded to the Additional PCCF (FD&NO) FC Act, O/o PCCF & HoFF, Odisha for information and necessary action with reference to memo No.19297/FE&CC dated 02.11.2021 of FE&CC Department.

  
Conservator of Forests (ET)

GOVERNMENT OF ODISHA

FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

\*\*\*\*\*

No.FE-DIV-FLD-0026-2021- 19295 /FE&CC, Date 02.11.21

10F (Cons) 123/19

From

Sri Lingaraj Otta, IFS

Special Secretary to Government

To

The Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha, Bhubaneswar.

Sub: On the matter of diversion of 783.275 ha forest land consisting of 643.095 ha of RF in Chhendipada & Kankurupal Reserved Forest and 140.180 ha of village forest land in Chhendipada Range of Angul Division for Naini Coal Block (Open Cast) under Angul District Odisha of M/s Singareni Collieries Company Ltd.

Sir,

In inviting a reference to your file No.CWLW-FDWC-FD-0034-2021 on the subject cited above, I am directed to say that it is suggested by you that Government order may be obtained to deposit of funds for Regional Wildlife Management Plan on the above proposal as per rate fixed by Government from the User Agency and also the User Agency shall submit an undertaking to bear the differential cost for preparation and implementation on pro-rata basis as per conditions of Govt. of India on preparation of plan.

Your suggestion on the above matter is approved.

Yours faithfully,

02.11.2021  
Special Secretary to Government

Memo No. 19296 /FE&CC, Date 02.11.21

Copy forwarded to the Principal Chief Conservator of Forests & HoFF,



for information and necessary action.

02.11.2021  
Special Secretary to Government

(PTO)

Memo No. 192-97/FE&CC, Date 02.11.91

Copy forwarded to the Additional Principal Chief Conservator of Forests (FD&NO), FC Act, O/o PCCF & HoFF, Odisha for information and necessary action.

*[Signature]*  
Special Secretary to Government

Surendra Pandey, IFS (Retd.)  
Advisor (Forestry),  
The Singareni Collieries Company Ltd.  
(A Government Company)



Singareni Bhavan, Red Hills,  
P. B. No.18, Khairatabad,  
Hyderabad - 500 004.Telangana  
E-mail : asp5760@gmail.com  
Phone : (040) 23326497  
Mobile : 89789 67837

"CARE FOR CLEAN WATER & AIR"

Ref: ADF/SCCL/HYD/AUG-7  
Date: 21.08.2021

✓ Dear Sri Sashi Paul Sahab,

Q  
Jumechal

- Sub: Naini Coal mining Project- Compliance of stipulations made in the Stage-I approval accorded by MOEF &CC, GOI, in Angul district of Odisha, in favor of Singareni Collieries Company (SCCL- preparation of Wildlife /Elephant Management Plan, request to accept undertaking. Reg.
- Ref: 1- The MOEF &CC, GOI Ref.No- 08-01/2020-FC Dt.28<sup>th</sup> July,2021(Enclosed)  
2- MOEF &CC,(PE Division), GOI, F.No.7-5/2020-PE Dt.25.06.21 (Enclosed)

\*\*\*

I invite your kind attention to the reference 1<sup>st</sup> cited ( copy enclosed), wherein the MOEF &CC, GOI, has accorded in-principle approval for diversion of 783.275 Ha of Forest land in Angul District of Odisha, in favour of the Singareni Coal Company (SCCL). The SCCL is a government company with State government of Telangana and the Government of India in a ratio of 51:49.

CF  
B.B. Das

- 2- Out of this diverted forest land of 783.275 Ha, an area of 643.095H is notified forest land under control of the Forest department and 140.80 Ha is village & revenue forest land under control of the Revenue department.
- 3- All the stipulations laid down in the in-principal approval have to be complied by the SCCL (User agency) before getting the final approval. The SCCL is planning to start mining operations in the area from October, 2021 onwards and so planning to comply with all the stipulations, soon after getting the demand notice from the forest department for making payment towards C.A, NPV, cost of tree felling, and Cost towards wildlife plan etc.
- 4- One of the important stipulations is in condition number A-9 (i), which is reproduced as below for ready reference:

A-9 Wildlife Management Plan:

(i) A wildlife /Elephant Management Plan, at the project cost, shall be prepared by the State Government in consultation with national level institute such as Wildlife Institute of India or Indian Institute of Science and the PCCF (Wildlife) of the State for protection and conservation of wildlife of the area and to mitigate adverse impacts of coal mining on the elephant population, their movements, etc. for entire coal bearing belt encompassing areas of Chhedipada, Janiha, Jarpada, ranges of Angul Division and Reamal range of Deogarh Division along with adjoining contiguous forest areas. Comments of the Project Elephant Division of the MOEF & CC (copy enclosed) shall be addressed in the said Plan and a copy of the approved Plan shall be submitted to the Ministry.

Retd :

Pri. Chief Conservator of Forests & Special Secretary, Environment, Forests, Science and Technology  
Dept. Government of Andhra Pradesh

(ii) Cost of implementation of the Wildlife / Elephant Management Plan shall be apportioned among the coal mines as and when allotted in the areas.

(iii) Cost of implementation of the provisions of the Wildlife Management Plan, on pro-rata basis, shall be deposited into the account of CAMPA of the State;

5- I invite your kind attention to the discussion I had in your Office on 7<sup>th</sup> August, 2021. You were very helpful and kind to guide and also have a telephonic discussion immediately with the Director, Wildlife Institute of India, Dehradun, in this regard. It learnt that it was informed that, preparation of such Plan may take a time of two years.

6- In this regard, it is brought to your kind notice that it is natural to take sufficient required time for preparation of Wildlife / Elephant Management Plan for entire coal bearing belt encompassing areas of Chhedipada, Janiha, Jarpada, ranges of Angul Division and Reamal range of Deogarh Division along with adjoining contiguous forest areas. Moreover, status of other project coming in these areas is not clear as on date.

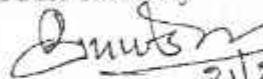
7- In this regard I also met the Inspector General of Forests (FC) on 10<sup>th</sup> August, 2021, with a proposal that the SCCL will submit an undertaking to pay all the amount towards preparation and implementation of Wildlife / Elephant Management Plan as and when plan is made and demand is raised by the Forest Department of Odisha. As SCCL is planning to start the mining from October, 2021, and before compliances have to be made to the stipulations of the Stage-I.

He was of the view, that, if the Chief Wildlife Warden & Principal Chief Conservator of Forests & HOFF, Odisha, and the State Government accept this undertaking, the issue will be brought before the Forest Advisory Committee for final decision.

Hence, it is requested to kindly accept the undertaking to be submitted by the SCCL in this regard and forward the compliances with suitable recommendations to the State Government for obtaining and communication final orders. It is also requested to kindly inform if undertaking is to be given in particular format.

With warm regards.

Yours sincerely

  
Surendra Pandey 21/8/21

To:

✓ Sri Sashi Paul, IFS  
Principal Chief Conservator of Forests &  
Chief Wildlife Warden  
Government of Odisha  
Bhubaneswar.

## OFFICE OF THE DIVISIONAL FOREST OFFICER ; ANGUL DIVISION:ANGUL.

To Letter No. 8359/110/DRP/2021/Dated. 6.11.21

The General Manager  
Singrani Collieries Co Ltd, Naini Area Angul  
H.No.129 Mishrapada, Angul  
At/Po-Dist-Angul, Odisha-Pin-759122

Sub:- Proposal for diversion of 783.275 ha forest land for Naini open cast project (Coal Mine) of M/S the Singareni Collieries Company Ltd consisting of 643.095 ha (Chhendipada-Ankurpal) Reserve Forest and 140.180 ha revenue forest land of Chhendipada Range, Angul District.

Ref: 1. Proposal No. FP/OR/MIN/30980 / 2017  
2. No. 8-01/2020-FC dt. 28.07.2021 of GoI, MoEF & CC,  
3. Memo No.13490 F&E dt 03.08.2021 of Spl. Secy. to Govt. FE & CC Deptt.  
4. This Office Letter No. 6010 dt. 04.08.2021.

Sir,

With reference to the above cited letter on the subject, it is to inform that the Govt. of India MOEF & CC vide their letter No. 8-01/2020-FC dt. 28.07.2021 have accorded in principle approval under section -2 of the Forest (Conservation) Act, 1980 for proposed for diversion of 783.275 ha of forest land in favour of M/S Singareni Collieries Company Ltd mining project in Angul District (Odisha). As per Letter No. 26159 dt. 05.12.2018 of Govt. of Odisha, F & E Department, the cost of Regional Wildlife Management Plan of the above project is to be deposited by you as per the calculation given below.

1. Total Mining lease area of the above project = 912.799 ha  
(Forest land - 783.275 ha + 129.524 ha NF land)
2. Regional Wildlife Management Plan @ Rs.82000/- per ha.
3. Cost of RWM Plan = 912.799 ha X Rs.82000/- = Rs. 7,48,49,518/-

Hence you are requested to deposit the cost of Regional Wildlife Management Plan of Rs. 7,48,49,518/- (Rupees Seven Crore forty eight lakh forty nine thousand five hundred eighteen) only in Ad-hoc CAMPA in the saving Bank Account No. 520101263743655, Corporation Bank, Lodhi Complex, Ground Floor, Block No. 11, CGO Complex, Lodi Road New Delhi through "e" payment immediately and intimate the same to the undersigned for taking further action in the matter.

Yours faithfully

  
Divisional Forest Officer  
Angul Division

//2//

Memo No. 8860 / Dated. 6/1/21

Copy forwarded to the Principal Chief Conservator of Forests, Forest Division & Nodal Officer, F.C. Act, O/o the Principal Chief Conservator of Forests, Odisha for favour of information and necessary action.

*Robilim*  
Divisional Forest Officer  
Angul Division

Memo No. 8861 / Dated. 6/1/21

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

*Robilim*  
Divisional Forest Officer  
✓ Angul Division.



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- A-X

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021

### **Condition No. A (9)**

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, 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.

### **Compliance to Condition No. A (9)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake for 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 shall submit the documentary evidence, 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.

  
**Authorized Signatory**  
**General Manager**  
**The Singareni Collieries Co. Ltd.**  
**(A. Govt. Company)**  
**Naini Area, Angul, Odisha-759122**

Place: Angul

Date: 8.11.2021

(for projects other than linear Projects)

GOVERNMENT OF ODISHA

OFFICE OF THE DISTRICT COLLECTOR, ANGUL

No. 1661 Dated 13/9/19

TO WHOMSOEVER IT MAY CONCERN

In compliance of the Ministry of Environment and Forests (MoEF), Government of India's letter No. 11-9/98-FC (pt) dated 3<sup>rd</sup> August 2009 wherein the MoEF issued guidelines on submission of evidences for having initiated and completed the process of settlement of rights under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA, for short) on the forest land proposed to be diverted for non-forest purposes, it is certified that, 783.7666Ha. of forest land proposed to be diverted in favour of General Manager, the Singareni Collieries Co. Ltd. for Naini Coal Mine in Angul District falls within jurisdiction of Bimbaharpur, Kasidiha, Kudapasi, Thalipasi, Dhaurakhaman, Tentuloi Gopinathpur village, Chhendipada RF & Kankurpal RF of Chhendipada tehsil.

It is further certified that:

- (a) the complete process for identification and settlement of rights under the FRA has been carried out for the entire 783.7666Ha. of forest land proposed for diversion. A copy of records of all consultation and meeting (s) 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-V;
- (b) the proposal of such diversion ( with full details of the project and its implications, in vernacular / local language) have been placed before each concerned Gram Sabha Committee of forest-dwellers, who are eligible under the FRA;
- (c) the each of concerned Gram Sabha(s) has certified that all formalities / processes under the FRA have been carried out, and that they have given their consent to the proposed diversion and the compensation and ameliorative measures, if any, having understood the purpose and details of proposed diversion. A copy of certificate issued by the Gram Sabha of \_\_\_\_\_ village is enclosed as annexure- I to annexure-V;
- (d) the discussion and decisions on such proposals had taken place only when there was a quorum of minimum 50% of the members of Gram Sabha present;
- (e) 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 Forest Rights Committees 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) (e) of the FRA.

Encl:-As above

(Shri Manoj Kumar Mohanty, OAS-SAG)

**COLLECTOR, ANGUL,**



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

**NAINI AREA**

CIN: U10102TG1920SGC000571

ANNEXURE-B-I

## UNDERTAKING

MoEF & CC File No.8-01/2020-FC dtd. 28.07.2021

### **Condition No. B (1)**

Legal status of the diverted forest land shall remain unchanged.

### **Compliance to Condition No. B (1)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that the Legal Status of the forest land shall remain unchanged.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

**NAINI AREA**

**CIN: U10102TG1920SGC000571**

## **ANNEXURE- B-II**

### **UNDERTAKING**

**MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021**

#### **Condition No. B (2)**

CA over degraded forest land, double in extent to the forest land being diverted, shall be raised by the State Forest Department at the project cost within three years from the date of grant of Stage-II approval.

#### **Compliance to Condition No. B (2)**

In compliance to this condition, PCCF, Forest Diversion & Nodal Officer FC Act has approved the Compensatory Afforestation scheme over the 542 Ha of Bankamunde RF, 460 Ha of Goudadei RF under Boudh Forest Division and 565 Ha of Tikhara RF under Balangir Forest Division Degraded Forest land, double in extent to the forest land being diverted, identified in Balangir & Boudh Forest Division for a total financial outlay of Rs. 23,83,04,300/-

M/s The Singareni Collieries Company Limited has deposited an amount of Rs. 97,37,99,525/- in ORISSA CAMPA account No. 150825830980795 of Union Bank, Lodi Road, New Delhi vide RTGS UTR No. SBINR12021090640778836 Dt. 06.09.2021 which includes an amount of 23,83,04,300/- towards CA charges over degraded forest land. Copy of challan & e pay order details is enclosed.

**Place: Angul**

**Date: 08.11.2021**

  
**Authorized Signatory**  
**General Manager**  
**The Singareni Collieries Co. Ltd.**  
**(A. Govt. Company)**  
**Naini Area, Angul, Odisha-759122**



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-III

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. B (3)

In addition to the proposed CA, non-forest area equivalent in size to the diverted forest area shall be made available and mutated in favour of the State Forest Department out of the area available immediately after the closure and rehabilitation of mines of M/s SCCL from 2027-28 (or earlier) onwards, as already intimated by M/s SCCL vide their letter no. CMD/PS/11/129 dt.29.09.2020.

### Compliance to Condition No. B (3)

In compliance to this condition, the Board of Directors of M/s The Singareni Collieries Company Limited in its 558<sup>th</sup> meeting held on 25.09.2021 has approved for mutation of non-forest land vide minutes dated 06.10.2021, and SCCL do hereby undertake to mutate non forest area equivalent to the size of the diverted forest area to the State Forest Department after closure and rehabilitation of mines of M/s SCCL. (Copy of the minutes of 558<sup>th</sup> meeting of SCCL Board of Directors is enclosed)

Place: Angul

Date: 08.11.2021

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122



The Singareni Collieries Company Limited

(A Government Company)

Kothagudem Collieries-507 101,

Bhadrachari Kothagudem Dist., Telangana

CIN : U10102TG1920SGC000571

Website: scclmines.com

Phone No: 08744-242873

Fax No.08744-242393

cosecy@scclmines.com

Ref No: CRP / CS / 54 / 549

Date:06.10.2021.

GM (Estates)

The extract of Minute No.558:5:18 of Board of Directors meeting held on 25.09.2021 at Hyderabad is furnished below:

**Sub: Mutation of Non forest land from closed mines after completion of rehabilitation and mine closure activities towards Compensatory Afforestation to State Forest department.**

5:18.1 The Board has taken up this note which was sent on 22.09.2021 i.e., with less than one week's time for consideration with the consent of all Board Members present in the meeting and permission of the C&MD.

5:18.2 Director (Finance) and (P&P) & (P,A&W) (FAC) informed that on the request of SCCL, the MoEF & CC, Govt granted Stage-I approval for the 162.45 Ha. of Forest Land (FL) for SRP OC-II Expn and for 783.275 Ha. of FL for Naini OCP with a condition that:

*"Compensatory Afforestation on double the degraded notified forest area under forest department on the condition that in addition to the proposed CA, non-forest area equivalent in size to the diverted forest area shall be made available and mutated in favour of State Forest Department out of the area available immediately after the closure and rehabilitation of mines of M/s. SCCL from 2027-28 (or, earlier) onwards as submitted by M/s. SCCL vide their letter no.CMD/PS/H/129 dated 29.09.2020."*

*"A Board resolution in this regard shall be submitted by the User Agency to the State Forest Department, and the State Forest Department will accordingly ensure the compliance of this condition in a timely manner."*

5:18.3 Director (Finance) and (P&P) & (P,A&W) (FAC) further informed that for obtaining Stage-II clearance for the SRP OCP Expn and Naini OCP, compliance with the said condition imposed in Stage-I is to be submitted to State Forest department at the earliest. For processing of ongoing forest diversions (SRP OC-II Expn. and Naini OCP) and for future forest land diversions, a Board resolution is required to be given to the State Forest Department assuring handing over of Non Forest Land which is reclaimed after closure of the mines as available from 2027-28 as land bank for CA purpose, he added.

5:18.4 CMD, SCCL stated that as per the provisions of FC Act, 1980 for diversion of forest land for non forest purposes for Central PSUs, the concerned Central PSU has to deposit CA

Contd..2.



The Singareni Collieries Company Limited  
(A Government Company)  
Kothagudem Collieries-507 101,  
Bhadrachali Kothagudem Dist., Telangana  
CIN : U10102TG1920SGC000571 Website: soclmines.com

Phone No: 08744-242873  
Fax No.08744-242393  
cosecy@soclmines.com

Ref No: CRP / CS / 54 / 519

Date:06.10.2021.

-2-

charges in double the degraded forest land only whereas for other organizations non forest land equivalent to the extent of forest land proposed shall be provided towards CA along with the charges applicable for afforestation. CIL is having CPSU status for the purpose of CA for diversion of forest land whereas earlier SCCL has provided equivalent extent of non forest land for diversion of forest land which was incurring lot of time i.e. 5-6 years for each forest diversion. On constant persuasion, the MoEF & CC, Gol, vide F.No. 11-423/2011-FC dt.31.01.2013 has issued orders granting CPSU status to the Singareni Collieries Company Limited (a government company in Telangana State) on par with CIL for the purpose of CA after obtaining a certificate from the then Chief Secretary to the Government of A.P about non availability of the non-RF land for CA purpose. Due to extending of CPSU status to the SCCL, time taken for processing the proposal is reduced to 2 years against 6 to 8 years prior to sanction of CPSU status. Hence, SCCL could move towards a target of 65 MT from 50 MT, 1670.218 Ha of forest land was diverted in favor of SCCL and Rs.478.77 Crore has been paid for raising CA in double the degraded RF. However, during FAC meetings, diversion of forest land in favour of SCCL in Telangana for SRP OC Project during August 2020 and Naini Block in Odisha during September 2020 respectively extension of CPSU status to SCCL was raised by the FAC members. On the subject, vide Lr.No.CMD/PS/H/129 dt.29.09.2020 CMD, SCCL requested Secretary, MoC to recommend to the Secretary MOEF & CC, Gol, to consider and continue the CPSU status to the SCCL.

- 5.18.5 CMD, SCCL further stated that as the issue of provision of NFL towards CA is coming up for discussion in FAC meetings, SCCL explored the possibilities for providing NFL for CA purpose in closed Mines after completion of the mine closure activities. Vide Lr.No.CMD/PS/H/147 dt.09.11.2020, CMD, SCCL informed the Secretary, MoEF & CC, Gol that SCCL will be able to handover NFL after rehabilitation towards CA purpose from 2027-28 and indicated the schedule for availability of Mined out areas that can be handed over towards CA purpose and requested to consider the proposal and also extending CPSU status to SCCL. Meanwhile, the Chief Secretary, Govt. of Telangana after confirmation with the District Collectors issued a certificate dt.03.06.2021 regarding non availability of Revenue Lands in the State of Telangana for handing over for CA purpose to the Forest department. The same has been submitted to MoEF & CC, Gol for kind consideration of degraded forest lands in double the extent instead of CA lands

Contd..3.



The Singareni Collieries Company Limited

(A Government Company)

Kothagudem Collieries-507 101,

Bhadradi Kothagudem Dist., Telangana

CIN : U10102TG1920SGC000571

Website: scclmines.com

Phone No: 08744-242873

Fax No.08744-242393

cosecy@scclmines.com

Ref No: CRP / CS / 54 / 544

Date:06.10.2021.

-3-

for the upcoming projects as requested by SCCL vide letter Ref No. ADF/SCCL/HYD/ June-4 dt.14.06.2021 and Ref No. ADF/SCCL/HYD/June-17 dt.16.06.2021. After closure of mines, the reclaimed land should be used for afforestation purpose as per Mine Closure Plan and will be undertaken by SCCL. During deliberation with DG (Forestry), it was advised to give a schedule to MoEF regarding handing over of lands to the State Forest Department in a phased manner as soon as the NFL is available after closure of mines.

5:18.6 To a query of Sri Ajitesh Kumar, Dy.Secretary, MoC, Gol, CMD, SCCL has briefly explained the deliberations took place over the last one year with the Additional Secretary, MoC, Additional Secretary, MoEF, Chief Secretary, Govt., of Telangana, CMD, SCCL also informed that only after giving assurance of handing over of lands, the MoEF & CC, Gol has granted Stage-I approval for the 162.45 Ha. of Forest land for SRP OC-II Expn and for 783.275 Ha of FL for Naini OCP with a condition that Board resolution in this regard shall be submitted by the User Agency to the State Forest Department.

- 5:18.7 (i) Sri Ajitesh Kumar, Dy.Secretary, MoC, Gol opined that the land has been acquired under Land Acquisition Act, 1894 and no transfer of any part of land for sale, mortgage, gift, lease, etc. can be done without prior sanction of State Govt. Hence, before giving any such assurance for transfer/mutation of non forest land to State Forest Department, legal opinion and/or requisite approval should be taken from State Govt.
- (ii) Sri PSL Swami, Director, MoC, Gol opined that SCCL has acquired the land under Land Acquisition Act, 1894. Approval of the State Govt. is required for any transfer of land as per the Act. Hence, SCCL may seek the approval of State Govt. and shall comply with all the provisions of the Act and legal issues if any before proceeding further.
- (iii) CMD, SCCL clarified that the issue has been discussed in the overall interest of the Nation to increase the Coal Production, the assurance by the Board of SCCL is mandatory without which the Company cannot get clearance for the proposed projects. The Projects cannot be delayed as it is time bound. Therefore, the present proposal is very important to get the Projects approved as SCCL being a State PSU, it does not have the privileges that are there in Coal India. Hence, a

Contd..4.



The Singareni Collieries Company Limited

(A Government Company)

Kothagudem Collieries-507 101,

Bhadradi Kothagudem Dist., Telangana

CIN : U10102TG1920SGC000571

Website: scclmines.com

Phone No: 08744-242873

Fax No.08744-242393

cosacy@scclmines.com

Ref No: CRP / CS / 54 / 549

Date:06.10.2021.

-4-

Board resolution with the assurance of handing over of Non forest land equivalent to the Forest land area diverted shall be submitted to State Forest department for the areas available immediately after closure and rehabilitation of the Mines. The Compliance is to be submitted at the earliest to get Stage-II clearance for SRP OC-II and Naini Projects by October 2021. By December 2021 Naini project needs to be grounded as per the timelines given by MoC. This is required for all other projects also which are coming up in the next three years which involves forest land. However, the same will be informed to the State Government, as MoEF has given Stage-I clearance with a precondition of giving a Board resolution, the proposal has been put up to the Board, he added.

5:18.8 C&MD, SCCL informed that the present Board resolution is only an assurance for mutation of non-forest area equivalent in size to the diverted forest area in favour of State Forest Department out of the area available immediately after the closure and rehabilitation of mines of M/s. SCCL from 2027-28 (or, earlier) onwards. Before handing over of the said lands, all the requisite approvals will be taken from appropriate authorities, he added.

5:18.9 To a query of Sri Manoj Kumar, CMD, WCL, Director (Operations) clarified that the land will be handed over in a phased manner after completion of the post Mine Closure activities and after claiming the Mine Closure amount. The extent of Non forest land proposed to hand over is tentative, he added.

5:18.10 After deliberation, the Board accorded approval for issuing a Board resolution assuring Compensatory Afforestation on double the degraded notified forest area under forest department on the condition that in addition to the proposed CA, non-forest area equivalent in size to the diverted forest area shall be made available and mutated in favour of State Forest Department out of the area available immediately after the closure and rehabilitation of mines of M/s. SCCL from 2027-28 (or, earlier) onwards as detailed below;

Sl.No	Year	Extent of Non forest land to be handed over post closure of Mines (Ha.) (Tentative)
1	2027-28	3033.00
2	2032-33	1699.00
3	2037-38	4600.00
4	2042-43	4691.00

Contd..5.



The Singareni Collieries Company Limited  
(A Government Company)

Kothagudem Collieries-507 101,  
Bhadradi Kothagudem Dist., Telangana

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Date:06.10.2021.

-5-

Sl.No	Year	Extent of Non forest land to be handed over post closure of Mines (Ha.) (Tentative)
5	2062-63	2225.00
6	2065-66	3623.00
TOTAL		19871.00

A copy of the Extract of minute / Board resolution as prescribed will be submitted to the State Forest Department.

Action taken / status of implementation on each point of the above minute may be intimated to the undersigned at the earliest as per the guidelines issued by the C&MD vide circular No.CRP/CS/56/200 dt.22.3.2002 for apprising the same to the Board in the next meeting.

*K. S. Ch. Devi*  
Company Secretary

Copy to:

GM (F&A)

GM (PP)

*make copy to  
GM F&A, & have note  
by*



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-IV

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. B(4)

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.

### Compliance to Condition No. B(4)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



**THE SINGARENI COLLIERIES COMPANY LIMITED**

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

**NAINI AREA**

CIN: U10102TG1920SGC000571

**ANNEXURE- B-V**

**UNDERTAKING**

**MoEF &CC File No. 8-01/2020-FC dtd. 28.07.2021**

**Condition No. B(5)**

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

**Compliance to Condition No. B(5)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that tree felling shall be done in phased manner as per the requirement of the approved Mining Plan with prior permission of DFO, Angul.

**Place: Angul**

**Date: 08.11.2021**

  
**Authorized Signatory**  
**General Manager**  
**The Singareni Collieries Co. Ltd.**  
**(A. Govt. Company)**  
**Naini Area, Angul, Odisha-759122**



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

**NAINI AREA**

CIN: U10102TG1920SGC000571

ANNEXURE- B-VI

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### **Condition No. B (6)**

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.

### **Compliance to Condition No. B (6)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that all possibility shall be explored for translocation of maximum number of trees identified to be felled and any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department.

Place: Angul

Date: 08.11.2021

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-VII

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### **Condition No. B (7)**

The User Agency shall undertake mining in a phased manner after taking due care of 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 Regional Officer of MoEF & CC (Central) may direct for suspension of mining activities till such time, such reclamation is satisfactorily executed.

### **Compliance to Condition No. B (7)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that mining shall be done in a phased manner after taking due care of reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by SCCL 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.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

## ANNEXURE- B-VIII

### UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

#### Condition No. B (8) (i)

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

#### Compliance to Condition No. B (8) (i)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake for 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 (on both sides) and deploying adequate number of watchers under the supervision of the State Forest Department as per the approved scheme.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021

**SCHEME FOR FENCING, PROTECTION &  
REGENERATION  
OF SAFETY ZONE AREA (7.5 M)  
OVER 9.098 Ha.**

**FOR**

**NAINI OPEN CAST COAL MINE OF  
M/S SINGARENI COLLIERIES COMPANY LTD.**

**IN COMPLIANCE TO  
CONDITION NO. B- 8(i) OF STAGE-I FOREST  
CLEARANCE GRANTEED BY  
GOVT. OF INDIA, MOEF & CC  
VIDE THEIR LETTER NO. F.NO. 8-01/2020-FC DT 28.07.2021  
FOR DIVERSION OF 783.275 Ha OF FOREST LAND**

**PREPARED BY**

**DIVISIONAL FOREST OFFICER  
ANGUL DIVISION  
ANGUL**

**SCHEME FOR FENCING, PROTECTION & REGENERATION OF ENTIRE  
SAFETY ZONE AREA (7.5M) OVER 9.098 HA. OF NAINI COAL BLOOCK OF M/S  
SINGARENI COLLIERIES CO. LTD.  
IN CHHENDIPADA TAHASIL OF DIST. ANGUL**

**1. INTRODUCTION**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurupal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District. The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land).

The area approved for grant of mining lease is 912.799 ha. The total forest land is 783.275 Ha. out of which 774.177 Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only. To compensate the forest area diverted for non forest purpose, the area for Compensatory Afforestation has been identified in Lodhajhari R.F area under Kaniha range under Angul Forest Division of Dist. Angul. Labour rate is modified @ Rs.311.00 per day.

**2. SITE**

A patch of 9.098 Ha. in the Safety Zone entire area of the project NAINI Opencast Coal Block.

**3. SOIL TYPE**

The soil type occurring in the area is mostly sandy loam having good soil depth, ph. of the soil varies from 6 to 8.

**4. OBJECTIVE OF THE SCHEME**

1. To enhance the environmental condition of locality.

2. To Conserve Soil and Moisture of degraded forest area.

3. To Support the degraded forest patch for regeneration.

## 5. CHOICE OF SPECIES

The species selected which are suitable to the soil type, climatic condition- prevalent of the locality & indigenous characters with observation to existing natural vegetation, fulfilling the requirements of the local villagers. A mixture of species selected is enlisted below-

COMMON NAME	SCIENTIFIC NAME
Teak	<i>Tectona grandis</i>
Sisoo	<i>Dalbergia sisoo</i>
Bija	<i>Petrocarpus marsupium</i>
Asana	<i>Terminalia tomentosa</i>
Dhaura	<i>Anogeissus latifolia</i>
Kurma	<i>Haldina cordifolia</i>
Neem	<i>Azadirachta indica</i>
Karanja	<i>Pongamia pinnata</i>
Bamboo	<i>Dendrocalmus strictus</i>
Harida	<i>Terminalia chebula</i>
Anla	<i>Emblica offic</i>
Bahada	<i>Terminalia belerica</i>
Acasia	<i>Acacia auriculiformis</i>
Chakunda	<i>Cassia siamea</i>
Khair	<i>Acacia catechu</i>

## 6. PLANTING TECHNIQUES

Out of the above species the intensity of plantation for fuel yielding species such as Acacia, Chakunda, Khair, Dhaura shall be planted up to 60% of the total no. of plants, the timber species like Teak, Sisoo, Bija & Asan up to 30%, bamboo-5% and fruit bearing NTFP species like Neem, Karanga, Aanla, Harida, Bahada etc, shall be planted up to 5% of the total number of plants.

## 7. PLANTATION MODEL

The planting of species shall be planted in such a manner that the long term fruit, timber yielding species/ bamboo shall be surrounded with short term fuel wood yielding species. The species should be planted alternate to each other & no repetition of species in close of pits shall be done.

## 8. PLANTATION METHODOLOGY

For the purpose of raising the seeding in a temporary nursery shall be set up nearest to the planting site where availability of water and communication is ensured. Nursery of 440 plants should be planted 0th year. Pit size of 45cm X 45cm X 45cm will be dug and planting should be done immediately on the set of monsoon.

## 9. WEEDING

Post planting operation and weeding shall be taken up followed with application of fertilizer at the time of soil working.

2nd weeding should be repeated in the month of October along with half moon trenching around each plot. Weeding and soil working will be repeated during 2nd year and 3rd year weeding and soil working manuring will be done.

## 10. WATCH AND WARD

For effective protection of area watch and ward shall be provided during project period & post project period.

## 11. FENCING

For protection of plantation & improving environmental condition of the locality Barbed wire fencing both inner side and outer periphery of safety zone shall be done by user agency prior to mining.

## 12. EXECUTING AGENCY


The Divisional Forest Officer, Angul Division shall execute the project.

## 13. MONITORING & EVALUATION

Divisional Forest Officer, Angul Division, Angul shall monitor & evaluate the scheme every year.

## 14. PROJECT COST

Rs. 36, 68,994.00 to be paid by the user Agency to DFO Angul Division. (Rupees Thirty Six Lakhs Sixty Eight Thousand Nine Hundred Ninety Four) only.

  
General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

  
Asst. Conservator of Forests  
Angul Division

  
Forest Range Officer  
Chhendipada Range

Countersigned

  
Divisional Forest Officer  
Angul Forest Division  
Angul, Division

# COST NORMS FOR AIDED NATURAL REGENERATION

(ANR) @ 200 PLANTS PER HACTARE (ANR Plantation) 18 Months Old seedlings

For the year maintenance						
Wage rate @ Rs. 311						
Sl. No.	Item of Work	Preferable Period of Execution	Person days	Labour (Rs)	Material (Rs)	Total (Rs)
Previous year (advance work) Nursery raising						
1	Nursery cost (18 month old seedling) part @ 38.05/- seedling (Rs. 9.48 to be released) for 220 seedlings (200+20)	Nov-March	5.7	1772.7	313.6	2086.3
	S. Total		5.7	1772.7	313.6	2086.3
2	Monitoring & Supervision charges 5% of the cost					104.3
	G Total					2190.6
0th Year (advance work)						
3	Survey, Demarcation & Pillar Posting, GPS Reading with mapping	Nov-Dec	2	622	0	622
4	Site Preparation	Nov-Dec	2	622	0	622
5	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan-Feb	5	1555	0	1555
6	Nursery cost( 18 month old seedling) part @38.05/seedling ( Rs.24.14 to be released) for 220seedlings (200+20)	Apr-March	14.2	4416.2	2684.4	7100.6
7	Contingency and Unforeseen Expenditures		0	0	133	133
	S. Total		23.2	7215.2	2817.4	10032.6
8	Monitoring & Supervision charges 5% of the cost					501.63
	G Total					10534.23
1st Year/Planting Year						
9	Nursery cost (18 month old seedling) balance @ 4.42 for 220 seedling	Apr-June	2.9	901.9	72.4	974.3
10	Pitting 45cm x 45cm x 45cm cube size	May-June	18	5598	0	5598
11	Carriage and planting Casualty replacement and application of insecticides, manure etc.	July/Aug	5	1555	0	1555
12	Complete Weeding, Soil	Aug/Sept	6	1866	0	1866

	working and Manuring					
13	Cost of Vermicompost @ 200gm/ plant @ Rs. 20/- per kg = Rs.800.00 and Granular insecticide 5gm/per plant @ Rs. 80/- per KG = 80.00	Aug/Sept	0	0	880	880
14	Cost of Chemical Fertilizer (a) Urea 70 gms/ plant in two subsequent doses @ Rs. 6/- per Kg = Rs. 84.00 (b) NPK 50gms/plant @ RS. 24/- per kg = Rs.240.00 as Basal dose	Jul/Aug	0	0	324	324
15	Silvicultural Operation including clearance of weed, climber, cutting, high stump cutting, singling of shoot etc.	Sep/Oct	15	4665	0	4665
16	Soil Conservation Measures in the form of staggered trenches of 2m L * 0.5m* 0.5m @ 60 nos/ ha or its equivalent	Sep/Oct	20	6220	0	6220
17	Fire line Tracing and Inspection Path	Feb/Marc h	3	933	0	933
18	Watch and Ward		20	6220	0	6220
19	Contingency and Unforeseen Expenditure		0	0	304	304
	<b>S. Total</b>		<b>89.9</b>	<b>27958.9</b>	<b>1580.4</b>	<b>29539.3</b>
20	Monitoring & Supervision charges 5% of the cost					1476.965
	<b>G Total</b>					<b>31016.265</b>
<b>2nd Year Maintenance</b>						
21	Casualty Replacement (10%) with nursery cost (60 Nos seedling @ 38.05/-)	July/Aug	1	311	761	1072
22	Weeding (complete weeding) and cultural operation	Sep/Oct	2	622	0	622
23	Soil working and manuring	Sep/Oct	2	622	0	622
24	Cost of Vermicompost @ 200 gm/ plant @ Rs. 20/- per kg= Rs. 800.00 and Granular Insecticide 5 gm/ per plant @ Rs. 80/- per KG = Rs. 80.00	Sep/Oct	0	0	808	808
25	Soil Conservation Measures ( Renovation of Staggered Trench)	Sep/Oct	8	2488	0	2488
26	Fire line Tracing and	Feb/Marc	1	311	0	311

	Inspection Path (2m wide fire line over 400m long)	h				
27	Watch & Ward	Apr/March	20	6220	0	6220
28	Contingency and unforeseen expenditure		0	0	181	181
	<b>S. Total</b>		<b>34</b>	<b>10574</b>	<b>1750</b>	<b>12324</b>
29	Monitoring & Supervision charges 5% of the cost					616.2
	<b>G Total</b>					<b>12940.2</b>
<b>3rd Year Maintenance</b>						
30	Weeding ( complete weeding) and cultural operation	Aug/Sep	1	311	0	311
31	Soil Working	Aug/Sep	1	311	0	311
32	Fire line Tracing and Inspection Path (2m wide fire line over 400m long)	Feb/March	1	311	0	311
33	Watch and Ward	April/March	20	6220	0	6220
	Contingency and unforeseen expenditure		0	0	200	200
	<b>S. Total</b>		<b>23</b>	<b>7153</b>	<b>200</b>	<b>7353</b>
34	Monitoring & Supervision charges 5% of the cost					367.65
	<b>G Total</b>					<b>7720.65</b>
<b>4th Year Maintenance</b>						
35	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
36	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
37	Monitoring & Supervision charges 5% of the cost					326.55
	<b>G Total</b>					<b>6857.55</b>
<b>5th Year Maintenance</b>						
38	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
39	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
40	Monitoring & Supervision charges 5% of the cost					326.55
	<b>G Total</b>					<b>6857.55</b>
<b>6th Year Maintenance</b>						
41	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
42	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
43	Monitoring & Supervision					326.55

	charges 5% of the cost					
	<b>G Total</b>					<b>6857.55</b>
<b>7th Year Maintenance</b>						
44	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
45	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
46	Monitoring & Supervision charges 5% of the cost					326.55
	<b>G Total</b>					<b>6857.55</b>
<b>8th Year Maintenance</b>						
47	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
48	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
49	Monitoring & Supervision charges 5% of the cost					326.55
	<b>G Total</b>					<b>6857.55</b>
<b>9th Year Maintenance</b>						
50	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
51	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
52	Monitoring & Supervision charges 5% of the cost					326.55
	<b>G Total</b>					<b>6857.55</b>
<b>10th Year Maintenance</b>						
53	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
54	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
55	Monitoring & Supervision charges 5% of the cost					326.55
	<b>G Total</b>					<b>6857.55</b>

\* Nursery Cost data has been taken from cost norm for urban plantation for 1000 saplings

(Tall seedling plantation of 18 months old)

\*\* Watch & ward has been estimated 20 man day/Ha for better result


**Abstract**

Year	Person days	Labour	Material & Contingencies	Monitoring & Supervision	Total Rs.
Previous Year	5.7	1772.7	313.6	104.315	2190.615
0 <sup>th</sup> Year	23.2	7215.2	2817.4	501.63	10534.23
1 <sup>st</sup> Year	89.9	27958.9	1580.4	1476.965	31016.265
2 <sup>nd</sup> Year	34	10574	1750	616.2	12940.2
3 <sup>rd</sup> Year	23	7153	200	367.65	7720.65
4 <sup>th</sup> Year	21	6531	0	326.55	6857.55
5 <sup>th</sup> Year	21	6531	0	326.55	6857.55
6 <sup>th</sup> Year	21	6531	0	326.55	6857.55
7 <sup>th</sup> Year	21	6531	0	326.55	6857.55
8 <sup>th</sup> Year	21	6531	0	326.55	6857.55
9 <sup>th</sup> Year	21	6531	0	326.55	6857.55
10 <sup>th</sup> Year	21	6531	0	326.55	6857.55
<b>Total</b>	<b>322.8</b>	<b>100390.8</b>	<b>6661.4</b>	<b>5352.61</b>	<b>112404.80</b>

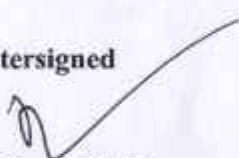
Cost of ANR Plantation Over 9.098 Ha


Rs.1, 12,404.80 /- X 9.098 ha = Rs. 10, 22,658.87/- or 10, 22,660.00/-


(Rupees Ten Lakhs Twenty Two Thousand Six Hundred Sixty only)

  
General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Countersigned

  
Divisional Forest Officer  
Angul Forest Division  
Angul, Division

  
Forest Range Officer  
Chhendipada Range

  
Asst. Conservator of Forests  
Angul Division

**Estimate for Agave (Sisal) plantation over 1 ha. On the mound of staggered Trenches spacing 1m X 1 m in double rows leaving inter space of 3m plantation population-5000 suckers/ha**

<b>1st Year Operation</b>				
<b>SL NO.</b>	<b>Item of Work</b>	<b>Mandays/ quantity per Ha.</b>	<b>Rate in Rs.</b>	<b>Total in Rs.</b>
1	Digging of pit size 45cm x 45cm x 45cm	270 MD	311	83970
2	Nursery cost Rs.4.90 per plant	5000	4.90 per plant	24500
3	Carriage and planting, casualty replacement including cleaning of sucker	34 MD	311	10574
4	Weeding, hoeing and application of fertilizer	25 MD	311	7775
5	Cost of Fertilizer			
	a. Urea 70gm per plant	350kg	6/-per kg	2100
	b. NPK-50 gm / plant	250kg	24/- per kg	6000
	c. Granular insecticide (Themate, phorate etc) @ 5gms / plant	25kg	80/- per kg	2000
	<b>TOTAL</b>			<b>136919</b>
6	Monitoring & Supervision charges 5% of the total cost			<b>6845.95</b>
	<b>Grand Total</b>			<b>143764.95</b>
<b>2nd Year Operation</b>				
1	Casualty replacement			
	a. Cost of suckers	500	4.90	2450
	b. pitting	9	311	2799
	c. Carriage of suckers and planting	10	311	3110
2	Weeding, hoeing and application of fertilizer	25	311	7775
3	Cost of Fertilizer			
	a. Urea 70gm per plant	350kg	6/-per kg	2100
	b. NPK-50 gm / plant	250kg	24/-per kg	6000
	c. Granular insecticide (Themate, Phorate etc) @5gm / plant	2.5kg	80/-per kg	200
4	Fire control measure	6	311	1866
	<b>TOTAL</b>			<b>26300</b>
5	Monitoring & supervision charges 5% of the total cost			<b>1315</b>
	<b>GRAND TOTAL</b>			<b>27615</b>
<b>3rd Year Operation</b>				

1	Weeding, hoeing and application of fertilizer	25	311	7757
2	Cost of Fertilizer			
	a. Urea 70gm per plant	350kg	6/-per kg	2100
	b. NPK-50 gm / plant	250kg	24/-per kg	6000
3	Fire control measure	11	311.00	3421
	<b>TOTAL</b>			<b>19296</b>
4	Monitoring & supervision charges 5% of the total cost			<b>964.8</b>
	<b>GRAND TOTAL</b>			<b>20260.8</b>
<b>4th Year Operation</b>				
1	Weeding, hoeing and application of fertilizer	25MD	311.00	7775
2	Cost of Fertilizer			
	a. Urea 70gm per plant	350kg	6/-per kg	2100
	b. NPK-50 gm / plant	250kg	24/-per kg	6000
3	Fire control measure	11	311.00	3421
	<b>TOTAL</b>			<b>19296</b>
4	Monitoring & supervision charges 5% of the total cost			<b>964.8</b>
	<b>GRAND TOTAL</b>			<b>20260.8</b>
<b>5th Year Operation</b>				
1	Fire control measure	12	311.00	3732
	<b>TOTAL</b>			<b>3732</b>
2	Monitoring & supervision charges 5% of the total cost			<b>186.6</b>
	<b>GRAND TOTAL</b>			<b>3918.6</b>
<b>6th Year Operation</b>				
1	Fire control measure	12	311.00	3732
	<b>TOTAL</b>			<b>3732</b>
2	Monitoring & supervision charges 5% of the total cost			<b>186.6</b>
	<b>GRAND TOTAL</b>			<b>3918.6</b>
<b>7th Year Operation</b>				
1	Fire control measure	12	311.00	3732
	<b>TOTAL</b>			<b>3732</b>
2	Monitoring & supervision charges 5% of the total cost			<b>186.6</b>
	<b>GRAND TOTAL</b>			<b>3918.6</b>

ABSTRACT		
Sl. No.	Year	Total cost in Rs.
1.	1st Year Operation	143764.95
2.	2nd year Operation	27,615.00
3.	3rd year Operation	20,260.80
4.	4th year Operation	20,260.80
5.	5th year Operation	3,918.60
6.	6th year Operation	3,918.60
7.	7th year Operation	3,918.60
TOTAL		2,23,657.35

The cost of 5000 plants with 7 years maintenance is Rs. 2, 23,657.35

The total cost of agave plantation for 9.098 ha. = 2, 23,657.35 X 9.098 = 20, 34,834.57/-

or,

20, 34,835.00/-

(Rupees Twenty Lakhs Thirty Four Thousand Eight Hundred Thirty Five only)

  
 General Manager  
 The Singareni Collieries Co. Ltd.  
 (A Govt. Company)  
 Naini Area, Angul, Odisha-759122

  
 Asst. Conservator of Forests  
 Angul Division


Countersigned  
  
 Divisional Forest Officer  
 Angul Forest Division  
 Angul, Division


  
 Forest Range Officer  
 Chhendipada Range


**TOTAL COST OF THE SCHEME**

Sl. no.	Item of work	Total Cost in Rs.
1.	Cost of ANR plantation with 200 plants	10,22,660.00
2.	Cost of Agave plantation	20,34,835.00
5.	Sub total	30,57,495.00
6.	Escalation 20%	6,11,499.00
7.	Grand Total	36,68,994.00 Or 36,68,994.00

**(Rupees Thirty Six Lakhs Sixty Eight Thousand Nine Hundred Ninety Four Only)**

  
General Manager  
Angul Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Main Area, Angul, Odisha-759122

  
Asst. Conservator of Forests  
Angul Division

  
Countersigned  
Divisional Forest Officer  
Angul Forest Division  
Angul, Division

  
Forest Range Officer  
Chhendipada Range

Approved Rs. 36,68,994/-

  
Regional Chief Conservator  
of Forests, Angul Circle.

**SCHEME FOR AFFORESTATION OVER 1.5 TIMES OF SAFETY  
ZONE OVER 14.00 HA AREA OF DEGRADED FOREST LAND  
IDENTIFIED IN NIALU-LODHAJHARI-SAPAKATA R.F. IN  
KANIHA RANGE FOR SCCL NAINI OPENCAST COAL BLOCK IN  
ANGUL FOREST DIVISION.**

**In compliance**

**to**

**Condition No. B -8(iii) of**

**Stage-1 Forest Clearance Granted vide**

**Vide Letter No.8-01/2020-FC, Dated.28.07.2021**

**of Govt. of India, Ministry of Environment, Forest & CC,**

**New Delhi.**

**for**

**Diversion of 783.275 Ha of Forest Land**

**(including safety Zone of 9.098 Ha.)**

**Within Total Lease area of 912.799 Ha Naini Opencast Coal Mining Project**

**of**

**SCCL IN ANGUL FOREST DIVISION**

**SCHEME FOR AFFORESTATION OVER 1.5 TIMES OF SAFETY ZONE i.e. 14.0 ha (9.098 HA x 1.5 TIMES ) OF DEGRADED FOREST LAND IDENTIFIED IN NIALU-LODHAJHARI-SAPAKATA R.F. OF KANIHA RANGE IN ANGUL FOREST DIVERSION FOR THE NAINI OPENCAST COAL MINES OF SCCL**

Ministry of Coal, Govt. of India had allotted Naini Coal Mine situated in Angul District to SCCL vide allotment order No.103/21/2015/NA dtd.13.08.2015. The Naini Coal Mine is located in Chhendipada Tahasil of Angul District. Naini coal mine Block, having an area of 9.13 sq. km. is located in the North Central part of Talcher Coalfield in the Angul District of Odisha state and is covered under the Survey of India topo sheet No.73C/16 (F45 M16 toposheet of open source maps) on R.F. 1:50000. The total land under Naini Coal Mine (Project) is 912.799 Ha. out of which 643.095 Ha. area is of Chhendipada & Kankurupal Reserve Forest land and 140.180 Ha. is village Forest in Chhendipada Range of Angul Forest Division, Angul District, The total area to be diverted is 783.275 Ha. under Forest Conservation Act 1980. The remaining area 129.524 is Non forest land (17.697Ha.Govt.land & 111.827 Ha. Private land).

The area approved for grant of mining lease is 912.799 Ha. The total forest land is 783.275 Ha. out of which 774.177 Ha. is to be diverted for Non-Forest mining use and 9.098 Ha. shall be used as Safety Zone area. The Forest Land is required as a part of the proposed coal mining project for mining purpose only. To compensate the forest area present in safety zone @ 1.5 times, the area for Compensatory Afforestation has been identified in NIALU-LODHAJHARI-SAPAKATA R.F suitable for plantation under Kaniha forest range under Talcher Tahasil of Dist. Angul.

**Site Selected-** An area of 14.00 ha of degraded forest has been identified in NIALU-LODHAJHARI-SAPAKATA R.F of Angul Forest Division.

**Soil Quality-** Top soil is sandy loam having good retention capacity of water. Besides, adequate rooted waste of Sal and associates like Asan, Kurum, Bija, Kasi, Moi, Dhaura etc. is visible.

**Vegetation-** The existing vegetation is mostly open with deficient regeneration and consists of species like Sal (*Shorea robusta*) and its associates namely kathsiali (*Xylia xylocarpa*), Karam (*Ardina coordifolia*), Bija (*Pterocarpus marsupium*), Mundi (*Mitragyna parviflora*), Mango (*Mangifera indica*), Jamun (*Syzygium cumini*), Gambhar (*Gmelina arborea*), Harida (*Terminalia chebula*), Mahul (*Madhuca indica*), Kendu (*Diospyros melanoxylon*), Kusum (*Sclleichera oleosa*), Bahada (*Terminalia belerica*) etc.

**Objects of Management of this RF-** In Rehabilitation Working Circle this RF has been included because a good proportion of the area was under shifting cultivation in the last plan.

### **Special Objects of Management**

1. To improve quality and stocking of the existing crop through Silvicultural operation.
2. To rehabilitate the area and improve soil condition by taking suitable soil and moisture conservation measures.
3. To restock the barren under stocked area by raising plantation with suitable species.
4. To encourage natural regeneration.
5. To provide protection against illicit removal, grazing and fire so as to check further destruction of left over forest growth.
6. To provide adequate rehabilitation measure to protect hill slopes, nallah bank and eco-fragile area.

**Treatment Prescribed-** The following treatments are to be made in field while executing the plantation programme.

- > High stumps will be cut flush to the ground to encourage coppice shoots.
- > Singling out of multiple coppice shoots to retain the most promising ones.
- > Removal of congestion by clearing operation aimed at encouraging the growth of locally desirable species.
- > Adoption of few species per Ha of locally important and desirable species from the available natural regeneration by giving these species preferential treatment.
- > Removal of invasive weeds.

Considering the above, it has been decided to manage this area with ANR with gap plantation @ of 600 plants per Ha for 10 Years as per MoEF &CC Guide line Dt.08.11.2017. The approved cost norm includes adequate soil moisture conservation and watch and ward provision for 10 years.

### **Species to be planted**

Mahul (*Ailanthus excels*), Gamhar (*Gmelina arborea*), Asan (*Terminalia alata*), Amla (*Emblica officinails*), Sirls (*Albizza procera / lebbek*), Bija (*Pterocarpus marsupium*), Salia bamboo (*Dendrocalamus strictus*), Sunari (*Cassia fistula*), Mango (*Mangifera indica*)- local variety, Tamarind (*Tamarindus indica*), Karanj (*Pongamia glabra*), Neem (*Azadirachta indica*), Khair (*Acacia catech*) on eroded areas, Bel (*Aegle marmelos*) etc.

### **5. PLANTING TECHNIQUES**

Out of the above species the intensity of plantation for fuel yielding species such as Acacia, Chakunda, Khair, Dhoura shall be planted up to 60% of the total no. of plants, the timber species like Teak, Sisoo, Bija & Asan up to 30%, bamboo- 5% and fruit bearing NTFP

species like Neem, Karanga, Aanla, Harida, Bahada etc, shall be planted up to 5% of the total number of plants.

#### 6. PLANTATION MODEL

The planting of species shall be planted in such a manner that the long term fruit, timber yielding species / bamboo shall be surrounded with short term fuel wood yielding species. The species should be planted alternate to each other & no repetition of species should be planted alternate to each other & no repetition of species in close of pits shall be done.

#### 7. PLANTATION METHODOLOGY

For the purpose of raising the seeding in a temporary nursery shall be set up nearest to the planting site where availability of water and communication is ensured. Nursery of 880 plants per Ha. should be planted in the 0th year. Pit size of 45cm X 45cm X 45cm will be dug and planting should be done immediately on the set of monsoon.

#### 8. WEEDING

Post planting operation and weeding shall be taken up followed with application of fertilizer at the time of soil working.

2<sup>nd</sup> weeding should be repeated in the month of October along with half moon trenching around each plot. Weeding and soil working will be repeated during 2nd year and 3rd year. In the 3rd year weeding and soil working maturing will be done.

#### 9. WATCH AND WARD

For effective protection of area watch and ward shall be provided during project period & post-project period.

#### 10. EXECUTING AGENCY

The Divisional Forest Officer, Angul division shall execute the project.

#### 11. MONITORING & EVALUATION

The Divisional Forest Officer, Angul division, Angul shall monitor & evaluate the scheme every year.

#### 12. PROJECT COST

The project cost is Rs. 41,74,225.00 TO be paid by the User Agency to DFO Angul Division for execution. (Rupees Forty One Lakhs Seventy Four Thousand Two Hundred Twenty Five only)

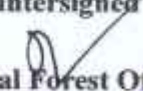
  
Authorized Signatory

**General Manager**  
**The Singareni Collieries Co. Ltd**  
**(A Govt. Company)**  
**Naini Area, Angul, Odisha-759122**

  
Range Officer  
Kaniha Range, Kaniha

  
Forester  
Kaniha Range

Countersigned

  
Divisional Forest Officer  
Angul Forest Division  
Angul Division

**COST NORMS FOR AIDED NATURAL REGENERATION**  
**(ANR) WITH GAP PLANTATION @ 200 PLANTS PER HACTARE (ANR Plantation)**

**18 Month Old seedlings**

For the year maintenance						
Wage rate @ Rs. 311						
Sl. No.	Item of Work	Preferable Period of Execution	Person days	Labour (Rs)	Material (Rs)	Total (Rs)
<b>Previous year (advance work) Nursery raising</b>						
1	Nursery cost (18 month old seedling) part @ 38.05/- seedling (Rs. 9.48 to be released) for 660 seedlings (600+60)	Nov-March	17.1	5318.1	940.8	6258.9
	<b>S. Total</b>		<b>17.1</b>	<b>5318.1</b>	<b>940.8</b>	<b>6258.9</b>
2	Monitoring & Supervision charges 5% of the cost					312.945
	<b>G Total</b>					<b>6571.845</b>
<b>0th Year (advance work)</b>						
1	Survey, Demarcation & Pillar Posting, GPS Reading with mapping	Nov-Dec	2	622	0	622
2	Site Preparation	Nov-Dec	2	622	0	622
3	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots	Jan-Feb	5	1555	0	1555
4	Raising Nursery @ 660 seedlings/ ha including 10% Casualty replacement) and watch & ward @12.43	Apr-March	42.6	13248.6	2682	15930.6
5	Contingency and Unforeseen Expenditures		0	0	198	198
	<b>S. Total</b>		<b>51.6</b>	<b>16047.6</b>	<b>2880</b>	<b>18927.6</b>
6	Monitoring & Supervision charges 5% of the cost					946.38
	<b>0<sup>th</sup> Year Grand Total</b>		<b>51.6</b>	<b>16047.6</b>	<b>2880</b>	<b>19873.98</b>
<b>1st Year Maintenance</b>						
1	Maintenance Nursery (Balance)	Apr-June	8.7	2705.7	241.5	2947.2
2	Pitting 45 cm cube size	May-June	36	11196	0	11196
3	Carriage and planting Casualty replacement and application of insecticides, manure etc.	July/Aug	15	4665	0	4665
4	Complete Weeding, Soil working and Manuring	Aug/Sept	18	5598	0	5598

5	Cost of Vermicompost @ 200gm/ plant @ Rs. 20/- per kg = Rs.800.00 and Granular insecticide 5gm/per plant @ Rs. 80/- per KG = 80.00	Aug/Sept	0	0	2640	2640
6	Cost of Chemical Fertilizer (a) Urea 70 gms/ plant in two subsequent doses @ Rs. 6/- per Kg = Rs. 84.00 (b) NPK 50gms/plant @ RS. 24/- per kg = Rs.240.00 as Basal dose	Jul/Aug	0	0	972	972
7	Silvicultural Operation including clearance of weed, climber, cutting, high stump cutting, singling of shoot etc.	Sep/Oct	15	4665	0	4665
8	Soil Conservation Measures in the form of staggered trenches of 2m L * 0.5m* 0.5m @ 60 nos/ ha or its equivalent	Sep/Oct	20	6220	0	6220
9	Fire line Tracing and Inspection Path	Feb/March	3	933	0	933
10	Watch and Ward		20	6220	0	6220
11	Contingency and Unforeseen Expenditure		0	0	353	353
	<b>S. Total</b>		<b>135.7</b>	<b>42202.7</b>	<b>4206.5</b>	<b>46409.2</b>
12	Monitoring & Supervision charges 5% of the cost					<b>2320.46</b>
	<b>1<sup>st</sup> Year Grand Total</b>		<b>135.7</b>	<b>42202.7</b>	<b>4206.5</b>	<b>48729.66</b>
<b>2nd Year Maintenance</b>						
1	Casualty Replacement (10%) with nursery cost (60 Nos seedling @ 38.05/-)	July/Aug	3	933	745.8	1678.8
2	Weeding (complete weeding) and cultural operation	Sep/Oct	6	1866	0	1866
3	Soil working and manuring	Sep/Oct	6	1866	0	1866
4	Cost of Vermicompost @ 200 gm/ plant @ Rs. 20/- per kg= Rs. 800.00 and Granular Insecticide 5 gm/ per plant @ Rs. 80/- per KG = Rs. 80.00	Sep/Oct	0	0	2424	2424
5	Soil Conservation Measures ( Renovation of Staggered Trench)	Sep/Oct	8	2488	0	2488
6	Fire line Tracing and Inspection Path ( 2m wide	Feb/March	1	311	0	311

	fire line over 400m long)					
7	Watch & Ward	Apr/March	20	6220	0	6220
8	Contingency and unforeseen expenditure		0	0	193	193
	<b>S. Total</b>		<b>44</b>	<b>13684</b>	<b>4900</b>	<b>18584</b>
9	Monitoring & Supervision charges 5% of the cost					<b>929.20</b>
	<b>2<sup>nd</sup> Year Grand Total</b>		<b>44</b>	<b>13684</b>	<b>4900</b>	<b>19513.2</b>
<b>3rd Year Maintenance</b>						
1	Weeding ( complete weeding) and cultural operation	Aug/Sep	3	933	0	933
2	Soil Working	Aug/Sep	3	933	0	933
3	Fire line Tracing and Inspection Path	Feb/March	1	311	0	311
4	Watch and Ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>27</b>	<b>8397</b>	<b>0</b>	<b>8397</b>
5	Monitoring & Supervision charges 5% of the cost					<b>419.85</b>
	<b>3<sup>rd</sup> Year Grand Total</b>		<b>27</b>	<b>8397</b>	<b>0</b>	<b>8816.85</b>
<b>4th Year Maintenance</b>						
1	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
2	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
3	Monitoring & Supervision charges 5% of the cost					<b>326.55</b>
	<b>4<sup>th</sup> Year Grand Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6857.55</b>
<b>5th Year Maintenance</b>						
1	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
2	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
3	Monitoring & Supervision charges 5% of the cost					<b>326.55</b>
	<b>5<sup>th</sup> Year Grand Total</b>		<b>21</b>	<b>6220</b>	<b>0</b>	<b>6857.55</b>
<b>6th Year Maintenance</b>						
1	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311
2	Watch & ward	April/March	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
3	Monitoring & Supervision charges 5% of the cost					<b>326.55</b>
	<b>6<sup>th</sup> Year Grand Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6857.55</b>
<b>7th Year Maintenance</b>						
1	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/March	1	311	0	311

2	Watch & ward	April/Mar ch	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
3	Monitoring & Supervision charges 5% of the cost					<b>326.55</b>
	<b>7<sup>th</sup> Year Grand Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6857.55</b>
<b>8th Year Maintenance</b>						
1	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/Marc h	1	311	0	311
2	Watch & ward	April/Mar ch	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
3	Monitoring & Supervision charges 5% of the cost					<b>326.55</b>
	<b>8<sup>th</sup> Year Grand Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6857.55</b>
<b>9th Year Maintenance</b>						
1	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/Marc h	1	311	0	311
2	Watch & ward	April/Mar ch	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
3	Monitoring & Supervision charges 5% of the cost					<b>326.55</b>
	<b>9<sup>th</sup> Year Grand Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6857.55</b>
<b>10th Year Maintenance</b>						
1	Fire line Tracing (2m wide fire line over 400m long) & cultural operation	Feb/Marc h	1	311	0	311
2	Watch & ward	April/Mar ch	20	6220	0	6220
	<b>S. Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
3	Monitoring & Supervision charges 5% of the cost					<b>326.5</b>
	<b>10<sup>th</sup> Year Grand Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6857.55</b>

\* Nursery cost data has been taken from cost norm for urban plantation for 1000 saplings  
(Tall seedling plantation of 18 months old)

\*\* Watch & ward has been estimated 20 man day/Ha for better result.

**Abstract**

Year	Person days	Labour	Material & Contingencies	Monitoring & Supervision	Total Rs.
Previous Year	17.1	5318.1	940.8	312.945	6571.845
0 <sup>th</sup> Year	51.6	16047.6	2880	946.38	19873.98
1 <sup>st</sup> Year	135.7	42202.7	4206.5	2320.46	48729.66
2 <sup>nd</sup> Year	44	13684	4900	929.2	19513.2
3 <sup>rd</sup> Year	27	8397	0	419.85	8816.85
4 <sup>th</sup> Year	21	6531	0	326.55	6857.55
5 <sup>th</sup> Year	21	6531	0	326.55	6857.55
6 <sup>th</sup> Year	21	6531	0	326.55	6857.55
7 <sup>th</sup> Year	21	6531	0	326.55	6857.55
8 <sup>th</sup> Year	21	6531	0	326.55	6857.55
9 <sup>th</sup> Year	21	6531	0	326.55	6857.55
10 <sup>th</sup> Year	21	6531	0	326.55	6857.55
<b>Total</b>	<b>422.4</b>	<b>131366.4</b>	<b>12927.3</b>	<b>7214.68</b>	<b>151508.38</b>

Cost of ANR Plantation Over 14.0 Ha

Rs.1,51,508.38/- X 14.0 ha = Rs. 21, 21,117.39/- or 21, 21,117.00/-

(Rupees Twenty One Lakhs Twenty One Thousand One Hundred Seventeen only)

General Manager  
The Singareni Collieries Co.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Asst. Conservator of Forests  
Angul Division

Range Officer  
Kaniha Range

Forester  
Kaniha Range

Countersigned

Divisional Forest Officer  
Angul Forest Division  
Angul, Division

**SCHEME FOR SITE SPECIFIC SOIL MOISTURE CONSERVATION ACTIVITIES TO BE UNDERTAKEN AFFORESTATION AREA 1.5 TIMES SAFETY ZONE) OVER 14.0 HA OF DEGRADED FOREST LAND IDENTIFIED IN NIALU-LODHAIHARI-SAPAKATA R.F. UNDER KANIHA RANGE OF ANGUL FOREST DIVISION**

The degraded forest land identified in NIALU-LODHAIHARI-SAPAKATA R.F having scrubs and open forest with crown density of 0.1. The selected site is covered with miscellaneous species, weeds like Lantana and Eupatorium. The main species noticed are Sal (Shorea robusta), Asan ( Terminalia alata) etc.

Soil and moisture conservation activities are essentially required to be dovetailed to plantation activities in order to improve water availability in the proposed site. In order to achieve the objective and implement the program efficiently a well planned strategy is essential. The natural slope of the forest land selected for Compensatory Afforestation varies from 0° to 30° being the foothill. The area selected is the catchment where the precipitation touches the ground and subsequently drained through the drainage line. So this becomes the focus area of the soil moisture conservation program. The intervention suggested below is aimed at capturing the rain water to enhance the retention period and to increase the quantum of infiltration.

**Forest floor treatment:**

• **Staggered Trenches-** the staggered trenches are primarily aim to break the runoff which otherwise will form reels and gullies. Such reels when conversed will form gullies. Continues gullies when joined together will form a ditch. Therefore it is aimed at excavating 300 Nos. of staggered trenches per Ha. Each such trench will be 2.5m (length) X 0.5 m (width) X 0.5m (depth). These trenches will conserve rain water of this region and facilitates its percolation. Therefore while aligning such trenches adequate care should be taken so that gullies are not formed by the water flowing downhill from the wedges of trench.

Cost of staggered trench per Ha. 60 man days @ Rs. 311/- (Rs. 18,660 x 14.0 Ha. = Rs. 2,61,240.00/-)

**Vegetative Fencing**

Identified degraded Forest Land- 14.0 Ha. @ 126 mtr. Per Ha. @ Rs. 136.00 per Mtr.

126 Mtr X 14 Ha. = 1764 Mtr X 136.00 per Mtr = Rs.239904.00

**LOOSE BOULDER CHECK DAM**

The structure is to be created across the drainage line for retention of runoff and reduction of velocity. Such structure should preferably have top width of one meter with upstream slope of 1:1 and downstream slope of 1:5. The dimensions of each structure are dependent on several factors such as gradient, catchment size etc...Hence prescription of a fixed dimension LBCD is not contemplated. Since the cost norms for such structure are based on volume,

implementing division will have desire flexibility to design such structure with appropriate dimension.

A. Size- 10'X10'X5'

I. Requirement of boulder (procured from quarry)

$$1/2(10'+4') \times 10' \times 5' = 350 \text{ cft or } 9.90 \text{ cum}$$

Cost of boulder @ Rs.199/-per cum for 9.9 cum-Rs.1,970.10/-

II. Labour for construction of LBCD for 1 cum

Mulia	1.40 No. X 311.00 = 435.40
Mason special	0.17 No. X 370.00 = 62.90
Stone packer	0.35 No. X 320.00 = 112.00
<b>Total</b>	<b>610.30</b>

**For 9.90 cum**      **9.90 X 610.30 = 6041.97**

-----  
**8012.07**

**(Rounded to Rs. 8012/-)**

Rate for 1 cum Rs. 665.15 per cum of Rs. 665/- per cum

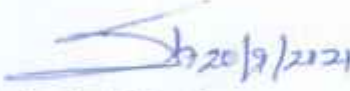
Cost of LBCD over an area of 14.0 Ha. per Ha. 3 Nos i.e.  $14.0 \times 3 \times 665.00 \times 9.9 \text{ cum} = 2,76,507.00$

### Financial out lay of SMC activities


Sl No.	SMC Measure	Cost (in Rs)
1	Staggered Trenches	2,61,240.00
2	Vegetative Fencing for 14 Ha.	2,39,904.00
3	LBCD (Loose Boulder Check Dam) size 10'x10'x5'	2,76,507.00
	<b>Total</b>	<b>7,77,651/-</b>

Cost of SMC Activities 7,77,651.00

(Rupees Seven Lakhs Seventy Seven Thousand Six Hundred Fifty One only)

  
Authorized Signatory

General Manager  
The Singareni Collieries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-754122

  
Countersigned  
Divisional Forest Officer  
Angul Forest Division  
Angul Division

  
Range Officer  
Kaniha Range, Kaniha

  
Forester  
Kaniha Range

**TOTAL FINANCIAL OUTLAY OF THE SCHEME**


SL. NO.	ITEM OF WORK	TOTAL COST IN RS
1.	Cost of ANR Plantation @ 200 plants per Ha.	21,21,117.00
2.	Additional Cost for SMC activities	7,77,651.00
	Sub Total	28,98,768.00
	Contingencies 20%	5,74,753.00
	Total	34,78,521.00
	Escalation 20%	6,95,704.00
	Grand Total	41,74,225/-

(Rupees Forty One Lakhs Seventy Four Thousand Two Hundred Twenty Five only)

  
Authorized Signatory

General Manager  
The Singareni Celleries Co. Ltd.  
(A Govt. Company)  
Naini Area, Angul, Odisha-759122

Countersigned

  
Divisional Forest Officer  
Angul Forest Division  
Divisional Forest Officer  
Angul Division

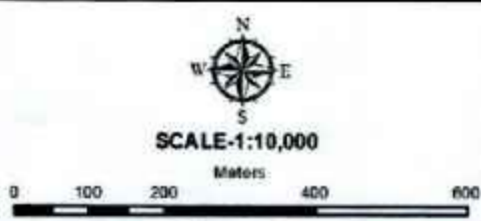
  
Range Officer  
Kaniha Range, Kaniha

  
Forester  
Kaniha Range

  
Regional Chief Conservator  
of Forests, Angul Circle.

Approved for Rs. 41,74,225/-

MAP SHOWING PROPOSED AREA OF 14 Ha.(1.5TIME OF SAFETY ZONE AREA 9.098 Ha.) FOR COMPENSATORY AFFORESTATION  
WITHIN NIALU-LODHAJHARI-SAPAKATA RF UNDER KANIHA FOREST RANGE FOR NAINI COAL BLOCK OF SCCL, LTD



NIALU-LODHAJHARI-SAPAKATA RF

CO-ORDINATES OF CA LAND BOUNDARY				
POINT ID	EASTING	NORTHING	LONGITUDE	LATITUDE
1	288613.837	2345216.745	84°57'49.29984"	21°11'46.20012"
2	288337.323	2345251.065	84°57'39.70008"	21°11'47.19984"
3	287937.412	2345336.201	84°57'25.80012"	21°11'49.80012"
4	287844.094	2345415.234	84°57'22.52988"	21°11'52.32984"
5	287773.662	2345345.081	84°57'20.12004"	21°11'50.02008"
6	288148.406	2345142.752	84°57'33.19992"	21°11'43.59984"
7	288377.899	2345041.356	84°57'41.19984"	21°11'40.40016"
8	288521.491	2344990.289	84°57'46.19988"	21°11'38.79996"
9	288654.139	2344985.507	84°57'50.79996"	21°11'38.69988"
10	288678.267	2345111.939	84°57'51.58008"	21°11'42.82008"

Divisional Forest Officer  
Angul, Division

Asst. Conservator of Forests  
Angul Division

Range Officer  
Kaniha Range, Kaniha

Forester  
Kaniha Range

LEGEND

- CA LAND BOUNDARY POINTS
- CA LAND BOUNDARY
- RF BOUNDARY

Map Prepared by:-

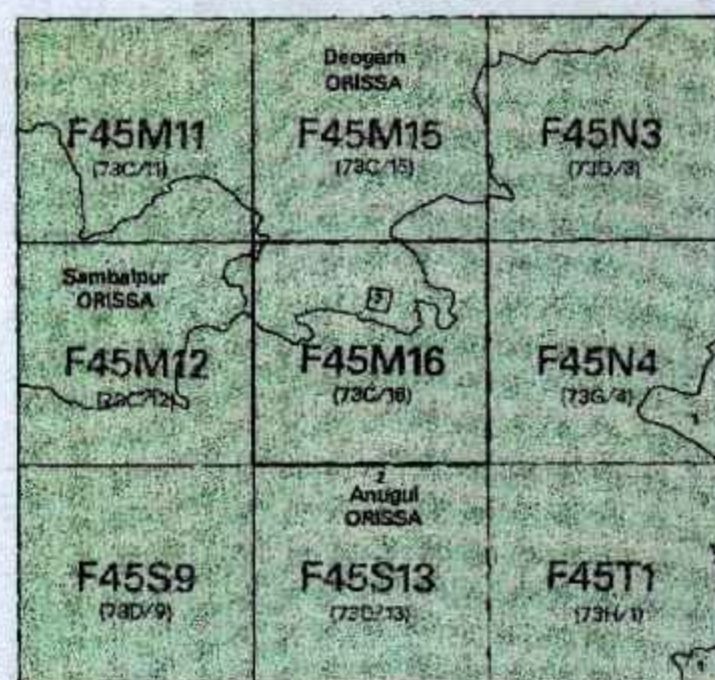
Digital Cartography & Surveying (DCS) Pvt. Ltd  
1015, Bhagabat Samadhi  
GGP Canal Road, Rasulpur, Bhubaneswar-751025  
Email: dcsplbbs@gmail.com

TOPO MAP SHOWING PROPOSED AREA OF 14 Ha.(1.5TIME OF SAFETY ZONE AREA 9.098 Ha.)  
FOR COMPENSATORY AFFORESTATION WITHIN NIALU-LODHAIHARI-SAPAKATA RF  
UNDER KANIHA FOREST RANGE FOR NAINI COAL BLOCK OF SCCL, LTD



No. F45M16

Scale 1:50,000



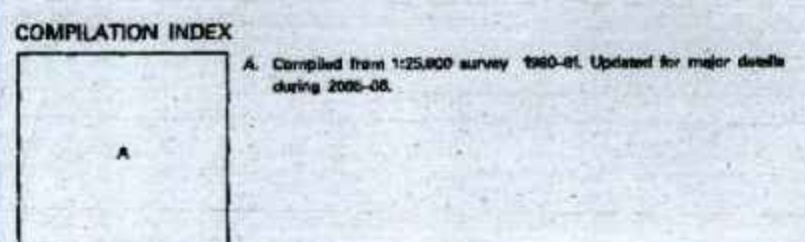
सर्वेक्षण विभाग SURVEY OF INDIA  
1st Edition 2009. Price : Rs. 50/-  
Advance Print Copy PRICE : Rs. 250/-

CONVENTIONAL SYMBOLS



REFERENCES

Notes: Heights are in metres and above Indian mean sea level. Contours are approximate. A relative height, if represented by the top and bottom of a map sheet. Unsettled roads and cart-tracks in this sheet are indicated by dotted lines. The exterior boundaries of areas of Reserved or Protected Forests are shown by green lines. The area is surrounded by the sheet, only the important ones have been shown. Hand Pump is shown thus.



Projection - UTM Datum - WGS 84

Magnetic Variation from True North about 2° West in 2006. (Magnetic change negligible).



For further details about this map, please contact:  
Director  
Orissa Geo-Spatial Data Centre  
Survey of India  
Survey Bhawan, PO - A R Laboratory  
Bhubaneswar - 751013  
Fax : 0674 - 2304118

WEBSITE - www.surveyofindia.gov.in

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REG. No. - SPG D/10/2008-09-100,000-

1987 में सम्पादित: के. विद्या से प्रकाशित,  
Published under the direction of Surveyor General of India,  
Survey of India, Hattibakula Estate, Post Box No. 37, Dehra Dun - 248001 (Uttarakhand),  
Department of Science & Technology, Government of India.

PRINTED AT THE SOUTHERN PRINTING GROUP OF SURVEY OF INDIA.

Forester  
Kaniha Range

Range Officer  
Kaniha Range, Kaniha

Map Prepared by:-



Digital Cartography & Services (DCS) Pvt. Ltd  
1015, Bhagabat Sandhan  
GGP Canal Road, Rasulgarh, Bhubaneswar-751025  
Email: dcsplbbsr@gmail.com



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-IX

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. B (8) (ii)

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.

### Compliance to Condition No. B (8) (ii)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake to demarcate and to maintain Safety zone as green belt around mining lease and to ensure dense canopy in the area, regeneration shall be taken up in this area by SCCL at project cost under the supervision of the State Forest Department as per the approved scheme.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-X

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### **Condition No. B (8) (iii)**

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 supervision of the State Forest Department. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape files before Stage-II approval and afforestation will be done within three years from the date of Stage-II clearance and maintained thereafter in accordance with the approved Plan in consultation with the State Forest Department.

### **Compliance to Condition No. B (8) (iii)**

In compliance to this condition, M/s The Singareni Collieries Company Limited has deposited an amount of Rs. 41,74,225.00 in ORISSA CAMPA account No. 150825830980918 of Union Bank, Lodi Road, New Delhi vide RTGS UTR No. SBINR52021110850678029 Dt. 08.11.2021 towards charges for afforestation in degraded forest land over one and a half times the area under safety zone as per letter number 8640/110/DRP/2021/Dated.03.11.2021 for afforestation on degraded forest land, measuring one and a half times the area under safety zone, at the project cost to be done under the supervision of the State Forest Department. The afforestation will be done within three years from the date of Stage-II clearance and maintained thereafter in accordance with the approved scheme.

Authorized Signatory

General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021

SBIR 5202110850678029

Counter foil

**SBI** STATE BANK OF INDIA

Branch: SRINAGAR

Date: 20/11/2018

Decade: 2018

Month: Nov

For remittance of NEFT/RTGS by way of

(i) Transfer (only NEFT) (ii) Cash (only

NEFT) (iii) Cheque (NEFT/RTGS) using

cheque No. 2018

favouring SRINAGAR

Ac No. 150525830980918

IFSC Code UBIN0903110

Beneficiary Bank & Branch UNION

BANK OF INDIA, LODHI COMPLEX

Amount ₹ 4174284.00

Bank's Charges ₹ 47.20


Total ₹ 4174284.00

(Rupees Fourty One Lakh & Twenty

Four Thousand & Twenty Four Only)

For office Use, Eighty Four

UTR No. \_\_\_\_\_ Branch Manager

  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

OFFICE OF THE DIVISIONAL FOREST OFFICER ; ANGUL DIVISION:ANGUL.

To Letter No. 8648 /110/DRP/2021/Dated. 3.11.21  
The General Manager  
Singrani Collieries Co Ltd, Naini Area Angul  
H.No.129 Mishrapada, Angul  
At/Po-Dist-Angul, Odisha-Pin-759122

Sub:- Proposal for diversion of 783.275 ha forest land for Naini open cast project(Coal Mine) of M/S the Singareni Collieries Company ltd consisting of 643.095 ha (Chhendipada-Ankurpal )Reserve Forest and 140.180 ha revenue forest land of Chhendipada Range ,Angul District.

Ref: 1. Proposal No. FP/OR/MIN/30980 / 2017  
2. No. 8-01/2020-FC dt. 28.07.2021 of GoI, MoEF & CC,  
3.Memo No.13490 F&E dt 03.08.2021of Spl. Secy. to Govt. FE & CC Deptt.  
4. This Office Letter No. 6010 dt. 04.08.2021.

Sir,

With reference to the above cited letter on the subject, it is to inform that the Govt. of India MOEF & CC vide their letter No. 8-01/2020-FC dt. 28.07.2021 have accorded in principle approval under section -2 of the Forest (Conservation) Act ,1980 for proposed for diversion of 783.275 ha of forest land in favour of M/S Singareni Collieries Company ltd mining project in Angul District (Odisha) .

Hence, as per condition No. B-8(iii) of Stage-I order of GoI , MoEF & CC , you are requested to deposit an amount of Rs. 41,74,225/- (Rupees Forty one lakhs seventy four thousand two hundred and twenty five ) Only as per the scheme for afforestation over 1.5 times of safety zone over 14.00 ha area of degraded forest land identified in Nialu-Lodhahhari-Sapakata R.F. in Kaniha Range approved by the Regional Chief Conservator of Forests, Angul Circle Angul vide his memo No. 4428 dt. 02.11.2021 (copy enclosed) in the Ad-hoc CAMPA in the saving Bank Account No. 520101263743655 , Corporation Bank, Lodhi Complex, Ground Floor, Block No. 11, CGO Complex, Lodi Road New Delhi through "e " payment immediately and intimate the same to the undersigned for taking further action in the matter.

Yours faithfully

  
Divisional Forest Officer  
Angul Division

//2//

Memo No. 8641 / Dated. 3.11.21

Copy forwarded to the Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, F.C. Act, O/o the Principal Chief Conservator of Forests, Odisha for favour of information and necessary action with reference to Memo No. 4429 dt. 02.11.2021 of Regional CCF, Angul.

  
Divisional Forest Officer  
2-Angul Division

Memo No. 8642 / Dated. 3.11.21

Copy forwarded to the Regional Chief Conservator of Forests, Angul Circle for favour of kind information and necessary action with reference to Memo No. 4428 dt. 02.11.2021 of Regional CCF, Angul.

  
Divisional Forest Officer  
2-Angul Division.



**OFFICE OF THE REGIONAL CHIEF CONSERVATOR OF FORESTS; ANGUL CIRCLE,  
AT/PO- HAKIMPADA, ANGUL- 759143, ODISHA, Phone-06764-296010 (O), 296011(Res),**

**Email Id: [rccfangul@gmail.com](mailto:rccfangul@gmail.com)**

**Memo No 4428 5F.FC- 44/2021. Dated.02.11.2021**

To

The Divisional Forest Officer,  
Angul Forest Division.

Sub:- Proposal for diversion of 783.275 ha forest land for Naini open cast project(Coal Mine) of M/s. the Singerani Collieries Company Limited consisting of 643.095 ha (Chhendipada-Ankurpal) Reserved Forest and 140.180 ha revenue forest land of Chhendipada Range, Angul District- Approval of schemes.

Ref:- Your Memo No. 7695 dated 04.10.2021.

The following schemes submitted vide your Memo under reference are approved by the undersigned at the wage rate of Rs.311/- per man-day and returned herewith in two sets for information and needful action. You are requested to raise demand on the User Agency as per conditions imposed by Govt. of India, MoEF & CC vide Letter No.8-01/2020 FC dated 28.07.2021.

Sl. No.	Condition No	Name of the scheme	Financial outlay.(Rs.)
1	A-04(i)	Mitigative measures to minimize soil erosion and chocking of streams.	14,40,66,106/-
2.	A-04-(ii)	Planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease to arrest soil erosion..	4,65,53,563/-
3.	A-04(iii)	Construction of check dams, Retention walls, Toe walls to arrest sliding down of the excavated material along the contour .	4,34,91,712/-
4.	A-04(iv)	Stabilize the Overburden Dumps by appropriate grading/benching which should also ensure angle of repose at any given place is less than 28	1,10,22,131/-
5.	A-04(v)	Top Soil Management.	3,36,10,774/-
6.	A -(6)	Plantation and SMC activities to restock and rejuvenate degraded open forests (having crown density 0.4 if any located in the area within 100 M outer perimeter of Mining Lease	1,59,44,322/-
7.	A-(7)	De-silting of village tanks and other water bodies located within five KM from the mine lease boundary so as to mitigate the impact of siltation of such Tanks/Water Bodies.	4,01,50,653/-
8.	B-8 (i)	Demarcation of safety zone and its Fencing, Protection & Regeneration of Safety Zone area	36,68,994/-
9.	B-8(iii)	Afforestation over 1.5 times of safety zone elsewhere in the degraded forest land	41,74,225/-

You are requested to submit point-wise compliance on the conditions imposed in stage-I approval order to this office immediately for further action.


Encl: As above.

  
Regional Chief Conservator of Forests

Memo No.4429 /dated.02.11.2021

Copy along with copy of the above approved scheme each in one set forwarded to the Addl. Principal Chief Conservator of Forests (Forest Diversion and Nodal Officer, FC Act), Office of the Principal Chief Conservator of Forests & HoFF, Odisha for favour of information and necessary action with reference to Memo No.7696 dated 4.10.2021 of the DFO, Angul Division.

Encl: As above.

  
Regional Chief Conservator of Forests  
Angul.

Memo No. 4430 /dated.02.11.2021

Copy forwarded to the General Manager, Singerani Collieries Company Ltd. Naini Area, Angul for information and necessary action.

  
Regional Chief Conservator of Forests  
Angul



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

**ANNEXURE- B-XI**

## **UNDERTAKING**

**MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021**

### **Condition No. B (9)**

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

### **Compliance to Condition No. B (9)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake to ensure that safety zone will be maintained as per the approved scheme.

  
**Authorized Signatory**  
**General Manager**  
**The Singareni Collieries Co. Ltd.**  
**(A. Govt. Company)**  
**Naini Area, Angul, Odisha-759122**

**Place: Angul**

**Date: 08.11.2021**



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-XII

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. B (10)

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.

### Compliance to Condition No. B (10)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that SCCL 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.

Place: Angul

Date: 08.11.2021

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-XIII

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. B (11)

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 Rules framed there-under.

### Compliance to Condition No. B (11)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that the period of diversion of the said forest land shall be co-terminus with the period of the mining lease granted under the Mines and Minerals (Development & Regulating) Act, 1957 or Rules framed there under.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL.759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-XIV

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. B (12)

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

### Compliance to Condition No. B (12)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake to obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021

**MINUTES OF 20<sup>th</sup> MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 13-14 OCTOBER, 2021 THROUGH VIDEO CONFERENCE.**

**Wednesday 13<sup>th</sup> September, 2021**

**Confirmation of the Minutes of 19<sup>th</sup> Meeting of the EAC (Coal) held on 23<sup>rd</sup> September, 2021:**  
The minutes of the 19<sup>th</sup> meeting of the EAC held during 23<sup>rd</sup> September, 2021 was confirmed by the Chairman.

**Opening Remarks of the Chairman:** At the outset, the Chairman welcomed the Expert members & other participants and requested to start the proceeding as per the agenda adopted for this meeting.

**Consideration of Proposals:** The 20<sup>th</sup> meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 13<sup>th</sup> -14<sup>th</sup> October, 2021 through video conferencing with support NIC team due to Covid-19 lockdown. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

**Agenda No. 20.1**

**Expansion of Bina Extn Project of Opencast mine from 9.0 MTPA to 10.5 MTPA (increase of 1.5 MTPA) in 1798 ha area of M/s Northern Coalfields Ltd located at Churidah village, Tehsil & district Singrauli (Madhya Pradesh) and Jamshila village, Dudhi tehsil & district Sonbhadra (Uttar Pradesh) – Environment Clearance- reg**

**[Online Proposal No. 1A/UP/CMIN/212862/2021; File No. J-11015/49/2011-1A II (M)]**

**20.1.1** The proposal is for Environment Clearance Expansion of Bina Extn Project of Opencast mine from 9.0 MTPA to 10.5 MTPA (increase of 1.5 MTPA) in 1798 ha area of M/s Northern Coalfields Ltd located at Churidah village, tehsil & district Singrauli (Madhya Pradesh) and Jamshila village, Dudhi tehsil & district Sonbhadra (Uttar Pradesh)

**20.1.2** The details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No63-L /12 and L/16 is bounded by Latitude 24° 07' 56.24" to 24° 10' 28.10" North and Longitude 82° 43' 16.72" to 82° 46' 57.49" East.
- (ii) Bina (Extn.) OCP is linked to Anpara TPS & Obra TPS of M/s UPRVUNL, Renuagar TPS of M/s Hindalco Industries Ltd, etc. It also serves as a basket Linkage mine to meet the overall demand of NCL.
- (iii) Joint venture cartel has not been formed.

be followed:

- (i) PP shall seek Certified Compliance Report from Ministry IRO-Gandhinagar for checking the status of compliance of EC conditions by March, 2022.
- (ii) PP shall develop water harvesting pond near the villages of suitable area as suggested by Gram Panchayat.
- (iii) PP shall submit expenditure incurred for Wildlife Conservation Plan (if any) for schedule I species to IRO-Gandhinagar within three months.
- (iv) PP shall submit action plan for sand/aggregate segregation plant to be recovered from OB Dump and install the facility within 2 years.

#### **Agenda No. 20.4**

**Naini Opencast Coal Mine Project of capacity 10 MTPA and Coal Washery capacity 8 MTPA (Peak 9 MTPA) in mine lease area of 912.799 ha of M/s The Singareni Collieries Company Limited located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha) – For Environment Clearance – reg.**

**[Online Proposal No. IA/OR/CMLN/102794/2019/ F.No. IA-J-11015/49/2019-IA-II(M)]**

**20.4.1** The proposal is for consideration of Environmental Clearance of Naini Opencast Coal Mine Project of capacity 10 MTPA and Coal Washery capacity 8 MTPA (Peak 9 MTPA) in mine lease area of 912.799 ha of M/s The Singareni Collieries Company Limited located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha).

**20.4.2** The EAC during deliberations noted the following:

Earlier, the project was deliberated on 12<sup>th</sup> EAC meeting held during 25<sup>th</sup> May, 2021 for grant of Environmental Clearance wherein EAC desired certain information from the PP and deferred the proposal. PP has now submitted the compliance of observation of EAC and provided additional information which are enlisted below:

S. No.	Observation of EAC	Reply by PP
1	PP shall submit specific response/reply on additional ToR conditions at sl. no. vi, vii, viii and xi relating to details on top soil management, compensatory grazing land, & creation of water ponds, safety zone for water streams, and integrated hydrology study based on primary data.	Three seasonal nallahs (streams), namely, Shiarimalia Nallah, Kudaposi Nallah and Ullani Nallah flowing across the Naini coal block are proposed to be diverted outside the mine boundary facilitating extraction of

<p><b>ToR Condition No. (vi):</b> Safe distance of about 100-150 mts should be kept from Goudhani Nallah to prevent water pollution which ultimately merges with Tikara river at around 12 km.</p> <p><b>ToR Condition No.(vii):</b> Mechanism to preserve top soil of about 7.61 Mm<sup>3</sup> in temporary storage dump yards and spread over the finished decks of dumps in later stage.</p> <p><b>ToR Condition No. (viii):</b> Water body of about 0.238 ha should be proposed to be created in the nearby villages and alternate mechanism for 4.514 ha of grazing should be proposed.</p> <p><b>ToR Condition No. d xi:</b> An integrated hydrological study would be carried out</p>	<p>coal reserves. About 173.35 Mt of coal reserves are locked up below these nallahs. In this connection, a study has been conducted through an expert agency, M/s ASK Reprographics, Bhubaneswar, to assess the proposed changes in drainage network, catchment area while designing the diversion channels for 3 Nallahs.</p> <p>During the process of preservation, different legume seeds like <i>Stylosanthes hamata</i>, <i>Saesbania grandiflora</i> and other grasses like <i>Saccharum munja</i> added with short rotation crops like Bamboo etc., will be sown / broadcasted on the top soil dump for improving the soil nutrient status by fixing the atmospheric Nitrogen. It also adds lot of organic matter to the top soil which will ameliorate the microbial activity. Because of these activities, the top soil preserved will be fertile with microbial activity till its use in reclamation of dumps. In order to prevent top soil erosion, a toe wall (14.53 km) along with a garland drain (7.18 km) will be maintained all around the dump at a cost of Rs. 100 Lakhs.</p> <p>SCCL authorities requested the Collector &amp; District Magistrate, Angul, Odisha for allotting the land towards development of 0.238 ha water body and 4.514 ha grazing land vide ref. no. Naini Area/GMO/5/2019/442, Dt.16.12.2019 Accordingly, the Collector directed the Tahasildar, Chhendipada for identification of necessary land for establishment of the above facilities vide ref. no.2861, dt.24.12.2019 SCCL will develop extra space for water storage in the form of water body and grazing land soon after the land is handed over by the Govt. authorities.</p> <p>M/s Sujalam Consultants, Nagpur (a NABET</p>
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	of the impact of coal mining on the base flows in the downstream of the mine area.	accredited agency) was entrusted by EPTRI, Hyderabad to carry out hydro geological study of the project area including surroundings as per GEC 2015.
2	PP shall submit high level techno-economic feasibility study for implementing in-pit conveyor system till railway siding	<p>SCCL is operating some of the opencast mines through in-pit crushing and conveying technology. In the present proposal also the issue has been thoroughly discussed and belt conveying has been proposed from the box-cut up to CHP.</p> <p>However, belt conveyor could not be proposed from the in-pit up to surface due to the following reasons: Land for OB dumping has been optimized by dumping OB initially on the coal bearing area and then re-handling at a later stage after 15 years thereby avoiding the external dump area to the tune of 283.71 ha. If in-pit conveyor system is proposed, re-handling quantity of OB will increase.</p>
3	PP shall submit the technical details and report to avoid of diversion of three streams to the extent possible. The report should also cover the impact on catchment area diverted by affecting the river/stream hydrology with total length of diversion versus coal extraction. It should also cover environmental safety and management measures.	<p>Three seasonal nallahs existing in the proposed mining area namely Shiarimalia nallah, Kudaposi Nallah, Ullani nallah, are flowing over the project/quarry area from SW-NE direction. Shiarimalia nallah, Kudaposi Nallahs are joining into Gaudini Nallah at the northern boundary of the project. The Ullani Nallah is joining into the Gaudini nallah downstream of the project area. These 3 nallahs will be diverted in consultation with the Water Resource Department of the State Government of Odisha. Therefore, it is proposed to divert the above 3 nallahs along the periphery of the project. The contamination of water in the diverted portion of nallahs will be reduced drastically as the mine discharge water is passed through settling ponds before discharging to the Gauduni nallah. The catchment area of these nallahs located outside the project area will not be affected since the water from the upstream catchment area will be channelized through the diverted nallahs as per the hydrology of the area</p>

4	PP shall conduct air quality modeling considering mining activity, rehandling of OB dump, washery operations and accordingly submit with linkage of environment mitigation measures.	The source of emissions from the proposed mining, re-handling of OB and coal washery operations will be from active mine pit and its activities like drilling, blasting, hauling, loading/unloading and due to coal crushing in the coal handling plant were consider. The emissions will be mainly Particulate Matter (PM). The predicted GLCs of PM10 & PM2.5, SOx & Nox at all locations are well within the prescribed limits.
5	PP shall clarify the capacity of washery since EIA report mentions washery capacity of 8 MTPA only whereas PP is proposing for 9 MTPA (Peak) capacity	The capacity of the coal washery proposed is 8.00 MTPA with a peak capacity of 9.00 MTPA. The EIA report has been prepared considering the peak capacity only. However, at some places like on the cover page, the peak capacity was not mentioned which resulted in ambiguity. Hence, the washery capacity is also proposed for a peak capacity of 9.00 MTPA
6	PP shall submit ground water resource estimation as per GEC 2015 methodology by collecting primary Hydrological data and accordingly submit the mitigation measures and impact on ground water and surface during pre, during and post mining activity.	<p>Impacts during pre, during and post mining activity.</p> <p>Pre-mining:</p> <ul style="list-style-type: none"> <li>During the course of mining, the natural drainage system will be altered.</li> <li>The Gauduni nalla forming the northern boundary of the block flows from south –west to north – east. This is the main drainage in the mining lease area. Kudaposi nalla flows from south to north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nala flow across the block towards north and join the Gauduni nalla. All these are seasonal nallas of 3rd and 4th order.</li> <li>It is proposed to divert these nallahs along the southern boundary of ML and drain into the existing Gauduni nalla. These three nallahs are planned to be diverted in consultation with the Water Resources Department of the State</li> </ul>

		<p>Government.</p> <ul style="list-style-type: none"> <li>• As these nallahs even after diversion will meet Gauduni nalla only and hence they will not change the hydrology of this area significantly.</li> <li>• Garland drains are also proposed along the quarry and OB dumps to prevent any runoff from the ML area. These garland drains in turn will be connected to Gauduni nallah.</li> </ul> <p>During mining:</p> <ul style="list-style-type: none"> <li>• Due to mining operations, the local drainage system will be altered and the flow path gets re-adjusted, as such, there will be no reduction in the total quantity of the flow in this area.</li> <li>• The impact of mining on local ground water regime depends on the mine</li> <li>• parameters like depth, rate of expansion, ground water recharge and hydraulic parameters of the aquifers intercepted in the quarry.</li> <li>• During the development, the aquifers lying at shallow depth shall be affected</li> <li>• while the deeper aquifers will first get recharged due to accumulation of rainwater in the mine pit but will be gradually dewatered with increasing depth of the mine. However, the mine water discharged into the local drainage will act as constant source of recharge and will improve the water level in downstream side of the mine.</li> <li>• The peak water requirement for Naini coal mine and the pit head coal washery together is about 4000 m<sup>3</sup>/day, which is planned to be fulfilled with the rainwater and the mine seepage collected in the mine pit for industrial purpose.</li> <li>• Based on hydro-geological studies, the</li> </ul>
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		<p>mine seepage in Naini Coal mine is anticipated to be about 1.54 MCM by the end of mining.</p> <ul style="list-style-type: none"> <li>• Impact of mine dewatering (radius of influence) is anticipated within a radius about 1595 m and 645 m respectively from the centre and surface edge of the quarry at the end of mining.</li> </ul> <p>Post-mining:</p> <ul style="list-style-type: none"> <li>• After the cessation of mining, the groundwater level will slowly recoup and attain normalcy. Thus, the impact on groundwater system is anticipated as a temporary phenomenon.</li> <li>• It is anticipated that the abandoned mine will behave as a groundwater reservoir and will considerably improve recharge system and storage in the area.</li> <li>• The area is categorised as "SAFE" in ground water development point of view by the CGWB.</li> </ul> <p>Mitigation measures:</p> <ul style="list-style-type: none"> <li>• The run off that can be harvested through the 4 rainwater harvesting structures by constructing 4 check dams on Gauduni nalla is about 0.21 MCM/year, while 3.18 MCM/year rain water will be stored in the abandoned mine pit, which will adequately compensate the mine seepage at the end of mining.</li> <li>• Regular de-silting of water tanks in the surrounding villages will be taken up for increasing the storage capacity and to augment recharge of ground water.</li> <li>• Nalla diversion and construction of garland drains are suggested to divert rainwater from entering the ML area and the mine pit.</li> <li>• Recycling and reuse of the mine discharge is proposed to minimize</li> </ul>
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		<p>consumption of fresh water.</p> <ul style="list-style-type: none"> <li>Monitoring of ground water levels is planned using the existing 27 observation wells in study area and 10 proposed piezometers (3 within ML area and 7 in the close proximity).</li> <li>Quality of Ground and Surface water will also be monitored on quarterly basis in core and buffer areas.</li> </ul>
7	PP shall submit proper flow chart of mass balance with the comparison of washery technology and justification for adopting the jig & drum technology.	The flow chart of flow chart of mass balance is provided by PP
8	PP shall submit Point wise response of issues raised during PH with allotted fund and timeline particularly with commitment of bridge construction, and creation of water pond for providing water for villages to meet the demands for drinking and irrigation.	Summary of issues raised in the public hearing of Naini Coal Mine held on 20.01.2021 along with commitments and compliances, timelines and Budgetary provision by the Project Proponent is furnished
9	PP shall submit the details of predicted air quality data in concurrence with annual average concentration.	The predicted incremental values for annual average are not added to the one-month baseline data (collected during June -July, 2021) and Baseline data collected during December, 2019 to February, 2020 due to non-availability of annual average concentrations (the present observations being less than 104 measurements in a year).
10	Plan of action for implementation railway siding at Naini Coal block with timeline (3-4 years) and fund allotted.	<p>It is proposed to transport coal from Naini Project, Angul, Odisha through Rail up to STPP, Jaipur, Telangana State by Rail.</p> <p>□ MCRL plans to construct 68 Km common Rail Corridor between Angul-Balaram-Putagadia-Jarapada at a cost of Rs. 1700 Crores covering Naini coal block of SCCL and also the coal blocks of NALCO, OMC &amp; others. Final approval of eDPR by East Coast Railway has been accorded on 31.01.2018.</p> <p>□ At present, Phase-I work for laying track between Angul to Balaram for a stretch of 14 km is under progress and expected to be</p>

		<p>completed in June 2022.</p> <p>□ In Phase-II, laying of track from Balaram-Putagadia-Jarapada and a stretch upto Tentoloi were planned for which, survey was completed, Rail line alignment Plan and Land Schedules have been prepared. Land acquisition for NFL (Pvt. &amp; Govt.) is under process, forest land diversion proposal (Stage-I) is under process and likely to be completed in 2022.</p> <p>□ Construction of balance 54 Km railway line will take about 3 years after land acquisition and the entire 68 Km Railway corridor will be commissioned by 2025.</p> <p>□ SCCL hired IRCON International Ltd as a consultant on 17.04.2020 for preparation of FSR &amp; DPR for Naini Railway siding of 7 Km beyond Tentoloi Station of MCRL railway corridor.</p> <p>□ IRCON has completed the survey, prepared the FSR/DPR and submitted to East Coast Railway for in-principle approval on 01.01.2021. Approval has been accorded on 25.03.2021.</p> <p>□ Naini Railway Siding is expected to be completed in Year 2025 in parallel to MCRL corridor.</p> <p>□ Initially for 4-5 years, coal will be transported up to Gopal Prasad Railway Siding, which is a part of Phase-I construction. Coal transport road and Gopal Prasad Railway Siding is shown in the enclosed plan</p>
11	PP shall submit the design details of fog cannon/mist sprayer for controlling of fugitive dust and basis of choosing the number of fog cannon.	Opencast mines and Coal Handling Plants (CHPs) of SCCL are equipped with dust suppression systems including fog canons. The details of the dust suppression systems presently under operation at various CHPs and OCPs of SCCL was provided by PP
12	PP shall collect One-month baseline data of environment parameters including monitoring of water streams and river for further deliberation.	One-month <sup>7</sup> baseline environmental data was collected during June- July, 2021 in the study area of the project. Baseline data was generated for parameters covering air, water (surface and

		ground water), soil quality and noise levels and to determine the quality of the prevailing environmental settings.
13	PP shall submit the plan of action for washery reject utilization and MoUs with FBC power plants.	SCCL had to yet explore the possibility of supplying coal washery rejects to any of the nearby thermal power plants.
14	PP shall submit the details of habitation along the transportation route of coal and its impact on people living..	Traffic impact assessment study was conducted as a part of the EIA studies in accordance with ToR condition to understand and assess the impact on infrastructure & village for coal transportation by the road till railway line is laid.
15	Status of Stage-1 Forest Clearance from Ministry's Forest Division	Stage-1 Forest Clearance was obtained from MoEF&CC for diversion of 783.275 ha. of forest land for the project vide letter no. 8-01/2020-FC on 28.07.2021.

- The proposal is for Environmental Clearance “of Naini Opencast Coal Mine Project of capacity 10 MTPA and Coal Washery capacity 8 MTPA (Peak 9 MTPA) of M/s The Singareni Collieries Company Limited in mine lease area of 912.799 ha located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha).
- The Project Proponent had yet to explore the possibility of supplying coal washery rejects to any of the nearby thermal power plants.
- The conveyor belt will be installed from box cut to CHP and not from In-Pit to CHP due to technical viability issue.
- Three seasonal nallahs (streams), namely, Shiarimalia Nallah, Kudaposi Nallah and Ullani Nallah flowing across the Naini coal block are merging with Gauduni nallah. These three seasonal nallahs are proposed to be diverted outside the mine boundary facilitating extraction of coal reserves to the tune of 173.35 Mt locked up beneath the nallahs.
- The proposed washery is of 8 MTPA/ 9 MTPA (normative / Peak) production capacity.

*20.4.4 EAC after deliberations observed that the PP had submitted the detail reply of the ADS raised during EAC meeting held on 25.05.2021 but few points still address like MoU of washery reject with power plants, identification land for grazing and water body in consent with District Collectorate. A safe distance of 30 m has been recommended by the expert agency appointed by PP i.e M/s Ask Reprographics, Bhubaneswar. In this regard, EAC asked PP and consultant to take proper measures with safe guard conserving the cross section of the river bank in respect to the mine boundary. It was observed that growing SAL trees were proposed by PP on the external dumps, The EAC suggested PP that the slope dump to be maintained below 28 degrees and as the SAL trees will not be growing at higher slope. Also it was recommended to initially go for soil binder, improve the soil quality before plantation and other plants can also be chosen with scientific design.*

Limited (MCRL) had Plan to construct 68 km common Rail Corridor between Angul-Balaram-Putagadia-Jarapada at a cost of Rs.1700 Crores covering Naini coal block of SCCL and also the coal blocks of NALCO, OMC & others. At present, Phase-I work for laying track between Angul to Balaram for a stretch of 14Km is under progress and expected to be completed in Dec'2. Naini Railway Siding is expected to be completed in Year 2025 parallel to MCRL corridor. Initially for 4-5 years, coal will be transported up to Gopal Prasad Railway Siding, which is a part of Phase-I construction. So it was finally found that 4-5 years is required for implementation instead of 3-4 years.

Further, based on documents and facts submitted by PP, EAC **recommends** the issuance of standard EC to Naini Opencast Coal Mine Project of capacity 10 MTPA and Coal Washery capacity 8 MTPA (Peak 9 MTPA) of M/s The Singareni Collieries Company Limited in mine lease area of 912.799 ha located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha), under the provisions of EIA Notification, 2006 and its amendments therein with following specific condition for environmental safeguards:

- (i) The project proponent shall obtain Consent to Establish/Operate from the State Pollution Control Boards for the proposed capacity mentioned in EC prior to commencement.
- (ii) The maximum production or peak production at any given time shall not exceed the limit as prescribed in the EC
- (iii) PP to comply all the commitment with time bound action plan mentioned in the reply presented in this EAC meeting of ADS raised during EAC meeting held on 25.05.2021
- (iv) PP to develop an ECO park and SAL nursery (20 ha), also a time bound action plan to be followed i.e. within 3 years. PP to develop Dense and multi stored plantation of about 28 ha will be developed on the bund and also in the vacant area between the proposed bund and Gouduni nallah in order to prevent the siltation.
- (v) PP shall plant 200 ha of Sal trees(only) for redevelopment of Sal forest in the region
- (vi) Permission from State Water Resource Department shall be taken before commencement of any diversion activity of Three nallahs, namely, Shiarimalia nallah, Kudaposi Nallah, Ullani nallah.
- (vii) Tree plantation in safety zone shall be completed within six months and update should be submitted to Ministry's Regional Office
- (viii) Mining shall be carried out only by surface miners for the project only and silo loading through in-pit conveyor should be installed to avoid road transportation in 3 years
- (ix) Transportation of coal from Mine to CHP be done by Close conveyor system and from Coal Handling Plant shall be through mechanized covered trucks for 3 years. No transportation by trucks after 3 years and proposed railway siding should be constructed without any delay.
- (x) PP shall obtain No Objection Certificate from Central Ground Water Authority within three months and submit it Ministry's Regional Office
- (xi) Third party monitoring by reputed institutted for air quality (including heavy metal analysis) shall be carried out at identified locations, both ambient and the process area, to arrive at

*impact of the proposed expansion at regular interval of 3 years*

- (xii) PP to install solar lights along the road used for transportation of coal to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.*
- (xiii) PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within the study area of 10 km radius buffer zone within two years*
- (xiv) PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- (xv) PP to take proper care of health of R& R villages and a 24X 7 helpline call facility should be provided to such area and also to nearby villages for assisting any medical aid and ambulance facility.*
- (xvi) PP to develop an artificial pond (10 ha) and grazing land of 5 ha in nearby areas for water conservation by seeking consent with District collectorate and if land is not allotted in one year than PP has to buy the land themselves and develop the pond (10 ha).*
- (xvii) PP to fulfill the commitment done in public hearing within the time bound action plan proposed by PP.*
- (xviii) PP to install a continuous ambient air quality monitoring stations at suitable locations preferably village side and with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- (xix) PP shall ensure that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB*
- (xx) PP to install not less than 10 nos. of additional Fog canon (mist sprayer) having 100 mts water jet/throw length to reduce the impact of air pollution at dust generating sources mainly on haul road, OB dumping areas within 1 year.*
- (xxi) PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.*
- (xxii) Project proponent to plant 150,000 trees with three Tier Green belt developments (of 50 mtrs width) along the periphery of the mine habitation/villages and transportation route till railway siding is commissioned to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer. The saplings should be planted with the grant of EC in the initial year so that survival of the plants and trees can be taken care of in future.*
- (xxiii) Top soil should be stored separately at marked area and necessary vegetation shall be maintained to avoid any entrainment of dust.*
- (xxiv) PP shall install sand/aggregate segregation plant for suitable capacity to extract sand and construction aggregate within 2 years of issue of this letter.*
- (xxv) Progressive backfilling of mine and progressive reclamation of OB dump shall be done*

- (xxvi) Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles.
- (xxvii) Project Proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock breakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting activity.
- (xxviii) Quality of polluted water generated from the operations which include COD and acid mine drainage and metal contamination shall be monitored along with TDS, DO, TSS. The monitored data shall be uploaded on the website of the company as well as displayed at the site in public domain.
- (xxix) PP shall carry out monthly water monitoring quality of River bodies located within 5 Km radius and conduct Bio-assay test half yearly and further monitoring Ground water level.
- (xxx) PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority
- (xxxi) PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).
- (xxxii) All approach roads to mine and all other roads which are in regular use should be black topped. The maintenance of road shall be done by PP in collaboration with state government
- (xxxiii) Compensation of the land acquired for the project shall be settled within one year as per R&R Policy.
- (xxxiv) Permanent Health care facilities of Hospital should be established within 5 km of project boundary for the local people.
- (xxxv) PP shall pay to farmers of agricultural land if there is any loss due to pollution/damages due to blasting activity found by concerned District Commissioner as per extent rules or norms
- (xxxvi) Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.
- (xxxvii) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.
- (xxxviii) 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 light/night hours

(xxxix) PP shall explore to utilize the 100 % rejects generated from Washery to nearby FBC or power plant to reduce the transportation at longer distance as per Ministry's notification regarding rejects. MoU for 100% utilization of rejects shall be submitted to Ministry's Regional Office within six months of issue of this letter. And the Status to be up dated in six monthly compliance report submitted to the Pollution board/ Ministry's Regional Office

(xl) PP shall comply 33 % of the green belt plantation with trees within the plant boundary and also in adjoining area and plan of action to be submitted to Regional office of Ministry within six months. Accordingly, three Tier Green belt developments (of 50 mtrs width) in and around the periphery of washery within 3 years. The saplings should be planted with the grant of EC in the initial year so that survival of the plants and trees can be taken care of in future.

(xli) PP shall only use conveyer belt to transport coal from mine pit to washery. No Truck transportation shall be done.

(xlii) Quantity of stored coal and rejects should not exceed more than 2 months of total capacity

(xliii) Raw coal, washed coal and rejects shall be stored in covered silos or in dome shaped storage with wind shields/ wind breaking walls. Fixed type high pressure sprinkler shall be installed in this storage yards.

(xliv) Surface runoff from Storage yard of coal, reject dumps shall be stored in settling tank and later treated before any usage and quality shall be check frequently.

(xlv) PP should install High efficiency centrifuge, belt press filter, high frequency screening, thickener to separate coal fines and maximize water recovery.

(xlvi) The total industrial water demand (peak) in operation phase shall be met by utilizing mine water to minimize the usage of ground water.

(xlvii) Road inside and at periphery of the washery plant shall be constructed of concrete only.

#### **Agenda No. 20.5**

**Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha at village Tenda Newapara, Tehsil Ghardhoda, district Raigarh, Chhattisgarh by M/s Phil Coal Beneficiation Pvt Ltd - For Terms of Reference - reg**

**[Online Proposal No. IA/CG/CMIN/230341/2021; File No. J-11015/418/2015-1A-II(M)]**

**20.5.1** The proposal is for Terms of Reference of Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha at village Tenda Newapara, Tehsil Ghardhoda, District Raigarh, Chhattisgarh by M/s Phil Coal Beneficiation Pvt Ltd.

**LIST OF PARTICIPANTS OF EAC (COAL) IN 19<sup>th</sup> MEETING OF HELD DURING  
23<sup>rd</sup> SEPTEMBER, 2021 THROUGH VIDEO CONFERENCING**

1.	Shri G.P Kundargi			DAY-
		-	Chairman	P
2.	Dr. N. P. Shukla	-	Member	P
3.	Shri Suramya Dolarray Vora, IFS (Retd)	-	Member	P
4.	Dr. Umesh Jagannathrao Kahalekar	-	Member	A
5.	Shri K.B. Biswas	-	Member	P
6.	Dr. Nandini.N	-	Member	P
7.	Dr. Unmesh Patnaik	-	Member	P
8.	Shri Prasant Kumar Mohapatra	-	Member	A
9.	Professor S S Rai, Representative of IIT/ISM Dhanbad	-	Member	P
10.	Shri M.P Singh, Representative of CEA	-	Member	P
11.	Dr. Santosh Kumar Hampannavar	-	Member	P
12.	Prof R.K. Giri Representative of IMD	-	Member	A
13.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member	A
14.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary	P

- (iii) EAC asked for submitting undertaking to mandatorily to transport the 60% of the rejects via rail and only 40% of the reject will be transported by the roads as agreed by PP.
- (iv) PP to restrict rejects consumers to only 100 km and accordingly propose the users.
- (v) PP shall study the presence of habitation/villages (100 mtrs along both side of road) through the proposed route and propose mitigation measures.
- (vi) PP shall submit the clarification/response raised in the representation received by EAC.

*The proposal was deferred on above lines.*

**The meeting ended with thanks to the Chair.**

\*\*\*\*\*



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

**NAINI AREA**

CIN: U10102TG1920SGC000571

## ANNEXURE- B-XV

### UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

#### **Condition No. B (13)**

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.

#### **Compliance to Condition No. B (13)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that no labour camp shall be established on the forest land and shall also 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.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE - B-XVI

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### **Condition No. B (14)**


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.

### **Compliance to Condition No. B (14)**

In compliance to this condition this is to state that the boundary of the diverted forest land, mining lease and safety zone area, has been demarcated on ground at the project cost, and SCCL do hereby undertake for erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and GPS coordinates.

Place: Angul

Date: 08.11.2021

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-XVII

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. (15)

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.

### Compliance to Condition No. (15)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that 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.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-XVIII

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. (16)

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.

### Compliance to Condition No. (16)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that 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.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

**NAINI AREA**

**CIN: U10102TG1920SGC000571**

**ANNEXURE- B-XIX**

## **UNDERTAKING**

**MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021**

**Condition No. (17)**

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

**Compliance to Condition No. (17)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that no damage shall be caused to the flora and fauna of the adjoining area.

  
**Authorized Signatory**  
**General Manager**  
**The Singareni Collieries Co. Ltd.**  
**(A. Govt. Company)**  
**Naini Area, Angul, Odisha-759122**

**Place: Angul**

**Date: 08.11.2021**



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

**NAINI AREA**

CIN: U10102TG1920SGC000571

**ANNEXURE- B-XX**

## **UNDERTAKING**

**MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021**

### **Condition No. (18)**

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.

### **Compliance to Condition No. (18)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that SCCL shall submit the annual self-compliance report to the State Government, concerned Regional Office and to the Ministry by the end of March every year regularly.

  
**Authorized Signatory**  
**General Manager**  
**The Singareni Collieries Co. Ltd.**  
**(A. Govt. Company)**  
**Naini Area, Angul, Odisha-759122**

**Place: Angul**

**Date: 08.11.2021**



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-XXI

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. (19)

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.

### Compliance to Condition No. (19)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that SCCL shall comply any other condition that 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.

Place: Angul

Date: 08.11.2021

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-XXII

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### **Condition No. (20)**

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.

### **Compliance to Condition No. (20)**

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake, 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.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021



# THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)

BIKASH NAGAR, FCI ROAD, TURANGA, ANGUL-759123, ODISHA

NAINI AREA

CIN: U10102TG1920SGC000571

ANNEXURE- B-XXIII

## UNDERTAKING

MoEF & CC File No. 8-01/2020-FC dtd. 28.07.2021

### Condition No. (21)

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.

### Compliance to Condition No. (21)

In compliance to this condition, M/s The Singareni Collieries Company Limited do hereby undertake that, shall not violate any of the conditions mentioned in MoEF & CC File No. 8-01/2020-FC Dt. 28.07.2021 of Forest (Conservation) Act, 1980, as issued by Ministry's letter No. 5-2/2017-FC dated 28.03.2019.

  
Authorized Signatory  
General Manager  
The Singareni Collieries Co. Ltd.  
(A. Govt. Company)  
Naini Area, Angul, Odisha-759122

Place: Angul

Date: 08.11.2021

OFFICE OF THE DIVISIONAL FOREST OFFICER ; ANGUL DIVISION:ANGUL.

Letter No. 6010 /79/DRP/2020/Dated. 04-8-2021

To

The General Manager  
Singrani Collieries Co Ltd, Naini Area Angul  
H.No.129 Mishrapada, Angul  
At/Po-Dist-Angul, Odisha-Pin-759122

Sub:- Proposal for diversion of 783.275 ha forest land for Naini open cast project(Coal Mine) of M/S the Singareni Collieries Company Ltd consisting of 643.095 ha (Chhendipada-Ankurpal )Reserve Forest and 140.180 ha revenue forest land of Chhendipada Range ,Angul District.

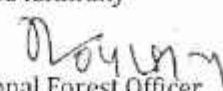
Ref: 1.Proposal No. FP/OR/MIN/30980 / 2017  
2.Memo No.13490 dt.3.8.2021 of Special Secretary to Govt. of Odisha F,E & CC Deptt.

Sir,

With reference to your above cited correspondence on the subject, it is to inform that the observation of Assistant Inspector General of Forests, Gol, MoEF & CC, (Forest Conservation Division) Indira Paryavaran Bhawan, Jorbagh Road, Aliganj, new Delhi of Letter No. 8-01/2020-FC dt. 28.07.2021 forwarded by Special Secretary to Govt. of Odisha Forest, Environment & Climate Change Department vide his memo No. 13490 dt. 03.08.2021 which is self explanatory. Hence you are requested to comply the conditions imposed to the Gol, MoEF & CC, (Forest Conservation Division) at an early date for taking further necessary action at this level.


Encl: As above.

Yours faithfully

  
Divisional Forest Officer  
Angul Division


Memo No. 6011 /Dated. 04-8-2021

Copy forwarded to the Regional Chief Conservator of Forests, Angul Circle for favour of information and necessary action with reference to memo No. 13488 dt. 03.08.2021 of Special Secretary to Govt. of Odisha F,E & CC Deptt.

  
Divisional Forest Officer  
Angul Division


Memo No. 6012 /Dated. 04-8-2021

Copy forwarded to the Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, F.C. Act, O/o the Principal Chief Conservator of Forests, Odisha for favour of information and necessary action with reference to his memo 13486 dt. 03.08.2021 of Special Secretary to Govt. of Odisha F,E & CC Deptt.

  
Divisional Forest Officer  
Angul Division

Memo No. 6013 /Dated. 04-8-2021

Copy forwarded to the Principal Chief Conservator of Forests (Wildlife) & Chief Wildlife Warden, Odisha for favour of information and necessary action with reference to his memo 13487 dt. 03.08.2021 of Special Secretary to Govt. of Odisha F,E & CC Deptt.

  
Divisional Forest Officer  
Angul Division

By e-mail/Post

GOVERNMENT OF ODISHA  
FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT

\*\*\*\*\*

No.FE-DIV-FLD-0026-2021- 13486 /FE&CC, Bhubaneswar, dated the 03.08.2021  
10F (Cons) 123/2019

From

Sri Lingaraj Ota, IFS  
Special Secretary to Government

5209  
4-8-21

DEL  
03/08/21

To

The Principal Chief Conservator of Forests, Odisha,  
Bhubaneswar.

Sub: Proposal for non-forestry use of 783.275 ha of forest land consisting of 643.095 ha of RF in Chhendipada & Kankurupal RF and 140.180 ha of village forest land in favour of M/s Singareni Collieries Company Ltd for Naini Opencast Coal Mining Project in Angul Forest Division of District Angul (Odisha).

Sir,

I am directed to enclose herewith a copy of the 'in-principle' approval order of Government of India, MoEF&CC, New Delhi vide Letter File No.8-01/2020-FC dtd.28.07.2021 under Section 2 of the Forest (Conservation) Act, 1980 for non-forestry use of 783.275 ha of forest land consisting of 643.095 ha of RF in Chhendipada & Kankurupal RF and 140.180 ha of village forest land in favour of M/s Singareni Collieries Company Ltd for Naini Opencast Coal Mining Project in Angul Forest Division of District Angul (Odisha) for which proposal was forwarded by the State Government to Government of India, MoEF&CC, New Delhi vide letter File No.10F(Cons)123/2019-229/F&E dtd.04.01.2020. The Stage-I approval order referred to above indicates that Government of India, MoEF&CC, agrees 'in-principle' for non-forestry use of 783.275 ha of forest land consisting of 643.095 ha of RF in Chhendipada & Kankurupal RF and 140.180 ha of village forest land in favour of M/s Singareni Collieries Company Ltd for Naini Opencast Coal Mining Project in Angul Forest Division of District Angul (Odisha) under Section 2 of Forest (Conservation) Act, 1980 subject to compliance of conditions as laid down in Para-A (10 conditions) i.e. Conditions which need to be complied prior to submission of compliance report for seeking Stage-II approval & Para-B (21 conditions) i.e. Conditions which need to be complied on field after handing over of forest land to the User Agency by the State Forest Department and undertaking in this respect shall be submitted prior to Stage-II approval so as to consider the case for Stage-II (Final) forest clearance.

It is requested to take necessary steps for compliance of the conditions imposed in the 'in-principle' approval order of MoEF&CC, Govt. of India. Appropriate instruction in this context may be imparted to the Divisional Forest Officer, Angul Forest Division as well as to the user agency for compliance of the conditions. Detailed compliance of all the conditions imposed by MoEF&CC may be meticulously scrutinized by Addl. PCCF (Forest Diversion) & Nodal Officer, FC Act of your office and further necessary steps may also be taken by him expeditiously to furnish the detailed compliance in this respect to MoEF&CC.

on behalf of State Government as per authorization of State Government communicated in this regard vide letter No.10195/T&E dtd.16.05.2017 to you, for their consideration for according final forest clearance for this proposal. A copy of detailed compliance so sent to MoEF&CC may also be furnished to State Forest Department unfailingly for reference.

Violation of Forest Conservation Act, 1980, if any, may, however, be reported in detail expeditiously to the State Government as per para 1.9 of F.C. Act guidelines for bringing the same to the notice of Government of India, Ministry of Environment, Forests and Climate Change for further action at their end.

Yours faithfully

*d\_3/8/2021*

Special Secretary to Government

Memo No. 13487/FE&CC., Date 03-08-2021

Copy with copy of enclosure forwarded to the Principal Chief Conservator of Forests (WL) & Chief Wildlife Warden, Odisha for information & necessary action.

*d\_3/8/2021*

Special Secretary to Government

Memo No. 13488/FE&CC., Date 03-08-2021

Copy with copy of enclosure forwarded to the Regional Chief Conservator of Forests, Angul Circle, Divisional Forest Officer, Angul Forest Division for information and necessary action.

*d\_3/8/2021*

Special Secretary to Government

Memo No. 13489/FE&CC., Date 03-08-2021

Copy with copy of enclosure forwarded to Steel & Mines Department' Director Environment, FE&CC Department / Member Secretary, SPCB, Odisha / Collector, Angul for information and necessary action.

*d\_3/8/2021*

Special Secretary to Government

Memo No. 13490/FE&CC., Date 03-08-2021

Copy with copy of enclosure forwarded to the General Manager, Singareni Collaries Company Ltd., Naini Area, Angul, Odisha, Pin-759122 for information and necessary action.

*d\_3/8/2021*

Special Secretary to Government

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

\*\*\*\*\*

Indira Paryavaran Bhawan,  
Jorbagh Road, Aliganj,  
New Delhi - 110003.

**Dated: 28th July, 2021**

To,

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

**Sub: Proposal for non-forestry use of 783.275 ha of forest land consisting of 643.095 ha of RF in Chhendipada & Kankurupal RF and 140.180 ha of Village Forest land in favour of M/s Singareni Collieries Company Ltd for Naini Opencast Coal Mining Project in Angul Forest Division of District Angul (Odisha) - reg.**

Sir,

I am directed to refer to the Government of Odisha's letter No. 10F(Con)123/19-229/F&E dated 04.01.2020 on the above subject seeking prior approval of the Central Government under Section 2 of the Forest (Conservation) Act, 1980 and letter no. FE-DIV-0026-2021-3133/F&E dated 11.02.2021 forwarding additional information as sought by the Ministry vide its letter of even number dated 14.10.2020 and to say that the proposal has been examined by the Forest Advisory Committee constituted by the Central Government under Section - 3 of the aforesaid Act.

After careful examination of the proposal of the State Government and on the basis of the recommendations of the Forest Advisory Committee, and approval of the same by the competent authority of the MoEF&CC, New Delhi, the Central Government hereby accords 'in-principle' approval under Section - 2 of the Forest (Conservation) Act, 1980 for non-forestry use of 783.275 ha of forest land consisting

of 643.095 ha of RF in Chhendipada & Kankurupal RF and 140.180 ha of Village Forest land in favour of M/s Singareni Collieries Company Ltd for Naini Opencast Coal Mining Project in Angul Forest Division of District Angul (Odisha) subject to fulfilment of the following conditions:

**A. Conditions which need to be complied prior to submission of compliance report for seeking Stage-II approval**

**1. Compensatory Afforestation (CA):**

- i. The cost of CA at the prevailing wage rates as per CA scheme and the cost of survey, demarcation and erection of permanent pillars, if required on the CA land, shall be deposited in advance with the Forest Department by the user agency. The cost of CA should include maintenance for 10 years. The scheme may include afforestation of indigenous species with appropriate provision for anticipated cost increase for works scheduled for subsequent years;
  - ii. The KML files of diverted area, the CA areas, the proposed SMC treatment area and the WLMP area shall be uploaded on the e-Green watch portal with all requisite details.;
2. The User Agency shall transfer the funds towards the cost of Net Present Value (NPV) of the forest land being diverted under this proposal from the User Agency as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No. 202/1995 and the guidelines issued by this Ministry vide its letter No. 5-3/2007-FC dated 05.02.2009 through online portal of CAMPA account of the State Concerned;
3. Compensatory levies to be realized from the User Agency under the project shall be transferred/ deposited, through e-challan, into the account of CAMPA pertaining to the State concerned through **e-portal** (<https://parivesh.nic.in/>);
4. In consultation with the State Forest Department, following schemes/plans shall be prepared and after obtaining approval from competent authority, same will be submitted to the Ministry:
- i. mitigative measures to minimize soil erosion and choking of stream, to be implemented within a period of three year of issue of Stage-II approval.
  - ii. For planting of adequate drought hardy plant species and sowing of seeds, in

- the appropriate area within the mining lease to arrest soil erosion:
- iii. For construction of check dams, retention /toe walls to arrest sliding down of the excavated material along the contour
  - iv. To stabilize the overburden dumps by appropriate grading/ benching, which should also ensure angles of repose at any given place is less than 28°; and
  - v. Top soil management plan.
6. A plan for plantation and SMC activities will be prepared to restock and rejuvenate the degraded forests (having crown density less than 0.40), if any, located in the area within 100 meter from outer perimeter of the mining lease.
7. The User Agency shall prepare a list of existing village tanks and other water bodies with GPS co-ordinates located within five km from the mine lease boundary. This list is to be duly verified by the concerned Divisional Forest Officer. The User Agency shall regularly undertake desilting of these village tanks and other water bodies so as to mitigate the impact of siltation of such tanks/water bodies. A detailed approved plan for desilting of identified ponds and water bodies to be prepared in consultation with forest department and shall be submitted to MoEF & CC;
7. The cost of felling of trees shall be deposited by the User Agency with the State Forest Department;
8. State government shall submit a certificate that no plantation activities has been taken by the Forest department under any scheme/plan/programme in the land proposed for CA in last 10 years.

**9. Wildlife Management Plan:**

- i. A Wildlife/Elephant Management Plan, at project cost, shall be prepared by the State Government in consultation with national level institute such as Wildlife Institute of India or Indian Institute of Science and the PCCF (Wildlife) of the State for the protection and conservation of wildlife of the area and to mitigate adverse impacts of coal mining on the elephant population, their movements, etc. for entire coal bearing belt encompassing areas of Chhedipada, Janiha, Jarpada, ranges of Angul Division and Reamal range of Deogarh Division alongwith adjoining contiguous forest areas. Comments of the Project Elephant Division of the MoEF&CC (copy enclosed) shall be

addressed in the said Plan and a copy of approved Plan shall be submitted to the Ministry.

- ii. Cost of implementation of the Wildlife/Elephant Management Plan shall be apportioned among the coal mines as and when allotted in the areas.
- iii. Cost of implementation of the provisions of the Wildlife Management Plan, on *pro rata* basis, shall be deposited into the account of CAMPA of the State;
9. 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, as prescribed by this Ministry's letter No. 11-9/1998-FC (Pt.) dated 03.08.2009 read with 05.07.2013, in support thereof; and
10. The compliance report shall be uploaded on **e-portal** (<https://parivesh.nic.in/>).

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

1. Legal status of the diverted forest land shall remain unchanged;
2. CA over degraded forest land, double in extent to the forest land being diverted, shall be raised by the State Forest Department at the project cost within three years from the date of grant of Stage - II approval;
3. In addition to the proposed CA, non-forest area equivalent in size to the diverted forest area shall be made available and mutated in favour of the State Forest Department out of the area available immediately after the closure and rehabilitation of mines of M/s SCCL from 2027-28 (or earlier) onwards, as already intimated by M/s SCCL vide their letter no. CMD/PS/H/129 dt. 29.09.2020.
4. At the time of payment of the 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;
5. Trees should be felled in phased manner as per the requirement in the

approved Mining Plan with prior permission of concerned DFO;

6. 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 the supervision of the State Forest Department.
7. The User Agency shall undertake mining in a phased manner after taking due care for reclamation of the mined over area. The concurrent reclamation 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 to 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 Regional Officer of MoEF&CC may direct for suspension of mining activities till such time such reclamation is satisfactorily executed.
8. **Safety Zone Management:** Following activities, at project cost, shall be undertaken by the user agency for the management of safety zone as per relevant guidelines issued by the Ministry:
  - i. User agency shall ensure demarcation of safety zone (7.5 meter strip all along the inner boundary of the mining lease area), and its fencing, protection and regeneration by erecting adequate number of 6 feet high RCC boundary pillars inscribed with DGPS coordinates with barbed wire fencing (on both sides) and deploying adequate number of watchers under the supervision of the. State Forest Department;
  - ii. 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;
  - iii. Afforestation on degraded forest land to be selected elsewhere, measuring one and a half times the area under safety zone, shall also be done at the project cost under the supervisions of the State Forest Department. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape

- files before Stage-II approval and afforestation will be done within three years from the date of Stage-II clearance and maintained thereafter in accordance with the approved Plan in consultation with the State Forest Department; and
9. The State Government and the user agency shall ensure that safety zone is maintained as per the prescribed norms.
  10. 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;
  11. 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;
  12. The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;
  13. 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;
  14. 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 DGPS coordinates;
  15. 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;
  16. 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;
  17. No damage to the flora and fauna of the adjoining area shall be caused;
  18. 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;

19. 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
20. 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.
21. Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as prescribed in para 1.21 of Chapter 1 of the Handbook of comprehensive guidelines of Forest (Conservation) Act, 1980 as issued by this Ministry's letter No. 5-2/2017-FC dated 28.03.2019.

After receipt of compliance report on fulfilment of the conditions mentioned above, the proposal shall be considered for final approval under Section-2 of the Forest (Conservation) Act, 1980. Transfer of forest land shall not be affected till final approval is granted by the Central Government in this regard.

Yours faithfully,

Sd/-

**(Sandeep Sharma)**

Assistant Inspector General of Forests

**Copy to:**

1. The PCCF (HoFF), State Forest Department, Government of Odisha, Bhubaneswar
2. The 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