



**THE SINGARENI COLLIERIES COMPANY LIMITED**

(A GOVERNMENT COMPANY)

Registered Office

Kothagudem Collieries (P.O) - 507 101, Bhadradi Kothagudem Dist, Telangana State

**CIN: U10102TG1920SGC000571**

**Environment Dept., Srirampur Area**

PO: Srirampur Colony-504 303, Dist. Mancheri, Telangana State

Phone No: 08736-238039.

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Ref.No: SRP/ENV/U-511/2024/259

Date: 21.11.2024

To

The Environmental Engineer,  
Telangana State Pollution Control Board,  
Regional Office, H.No: 6-2-166/A, Subhash Nagar,  
Nizamabad - 503 002.

Sir,

Sub: Half yearly Environmental monitoring Report in respect of Indaram Khani  
OCP (IK OCP) of SCCL for the period ending 30.09.2024 (April, 2024 to  
September, 2024) - Reg.

Ref : MoEF Lr.No: J-11015/145/2007-1A-II(M), dtd.31<sup>st</sup> July, 2008

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Reference to the MoEF&CC, Environmental Clearance(E.C) letter cited above,  
please find enclosed here with the Half yearly Environmental Compliance report for the  
period ending 30.09.2024 (April, 2024 to September, 2024) in respect of Indaram Khani  
OCP (IK OCP), Srirampur Area.

Thanking you,

Yours faithfully,

Encl: As above.

C.C.: PO, IK OCP.



  
General Manager,  
Srirampur Area.  
General Manager,  
SRIRAMPUR



## THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)  
SRIRAMPUR AREA

### **HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE CONDITIONS UPTO 30<sup>th</sup> SEPTEMBER, 2024.**

#### **A. SALIENT FEATURES OF THE PROJECT:**

|    |                                   |  |
|----|-----------------------------------|--|
| 1. | <b>Name of the Project</b>        | : <b>Indaram Opencast Coal Mine Project</b>  |
| 2. | Organization                      | : Singareni Collieries Company Limited   |
| 3. | Coalfield                         | : Godavari Valley Coal Field   |
| 4. | Type of Mine                      | : Opencast   |
| 5. | Technology                        | : Shovel –Dumper Combination   |
| 6. | <b>Environmental Clearance</b>    |  |
|    | A. Letter No & date               | : J-11015/145/2007-1A-II(M),<br>: dtd.31 <sup>st</sup> July, 2008                              |
|    | B. Sanction capacity              | : 1.5 MTPA   |
|    | C. Mining Lease Area              | : 846.76 Ha  |
|    | D. Date of Public Hearing         | : 03.09.2007   |
| 7. | <b>Location of the Project</b>    |  |
|    | A. Village                        | : Indaram  |
|    | B. Tehasil                        | : Jaipur   |
|    | C. District                       | : Mancherial (Erstwhile Adilabad)  |
|    | D. State                          | : Telangana State  |
|    | E. Latitude                       | : North 18 <sup>o</sup> 46'30" to 18 <sup>o</sup> 52'00"                                       |
|    | F. Longitude                      | : East 79 <sup>o</sup> 28'00" to 79 <sup>o</sup> 31'00"  |
|    | G. Topo Sheet                     | : 56N/9  |
|    | H. Nearest railway station        | : Mancherial (12 KM)   |
|    | I. Nearest Airport                | : Hyderabad (250km)  |
|    | J. Nearest town                   | : Mancherial (13 km)   |
| 8. | <b>Address for Correspondence</b> |  |
|    | A. Name                           | : A.V. REDDY   |
|    | B. Designation                    | : Project Officer  |
|    | C. Address                        | : Project Officer,<br>: Post: Indaram, Mandal: Jaipur, Dist:<br>: Mancherial, Telangana State. |
|    | D. Pin Code                       | : 504 216  |
|    | E. E-mail ID                      | : po_ikoc@scclmines.com  |
|    | F. Telephone No.                  | : 9491144692   |

|     |   |   |   |                       |
|-----|---|---|---|-----------------------|
|     | G. Fax No.  | : | 08736-238222                                  |                       |
| 9.  | <b>Life of the Project</b>                                |   |   |                       |
|     | A. Date of Opening  | : | 15.05.2020                                    |                       |
|     | B. Total Life of the project as per EMP                   | : | 27 Years                                      |                       |
|     | C. Balance Life   | : | 22 years                                      |                       |
| 10. | <b>Seams</b>  |   |   |                       |
|     | A. No. of Seams Present                                   | : | 8   |                       |
|     | B. Seams being worked                                     | : | IA, I, II, IB2, IIIB, IIIA, III and IVA Seams |                       |
| 11. | <b>Depth</b>  |   |   |                       |
|     | A. Minimum Depth (m)                                      | : | 15  |                       |
|     | B. Maximum Depth (m)                                      | : | 240   |                       |
|     | C. Present working depth (m)                              | : | 103   |                       |
| 12. | <b>Reserves</b>   |   |   |                       |
|     | A. Total Geological Reserves                              | : | 32.060 MT                                     |                       |
|     | B. Total Extractable Reserves                             | : | 28.490 MT                                     |                       |
|     | C. Reserves already Extracted                             | : | 4.745 MT                                      |                       |
|     | D. Balance Reserves                                       | : | 23.745 MT                                     |                       |
|     | E. Coal production during last 6 months(Apr24-Sep24)      | : | 0.307MT                                       |                       |
| 13. | <b>Land Requirement</b>                                   |   |   |                       |
|     | A. Total Requirement                                      | : | 846.76 Ha.                                    |                       |
|     | B. Forestland Involved                                    | : | Nil   |                       |
|     | C. Non-forestland   | : | 846.76 Ha.                                    |                       |
|     | D. Land acquired so far                                   | : | 846.76 Ha.                                    |                       |
| 14. | OB production during last six months                      |   | 4.004M Cu m                                   |                       |
| 15. | <b>Activity wise Land Requirement in Ha.</b>              |   |   |                       |
|     |   |   | <b>As per EMP</b>                             | <b>Present Status</b> |
|     | A. Quarry Area  | : | 374.04  | 143.86                |
|     | B. Top soil Storage                                       | : | --  | 28.71                 |
|     | C. External Dump yard including drains etc., around Dumps | : | 259.13  | 160.18                |
|     | D. Coal Stock yard  | : | 4.25  | 2.15                  |
|     | E. Infrastructures  | : | 3.84  | 1.30                  |
|     | F. Roads etc.   | : | 11.70   | 4.77                  |
|     | G. Green belt   | : | 13.99   | 0.00                  |
|     | H. CHP  | : | 1.36  | 1.10                  |
|     | I. Safe barrier, drainage, settling Tanks etc.,           |   | 178.45  | 26.60                 |
|     | <b>TOTAL</b>  |   | <b>846.76</b>                                 | <b>368.67</b>         |

|     |                              |   |   |
|-----|------------------------------|---|---|
| 16. | <b>Statutory Clearances</b>  | : |   |
|     | A. Mining plan approval      | : | Mining plan was approved by MoC on 17.09.2007 vide Lr. No. 13016/5/2007-CA-II   |
|     | B. Ground Water Clearance    | : | Lr. No 441/T/2007 dt.01.06.2007   |
|     | C. Consent for Establishment | : | Order No.44/PCB/ /CFE/RO-NZM/HO/2008-2661, dt. 06.01.2009 and Extension Order No: 44/PCB/CFE/RO-NZB/HO/2008-2092, dtd.19.11.2016.   |
|     | D. Consent for Operation     | : | CFO Order No: 230524661423, dtd.29.09.2023 valid up to 31 <sup>st</sup> Day of October, 2028.   |
|     | E. Forest Clearance          | : | NA  |
|     | F. Mining Lease              | : | The project area falls in Indaram mining lease<br><br>The MoEF G.O.Ms.No: 438, dtd.28.5.1979 of Industries and Commerce (M-III) Dept., granted lease for a period of 20 years from 29.7.1980 to 28.7.2000. Renewed as per <b>MoEF</b> , Gol, New Delhi Vide Lr.No. 8-1/2000-FC, Dtd.28.11.2001 and Dtd.20.3.2002 for a period of 20 years from 24.07.2000 to 23.07.2020. The renewal application for Indaram Mining Lease for a further period of 20 years was submitted by General Manager, Srirampur on 23.07.2018. The lease renewal was granted vide G.O.Ms No 9 of I&C department is valid up to 28.07.2030. |
|     | G. Others (Specify)          | : | Nil   |
| 17. | R & R Involved               | : | R & R details: Total PDFs = 194<br>(At present there are no claims)   |

### 18. Topsoil Management (in M.Cu.m)

|    |  |   |   |
|----|--|---|---|
| 1  | Topsoil removed in last six months                                   | : | 0.228                                     |
| 2  | Topsoil removed so far   | : | 5.031                                     |
| 3  | i) Topsoil stored in temporary stockyard during last six months      | : | 0.208                                     |
|    | ii) Total topsoil stored in temporary stockyard                      | : | 4.390                                     |
| 4  | i) Topsoil spread on Dumps during last six months                    | : | 0.02                                      |
|    | ii) Total Topsoil spread on Dumps                                    | : | 0.185                                     |
| 5. | i) Topsoil used for other purpose, pl specify during last six months | : | Nil                                       |
|    | ii) Total Topsoil used for other purpose, pl specify.                | : | 0.456 construction of HFL protection bund |

### 19. Overburden Management (in M.Cu.m)

|    |  |                        |                   |         |                      |        |                   |       |                   |       |
|----|--|------------------------|-------------------|---------|----------------------|--------|-------------------|-------|-------------------|-------|
| 1  | Total OB removed during last six months                            | :                      | 3.776             |         |                      |        |                   |       |                   |       |
| 2  | Total OB removed since inception                                   | :                      | 56.325            |         |                      |        |                   |       |                   |       |
| 3  | Details of External OB dumps                                       | :                      | Area (in Ha)      |         | Quantity in (M.Cu.M) |        | Height (m)        |       | Overall slope     |       |
|    |  | :                      | During six months | Total   | During six months    | Total  | During six months | Total | During six months | Total |
|    | Deck-1   | :                      | 19.09             | 160.184 | 2.776                | 29.812 | 14.5              | 25    | 29°               | 29°   |
|    | Deck-2   | :                      | 9.241             | 85.779  | 0.196                | 18.307 | 2                 | 30    | 28°               | 26°   |
|    | Deck-3   | :                      | 10.066            | 16.547  | 0.804                | 2.060  | 8.00              | 30    | 28°               | 26°   |
| 4  | Details of Internal dump (Backfilling) (Area w.r.t. Ground level)) | :                      | Nil               |         |                      |        |                   |       |                   |       |
| 5. | OB used for laying of roads etc.                                   | During last six months | :                 | nil     |                      |        |                   |       |                   |       |
|    |  | Total                  | :                 | 4.607   |                      |        |                   |       |                   |       |
| 6. | OB used for laying of Railway Track                                | During last six months | :                 | Nil     |                      |        |                   |       |                   |       |
|    |  | Total                  | :                 | Nil     |                      |        |                   |       |                   |       |
| 7  | OB used for other purpose pl. specify.                             | During last six months | :                 | Nil     |                      |        |                   |       |                   |       |
|    |  | Total                  | :                 | 1.539   |                      |        |                   |       |                   |       |
| 8. | (i) Quantity of Fly ash / bottom ash used in cu. Mtrs. on OB dump  | During last six months | :                 | Nil     |                      |        |                   |       |                   |       |
|    |  | Total                  | :                 | Nil     |                      |        |                   |       |                   |       |
|    | (ii) Quantity of Fly ash / bottom ash used in cu.                  | :                      | Nil               |         |                      |        |                   |       |                   |       |



|  |                        |   |     |
|--|------------------------|---|-----|
| Mtrs. on Internal Dump                     | Total                  | : | Nil |
| (iii) No. of fly ash bricks used with size | During last six months | : | Nil |
|  | Total                  | : | Nil |


## 20. Plantation:

| S. No | Description                                       |              |
|-------|---|--------------|
| 1     | No of plants planted during last six months       | 19,500       |
| 2     | Area covered in Ha                                | 1.80         |
| 3     | Expenditure incurred in Rs.lakhs                  | 1,91,693     |
| 4     | Total area brought under plantation so far in Ha  | 154.92       |
| 5     | Total no of plants planted so far since inception | 2,04,191     |
| 6     | Species of plants planted                         |              |
| 7     | i) Seeds sown during last six months              |              |
|       | ii) Seeds sown so far                             |              |
| 8     | i) Small plants planted during last six months    | -            |
|       | ii) Small plants planted so far                   | -            |
| 9     | Total expenditure in Rs. lakhs                    | 58.87lakhs/- |

## B. COMPLIANCE STATUS OF EC CONDITIONS AS ON 30.09.2024.

| E. C. Cond. No: | Condition   | Compliance Status as on 30.09.2024   |
|-----------------|---|--|
| <b>2) A.</b>    | <b>Specific Conditions.</b>   |  |
| (i)             | Diversion of the State Highway from Ramagundam to Mancheril for a total road length of 3.6 Km passing through the lease shall be done with the prior approval of the competent authority. | <b>Complied.</b><br>As state Highway Authorities have constructed a road over bridge without diverting the existing highway, no road diversion is required.  |
| (ii)            | A separate application for environmental clearance shall be made for the establishment of coal washery within the lease.  | <b>Agreed to comply.</b><br>Presently, there is no proposal for the establishment of a coal washery. However, if a proposal to establish a coal washery within the lease area is made in the future, a separate application for environmental clearance will be submitted. |
| (iii)           | Topsoil shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.                    | <b>Being Complied.</b><br>Top soil is being stacked at earmarked site as envisaged in the approved EMP and is utilized for reclamation. At present 4.39 M.Cu.M is stacked. And 0.456 M.Cu.M was  |

| E. C. Cond. No: | Condition   | Compliance Status as on 30.09.2024   |
|-----------------|---|--|
|                 |   | <p>used for HFL protection bund.</p>  <p style="text-align: center;"><b><u>Topsoil Dump</u></b></p>  |
| (iv)            | <p>OB shall be stacked at earmarked external OB dumpsite(s) within ML area and shall be a maximum height of 90 m only consisting of 3 benches of 30 m each. The ultimate slope of the dump shall not exceed 28°. Backfilling including shall begin at the end of 12<sup>th</sup> year in the de-coaled area. Monitoring and management of reclaimed dumpsites shall continue until the vegetation using native species becomes self – sustaining. Compliance status shall be submitted to the Ministry of Environment &amp; Forests and its Regional Office located at Bangalore on a yearly basis.</p> | <p><b>Complied.</b><br/>OB is being stacked at earmarked external dumpsite as per EMP. Presently the maximum height of external dump is 90m. The progress of reclamation of dump sites is being furnished to MoEF&amp;CC once in six months.<br/><b>A copy was enclosed as Annexure-I.</b></p>  <p style="text-align: center;"><b><u>OB Dump</u></b></p> <p>So far 154.92 Ha plantation including 54.92 ha inside the acquired mining lease Area (behind Ramaraopet Check post) and 100.00 ha plantation outside the approved mining lease Area. (This area is exists surrounding of the Mining lease area i.e., RF land at Chennur &amp; GDK X-Roadwas) was done.</p> <p>20 km Avenue plantation was done up to Rajiv Rahadari and along Rajiv Rahadari from Godavari bridge to Chennur –X- Road</p> |
| (v)             | <p>Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development, etc. The drains shall be regularly de-silted and maintained properly. Garland drains of suitable size, gradient and length and sump</p>   | <p><b>Being Complied.</b><br/>Garland drains for a length of 5.72 km are made around the quarry and around the dump.<br/>Four (04) No. of siltation ponds were constructed with appropriate size &amp; capacity around the mine workings, coal yard &amp; OB dumps to prevent run off of water and flow of sediments directly into the nearby tanks and water bodies.</p>  |



| E. C. Cond. No: | Condition  | Compliance Status as on 30.09.2024   |
|-----------------|--|--|
|                 | capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide for adequate retention period to allow proper settling of silt material.          |  |
| (vi)            | Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.   | <p><b>Being Complied.</b></p> <p>Constructed a length of 450 m retaining wall at the toe of the dumps and OB benches to check run off and siltation and will be continued as per the progress of mine workings.</p>   |
| (vii)           | Crushers at the proposed pit head CHP shall be operated with high efficiency bag filters, water (mist spray) sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system shall be closed, haulage roads and transfer points. | <p><b>Complied.</b></p> <p>Pressurized mist spray dust suppression system is provided at both the feeder breakers in order to suppress the dust emissions from crushing operations of coal and also a jute curtain in a room shape is placed around the crusher hoppers for effective control of dust. Water sprinkling system is also provided at crushing operations, conveyor belts, haul roads and all coal transfer points.</p> |
| (viii)          | Drills shall be wet operated only.   | <p><b>Being Complied.</b></p> <p>All the drills are provided with wet drilling arrangements and are being wet operated.</p>  |
| (ix)            | Controlled blasting shall be practiced only during day time with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.  | <p><b>Being Complied.</b></p> <p>Controlled blasting with the use of Non-electrical (Nonel) delay detonators is being practiced and blasting is being done only during day time. The mitigate measures like controlled blasting, maintaining free face, proper blast design are being taken to arrest the fly rocks and boulders due to blasting operations.</p>   |
| (x)             | Afforestation shall cover a total area of not less than 638.24 ha  | <p><b>Agreed to comply.</b></p> <p>Plantation is being done as per EMP. So far,</p>  |





| E. C. Cond. No: | Condition  | Compliance Status as on 30.09.2024  |
|-----------------|--|---|
|                 | <p>which includes reclaimed external OB dump (259.13 ha), reclaimed top soil dump, back filled area (233.65 ha), along ML boundary, (121.73 ha) along drains and along infrastructure (23.73 ha), undisturbed area, within the lease by planting native species in consultation with the local DFO / Agriculture Department. The density of the trees shall be around 2500 plants per Ha.</p>  | <p>plantation was done in 54.92 ha with 93,091 plants in the project area. Apart from this avenue plantation in 100.0 ha outside the project area with 1,11,100 saplings in RF land at Chennur &amp; GDK- Cross Road.</p> <p>20 km Avenue plantation was done up to Rajiv Rahadari and along Rajiv Rahadiri from Godavari bridge to Chennur –X- Road. Copy enclosed as <b>Annexure-II</b>.</p>  |
| (xi)            | <p>A progressive Mine Closure Plan shall be implemented by reclamation of quarry area of 233.65 ha which shall be back filled and afforested by planting the native plant species in consultation with the local DFO / Agriculture Department. The density of the trees shall be around 2500 plants per ha. The balance 140.39 ha of de-coaled area being converted into a water reservoir of a max. depth of 45m, shall be gently sloped, and the upper benches of which shall be stabilized and reclaimed with plantation and the reservoir peripherally fenced.</p> | <p><b>Being Complied.</b><br/>Progressive Mine Closure Plan is being implemented as per approved Mine Plan and EMP. The reclaimed quarry area is being afforested by planting with native species in consultation with the local DFO / Agriculture Department and progress of the same is being submitted to Regional Office, MoEF&amp;CC on half yearly basis.</p>   |
| (xii)           | <p>The company shall obtain prior approval of CGWA/CGWB Regional Office for use of ground water if any, for mining operations.</p>   | <p><b>Complied.</b><br/>Ground water clearance was obtained from State Ground water Dept. vide Lr. No. 441/T/2007, dt. 01.06.2007 for the project. Renewal application was submitted to Ground Water Department, Mancherial, as per gazette Notification No: G.O. Ms No-15, Irrigation &amp; Cad (WRG-GRC), dated 27.05.2023 and field inspection was done by the authorities on 15/12/2023. However, the permission is awaited.<br/>A copy was enclosed as Annexure-III.</p> |
| (xiii)          | <p>Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing</p>  | <p><b>Being Complied.</b><br/>Phreatic surface in the area around the project is being monitored four times a year by establishing a network of existing wells</p>  |



| E. C. Cond. No: | Condition  | Compliance Status as on 30.09.2024  |
|-----------------|--|---|
|                 | wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), Monsoon (August), Post monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring. | and also by using piezometers and the piezometric data is being regularly submitted in half yearly basis to the District Ground Water Officer, Telangana State Ground Water Department, Mancherial District.<br><b>A copy was enclosed as Annexure-IV.</b>  |
| (xiv)           | The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case, monitoring of ground water table indicates a declining trend. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to de-watering of the mine.   | <b>Complied.</b><br>4 No.s of Rainwater harvesting pits in surrounding villages and 62 No.s in Srirampur Area are constructed for augmentation of ground water resources.<br><br>The excess treated mine discharge water after meeting the stipulated norms is being discharged into nearby tank for irrigation and ground water recharge, which helps in augmentation of groundwater.<br>Water levels are being monitored seasonally i.e., four times in a year in surrounding area by network of open-wells. SCCL will provide water to nearby village(s) in case the village wells go dry due to de-watering of the mine.  |
| (xv)            | Besides carrying out regular periodic health check up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmadabad within a period of one year and the results reported to this Ministry and to DGMS.            | <b>Being Complied.</b><br>SCCL is conducting regular health camps in villages located in the vicinity of project to study the health status of the people and is providing free treatment in SCCL hospitals. In addition, SCCL established eleven Initial Medical Examination (IME) /Periodical Medical Examination (PME) centres in the company, i.e., at Kothagudem, Manuguru, Yellandu, Godavarikhani, Sector – III Colony(Godavarikhani), Bellampalli, Ramakrishnapur, Mandamarri, Srirampur, Bhupalpally and Sathupalli for conducting IME/PME of the employees including contract employees.<br>All the PME Centers are equipped with necessary infrastructure for carrying out IME/PME and maintenance of data base. |

| E. C. Cond. No: | Condition  | Compliance Status as on 30.09.2024  |
|-----------------|--|---|
|                 |  | <p>Every PME centre is provided with the facility for chest radiographs as per ILO guidelines with a set of ILO standard chest radiographs on Pneumoconiosis, lung function tests with computerized Spirometres of RMS make, and facilities for Audiometry with pure tone Audiometry equipment.</p> <p>In SCCL, Every employee above 45 years age is examined at an interval of once in three years and employees of below 45 years age are examined once in five years under PME. If, on examination his health status is found to be normal, he will be reviewed after completion of 5/3 years period.</p> <p>The PME details are being submitted to the Ministry and to the DGMS at regular intervals. In SCCL, Every employee above 45 years age is examined at an interval of once in three years and employees of below 45 years age are examined once in five years under PME. If, on examination his health status is found to be normal, he will be reviewed after completion of 5/3 years period.</p> <p>The PME details are being submitted to the Ministry and to the DGMS at regular intervals.</p> <p>The project authorities have been carrying out periodical occupational health surveillance as per rules. Besides this, health check up for occupational diseases and hearing impairment will also be done at the SCCL hospital for 20% of the workers identified from workforce engaged in active mining operations and the results will be submitted to the Ministry and to the DGMS at regular intervals. 49 persons have undergone PME during this six months.</p> |
| (xvi)           | ETP shall also be provided for workshop and CHP wastewater. Mine discharge water shall be treated to prescribed standards before discharge in to any natural water course. | <p><b>Complied.</b></p> <p>ETP provided for Base Workshop and CHP. Mine discharge water is being treated and let out after meeting the prescribed standards. Water quality of mine discharge is being monitored at regular intervals. The details are enclosed as <b>Annexure-V.</b></p>  |

| E. C. Cond. No: | Condition   | Compliance Status as on 30.09.2024  |
|-----------------|---|---|
|                 |   |  <p data-bbox="855 553 1431 584"><b><u>ETP at Base Workshop, Indaram OCP</u></b></p>  |
| (xvii)          | A Sewage treatment plant shall be installed in the township.  | <p data-bbox="820 629 975 660"><b>Complied.</b></p> <p data-bbox="820 667 1461 768">Sewage Treatment Plant (of 3 MLD capacity) had constructed at common township i.e., Naspur colony.</p> <p data-bbox="820 775 1353 806"><b>A copy was enclosed as Annexure-VI.</b></p>  <p data-bbox="956 1128 1329 1160"><b><u>Sewage Treatment Plant</u></b></p>  |
| (xviii)         | For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on scale of 1:5000) of the core zone and buffer zone, from the start of the project until end of the mine life shall be prepared once in 3 years (for any particular season which is consistent in time series), and the report submitted to MoEF and its regional office at Bangalore. | <p data-bbox="820 1171 975 1202"><b>Complied.</b></p> <p data-bbox="820 1209 1461 1491">Digital processing of the entire lease area based on satellite imagery is being done regularly once in 3 years for monitoring land use pattern and post mining land use. Satellite imagery land survey was conducted in year 2022, by Greencindia Consulting Private Ltd, Hyderabad. And Submitted to Regional office MoEF &amp;CC.</p> <p data-bbox="820 1498 1409 1529"><b>A copy was enclosed as Annexure-VII.</b></p> |
| (xix)           | A Final Mine closure plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.  | <p data-bbox="820 1648 1102 1680"><b>Agreed to Comply.</b></p> <p data-bbox="820 1686 1461 1787">A final mine closure plan along with details of Corpus Fund will be submitted five years in advance for approval.</p>  |
| (xx)            | R&R for Indaram village involving 194 PAFs shall be not less than that given in the National R&R Policy. R&R shall be completed within 3 years.   | <p data-bbox="820 1872 975 1904"><b>Complied.</b></p> <p data-bbox="820 1910 1461 1973">194 PAFs was compensated as per National R&amp;R policy.</p>  |

| E. C. Cond. No: | Condition  | Compliance Status as on 30.09.2024   |              |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
|-----------------|--|--|--------------|------|--------------|--|-----------|--------|----|---------|------|-------|----|---------|------|-------|----|---------|------|-------|----|---------|------|-------|----|-------------------|------|-------|--|--------------|-------------|--------------|
| <b>2) B</b>     | <b>General Conditions</b>  |  |              |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| (i)             | No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.   | <b>Agreed to Comply.</b><br>There will not be any change in mining technology as envisaged in approved EMP without prior approval of the Ministry of Environment and Forests.  |              |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| (ii)            | No change in the calendar plan including excavation, quantum of mineral coal and waste shall be made.  | <b>Complied.</b><br>There is no change in the calendar plan and the production is within the EC capacity. <table border="1" data-bbox="821 571 1380 1064"> <thead> <tr> <th rowspan="2">Sl. No</th> <th rowspan="2">Year</th> <th colspan="2">Coal (in MT)</th> </tr> <tr> <th>As per EC</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>2020-21</td> <td>1.50</td> <td>1.001</td> </tr> <tr> <td>2.</td> <td>2021-22</td> <td>1.50</td> <td>1.499</td> </tr> <tr> <td>3.</td> <td>2022-23</td> <td>1.50</td> <td>1.497</td> </tr> <tr> <td>4.</td> <td>2023-24</td> <td>1.50</td> <td>1.221</td> </tr> <tr> <td>5.</td> <td>2024-25 (apr-sep)</td> <td>1.50</td> <td>0.307</td> </tr> <tr> <td></td> <td><b>Total</b></td> <td><b>7.50</b></td> <td><b>5.525</b></td> </tr> </tbody> </table> Production details enclosed as <b>annexure-VIII.</b> | Sl. No       | Year | Coal (in MT) |  | As per EC | Actual | 1. | 2020-21 | 1.50 | 1.001 | 2. | 2021-22 | 1.50 | 1.499 | 3. | 2022-23 | 1.50 | 1.497 | 4. | 2023-24 | 1.50 | 1.221 | 5. | 2024-25 (apr-sep) | 1.50 | 0.307 |  | <b>Total</b> | <b>7.50</b> | <b>5.525</b> |
| Sl. No          | Year   | Coal (in MT)   |              |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
|                 |  | As per EC  | Actual       |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| 1.              | 2020-21  | 1.50   | 1.001        |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| 2.              | 2021-22  | 1.50   | 1.499        |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| 3.              | 2022-23  | 1.50   | 1.497        |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| 4.              | 2023-24  | 1.50   | 1.221        |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| 5.              | 2024-25 (apr-sep)  | 1.50   | 0.307        |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
|                 | <b>Total</b>   | <b>7.50</b>  | <b>5.525</b> |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| (iii)           | Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for SPM, RPM, SO <sub>2</sub> and NO <sub>x</sub> monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. | <b>Complied.</b><br>As per the new guidelines, ambient air quality parameters such as PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> & NO <sub>2</sub> are being monitored at three locations in Core zone and four locations in buffer zone regularly. Location of the stations has been identified in consultation with the State Pollution Control Board. One CAAQMS (Continuous Ambient Air Quality Monitoring Station) also established at Project site.<br><br><b>A copy was enclosed as Annexure-IX.</b>    |              |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |
| (iv)            | Fugitive dust emissions (SPM and RPM) from all the sources shall be controlled regularly monitored and data recorded properly.   | <b>Complied.</b><br>Water spraying is being done for dust suppression at working places, haul roads, approach roads to dump yard by mobile   |              |      |              |  |           |        |    |         |      |       |    |         |      |       |    |         |      |       |    |         |      |       |    |                   |      |       |  |              |             |              |

| E. C. Cond. No: | Condition  | Compliance Status as on 30.09.2024   |
|-----------------|--|--|
|                 | Water spraying arrangement on haul roads, wagon loading and dump tracks (loading & unloading) points shall be provided and properly maintained.  | <p>water sprinklers of 28 KL, 12 KL and 10 KL capacity.<br/>The details of control measures are being taken at the project are furnished in enclosed <b>annexure-X</b>.</p>  <p style="text-align: center;"><b><u>Water Spraying on haul roads</u></b></p>   |
| (v)             | Data on ambient air quality (SPM, RPM, SO <sub>2</sub> and NO <sub>x</sub> ) shall be regularly submitted to the Ministry including its Regional Office at Bangalore and the State Pollution Control Board and the Central Pollution Control Board once in six months.             | <p><b>Being Complied.</b><br/>Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> &amp; NO<sub>2</sub>) is being regularly submitted (Area Monitoring report) to the State Pollution Control Board, Regional Office, Nizamabad once in three months and on Six monthly bases to Regional office MoEF&amp;CC.<br/><b>Copy enclosed as Annexure-IX.</b></p>   |
| (vi)            | Adequate measures shall be taken for control of noise levels below 85 dB (A) in the work environment. Workers engaged in blasting and drilling operations, operations of HEMM, etc. shall be provided with ear plugs / muffs.  | <p><b>Complied.</b><br/>Regular tuning of vehicles is being done for control of noise levels below 85 dB (A) in the work environment and workers engaged in blasting and drilling operations, operations of HEMM, etc. are provided with ear plugs / muffs. Ear plugs were provided to workmen during last six month period.<br/>Controlled blasting techniques with the use of Non-electric (Nonel) delay detonators are being practiced to control ground vibrations, noise and big boulders. The ambient noise levels in the work environment and nearby villages are monitored regularly.<br/><b>Copy enclosed as Annexure-XI.</b></p> |
| (vii)           | Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and Grease trap | <p><b>Complied.</b><br/>Industrial waste water is being collecting and properly treated through ETP and settling tanks before discharge to ensure prescribed standards.<br/><b>Copy enclosed as Annexure-XII.</b></p>  |

| E. C. Cond. No: | Condition   | Compliance Status as on 30.09.2024  |
|-----------------|---|---|
|                 | shall be installed before discharge of workshop effluents.  |   |
| (viii)          | Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.  | <p><b>Being Complied.</b><br/>Vehicular emissions are kept under control through regular maintenance of vehicles. Vehicles used for transporting the mineral are being covered with tarpaulins and are optimally loaded. Vehicular emissions are monitored regularly.</p>  <p><b>Tarpaulin covered truck</b></p>  |
| (ix)            | Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.  | <p><b>Complied.</b><br/>Post Project Environmental Monitoring is being carried out through third party agency, M/s. Environment Protection Training and Research Institute (EPTRI), Hyderabad, which is a CPCB, recognized and NABL accredited Laboratory.<br/>A regional Laboratory has been established by EPTRI at Mandamarri for analysis of critical parameters in the field.</p>  |
| (x)             | Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers shall | <p><b>Being Complied.</b><br/>The project authorities are carrying out regular occupational health surveillance programme for the workers and the personnel working in dusty areas are providing with protective respiratory devices and necessary training &amp; information on safety &amp; health aspects are being provided</p>   |

| E. C. Cond. No: | Condition   | Compliance Status as on 30.09.2024  |
|-----------------|---|---|
|                 | be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measure, if needed.   | to the workers. 60 nos. of dust masks were provided to workmen during last six months. Periodical Medical Examination (PME) is being conducted to check the Health status of the company. 10 persons have undergone PME during this six months.   |
| (xi)            | A separate environmental management cell with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Company.  | <p><b>Complied.</b><br/> SCCL is having environment department both at corporate level as well as at area level to carryout functions relating to environmental management of the project. To carryout functions relating to environmental management at this project, an environment management committee (EMC) has been constituted with the following members –</p> <ol style="list-style-type: none"> <li>1) Project Officer - Chairman.</li> <li>2) Area Env. Officer - Secretary.</li> <li>3) Area Civil Engineer, - Member</li> <li>4) Area Survey officer - Member.</li> <li>5) Area Estates Manager - Member.</li> <li>6) Area Forest Officer - Member.</li> <li>7) Regional Hydro geologist - Member</li> </ol> <p>A part from the above, a corporate environmental Apex Committee is established to monitor and guide in implementation of the environmental safeguards.</p> |
| (xii)           | The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bangalore.   | <p><b>Complied.</b><br/> The funds earmarked for environmental protection measures are being kept in separate account and will not be diverted for other purpose and expenditure incurred during the period for environmental protection measures is being furnished to ministry. The details of the funds are mentioned in enclosed as <b>Annexure-XIII.</b></p>   |
| (xiii)          | The Regional Office of this Ministry located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation of the office(s) of the Regional Office by furnishing the requisite data / information / monitoring reports. | <p><b>Being Complied.</b><br/> The project authorities are extending full cooperation of the office(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.</p>  |



| <b>E. C. Cond. No:</b> | <b>Condition</b>   | <b>Compliance Status as on 30.09.2024</b>   |
|------------------------|--|---|
| (xiv)                  | A copy of the clearance letter will be marked to concern Panchayat / local NGO, if any, from whom and suggestion / representation has been received while processing the proposal.   | <b>Complied.</b><br>The Clearance letter marked to the concerned panchayats i.e., Indaram Panchayat, Tekumatla Panchayat and Ramaraopet panchayat vide letter No. SRP/ENV/N-409/2008/186, dtd.02.09.2008.   |
| (xv)                   | State Pollution Control Board shall display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's Office / Tehsildar's office for 30 days.   | <b>Complied.</b><br>SCCL requested State Pollution Control Board to display clearance letter at the Regional office vide letter CRP/ENV/A/525/494 dated:06.08.2008 in order to comply with this condition and the same was complied by State Pollution Control Board. |
| (xvi)                  | The project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the Ministry of Environment & Forests at <a href="http://envfor.aic.in">http://envfor.aic.in</a> . | <b>Complied.</b><br>Advertisement was given in Deccan Chronicle (English) and Eenadu (Telugu) on 13.08.2008 informing that the project has been accorded environmental clearance from Ministry of Environment and Forests, GOI, New Delhi.                            |
| 3.                     | The Ministry or any other competent authority may stipulate any further condition for environmental protection.  | <b>Agreed to Comply.</b><br>Any further condition for environmental protection authority will be complied with, which may be stipulated by the Ministry or any other competent.   |
| 4.                     | Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986   | <b>Complied.</b><br>All the conditions stipulated in the EC are being complied with.  |
| 5.                     | The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act,  | <b>Being Complied.</b><br>CFE and CFO were obtained for the project under air and Water Acts.<br>Enclosed as <b>annexure-XIV &amp; Annexure - XV.</b><br>PLI policy is also being taken every year. The latest PLI policy was taken from The                          |

| E. C. Cond. No: | Condition   | Compliance Status as on 30.09.2024   |
|-----------------|---|--|
|                 | 1986 and the Public Liability Insurance act, 1981 along with their amendments and Rules.  | New India Assurance Co. Ltd., bearing no. 550200492410000034, valid from 30/04/2024 to 29/04/2025. <b>Copy enclosed as Annexure-XVI.</b>   |
|                 | "The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities which is fit for growth of fodder, flora, fauna etc". | <b>Agreed to comply.</b><br>At the end of mining operations, the mining areas and other areas which were disturbed due to mining will be re-grassed and restored to a condition which is fit for growth of fodder, flora, fauna etc. |



Project Officer,  
Indaram Opencast Project.  
PROJECT OFFICER  
IKOC & IK-1A

## Annexure-I

### 15. Overburden Management (in M.Cu.m)

|        |  |                        |                   |         |                      |        |                   |       |                   |       |
|--------|--|------------------------|-------------------|---------|----------------------|--------|-------------------|-------|-------------------|-------|
| 1      | Total OB removed during last six months                            | :                      | 3.776             |         |                      |        |                   |       |                   |       |
| 2      | Total OB removed since inception                                   | :                      | 56.325            |         |                      |        |                   |       |                   |       |
| 3      | Details of External OB dumps                                       | :                      | Area (in Ha)      |         | Quantity in (M.Cu.M) |        | Height (m)        |       | Overall slope     |       |
|        |  | :                      | During six months | Total   | During six months    | Total  | During six months | Total | During six months | Total |
|        | Deck-1   | :                      | 19.09             | 160.184 | 2.776                | 29.812 | 14.5              | 25    | 29°               | 29°   |
|        | Deck-2   | :                      | 9.241             | 85.779  | 0.196                | 18.307 | 2                 | 30    | 28°               | 26°   |
| Deck-3 | :  | 10.066                 | 16.547            | 0.804   | 2.060                | 8.00   | 30                | 28°   | 26°               |       |
| 4      | Details of Internal dump (Backfilling) (Area w.r.t. Ground level)) | :                      | Nil               |         |                      |        |                   |       |                   |       |
| 5.     | OB used for laying of roads etc.                                   | During last six months | :                 | nil     |                      |        |                   |       |                   |       |
|        |  | Total                  | :                 | 4.607   |                      |        |                   |       |                   |       |
| 6.     | OB used for laying of Railway Track                                | During last six months | :                 | Nil     |                      |        |                   |       |                   |       |
|        |  | Total                  | :                 | Nil     |                      |        |                   |       |                   |       |
| 7      | OB used for other purpose pl. specify.                             | During last six months | :                 | Nil     |                      |        |                   |       |                   |       |
|        |  | Total                  | :                 | 1.539   |                      |        |                   |       |                   |       |
| 8.     | (i) Quantity of Fly ash / bottom ash                               | :                      |                   |         |                      |        |                   |       |                   |       |

|  |                              |       |   |     |
|--|------------------------------|-------|---|-----|
|  | used in cu. Mtrs. on OB dump |       | : | Nil |
|  |                              | Total | : | Nil |
| (ii) Quantity of Fly ash / bottom ash used in cu. Mtrs. on Internal Dump | During last six months       |       | : | Nil |
|  |                              | Total | : | Nil |
| (iii) No. of fly ash bricks used with size                               | During last six months       |       | : | Nil |
|  |                              | Total | : | Nil |

**Annexure-II****Plantation:**

| <b>S. No</b> | <b>Description</b>                                |              |
|--------------|---|--------------|
| 1            | No of plants planted during last six months       | 19,500       |
| 2            | Area covered in Ha                                | 1.80         |
| 3            | Expenditure incurred in Rs.lakhs                  | 1,91,693     |
| 4            | Total area brought under plantation so far in Ha  | 154.92       |
| 5            | Total no of plants planted so far since inception | 2,04,191     |
| 6            | Species of plants planted                         |              |
| 7            | i) Seeds sown during last six months              |              |
|              | ii) Seeds sown so far                             |              |
| 8            | i) Small plants planted during last six months    | -            |
|              | ii) Small plants planted so far                   | -            |
| 9            | Total expenditure in Rs. lakhs                    | 58.87lakhs/- |

Q-408

GOVERNMENT OF ANDHRA PRADESH  
GROUND WATER DEPARTMENT

From:  
K. Manohar Reddy, M.Sc.,  
Deputy Director,  
Ground Water Department,  
NIRMAL - 504 106,  
Adilabad district.

To:  
General Manager  
Singareni Collieries Company Ltd  
Srirampur-504 303,  
Adilabad Dist.,

Lr.No.441/T/2007

Dated: 01-06-2007.

Sir,

Sub:- Ground Water Department, Nirmal - Adilabad district - Groundwater Clearance for proposed **Indaram Open cast** coal mining project SCCL, IK Chennur Near Indaram (v) Mancherial (M) Adilabad district - Regarding.

- Ref:- 1. General Manager, SCCL, IK Chennur area Lr.No. CRP/ENV/A/545/30 dt. 13.01.2007  
2. General Manager, SCCL, Chennur area Lr.No.SRP/ENV/Q-408/2007/64, dt. 28.02.2007.  
3. This office Lr.No. 441/T/2007, dated 26.04.2007.  
4. Director, GWD, Hyd., Memo.No.887/Hg.II(1)/07, dated 17.05.2007.  
-:o0o:-

With reference to subject and references cited, I am to inform that ground water investigation were taken up to study the possible effect of coal mining on the ground water regime in the area proposed Open cast coal mining project SCCL, IK Chennur Near Indaram (v) Mancherial (M) Adilabad district .

Based on the integrated groundwater surveys conducted, it is concluded that project is cleared with the following precautionary measures to maintain the groundwater regime in the area and to protect the rights and interest of the local existing habitations.

1. Periodical monitoring of Ground Water levels and quality (every month) should be taken and report to be submitted to the Deputy Director, Ground Water Department, Nirmal, Adilabad district regularly.
2. Rain Water harvesting structures should be taken up in all the villages with in the radius of 10 km of the project area.
3. Provision should be made to maintain present use and supply of ground water in and around the project area and also its restoration due to any adverse effects as a resume of mining in future.
4. Afforestation in surrounding areas should be taken up.
5. Dewatering from the mine if any, may have to be planned considering needs of the farming community.

8r. Env. & Water  
Lr. No. 441/T/2007

Encl: Report

Yours faithfully,

Deputy Director

Copy submitted to the Director, Ground Water Department,  
Hyderabad for favour of kind information.



**THE SINGARENI COLLIERIES COMPANY LIMITED**

(A GOVERNMENT COMPANY)

Registered Office

Kothagudem Collieries (P.O) - 507 101, Bhadradi Kothagudem Dist, Telangana State

**CIN: U10102TG1920SGC000571**

**Environment Dept., Srirampur Area**

PO:Srirampur Colony-504 303, Dist. Mancherial, Telangana State

Phone No: 08736-239554

Fax No : 08736-238222.

e-mail:env\_srp@sccmines.com

website:www.sccmines.com

Ref. No: SRP/ENV/Q-408/2022/9(a)

Date:26.05.2022.

To

**The Deputy Director,**

Ground water Department,

H.No: 5-243, Sahakar Bhavan,

Opposite: Bus Stand,

**Mancherial - 504 208**

Mancherial District, T.S.

Sir,

Sub: Request for renewal of ground water clearance in respect of Indaram Opencast Coal Mine Project of SCCL in Srirampur Area of Mancherial District – Reg.

\*\*\*\*\*

SCCL is intending to obtain Environmental Clearance from Ministry of Environment Forests & Climate Change (MoEF&cc), Gol production violation category (under EC) for Indaram Opencast Coal Mine Project near Indaram Village, Jaipur Mandal, Mancherial District.

In this connection as per the EIA Notification dated 14.09.2006 an approval in the form of ground water clearance is required from Telangana State Ground Water Department for drawing water for the Mine needs. As the mine discharge (which is incidental in coal mining operations) a part of which is proposed to be utilized for meeting various requirements of the Mines, it is requested to Kindly accord clearance for the above Mine from Ground water point of view.

Kindly intimate estimates for payment and field investigations for the above.

Yours faithfully,

  
**General Manager,**  
The S.C.Co.Ltd.,  
Srirampur Area  
*General Manager*  
SRIRAMPUR



CC to: GM (Env), Kgm.  
PO,IK OCP.  
DGM(Geo), RG.

**ATTITUDE OF PHREATIC SURFACE IN SRIRAMPUR AREA**

| Well No. | Name of the Village       | Location   | Owner's name       | Type of well | Total depth (m) | MP (m) | Dia(m) | Depth to water (m) |       |       |
|----------|---------------------------|--|--------------------|--------------|-----------------|--------|--------|--------------------|-------|-------|
|          |                           |  |                    |              |                 |        |        |                    | 2023  | 2024  |
| 1        | Arunakka Nagar            | Near GM Office,<br>18°51'18.38" N,<br>79°30'40.68"E            | N. Lingaiah        | DW           | 9.40            | 1.00   | 1.00   | Winter             | 3.84  | 4.38  |
|          |                           |  |                    |              |                 |        |        | Pre monsoon        | 5.27  | 5.20  |
|          |                           |  |                    |              |                 |        |        | Monsoon            | 1.64  | 1.43  |
|          |                           |  |                    |              |                 |        |        | Post monsoon       | 2.49  |       |
| 2        | RK6 Colony                | Near Shiva temple,<br>18°52'15.84" N,<br>79°30'04"E            | Q.No.SA-13         | DW           | 10.00           | 1.20   | 1.20   | Winter             | 1.74  | 2.52  |
|          |                           |  |                    |              |                 |        |        | Pre monsoon        | 3.53  | 3.70  |
|          |                           |  |                    |              |                 |        |        | monsoon            | 0.81  | 0.90  |
|          |                           |  |                    |              |                 |        |        | Post monsoon       | 1.53  |       |
| 3        | RK6 Colony                | Kurma wada,<br>18°52'14" N,<br>79°30'04"E                      | Karre Posham       | DW           | 6.50            | 1.00   | 1.00   | Winter             | 2.96  | 1.87  |
|          |                           |  |                    |              |                 |        |        | Pre monsoon        | 1.90  | 2.18  |
|          |                           |  |                    |              |                 |        |        | Monsoon            | 1.28  | 1.30  |
|          |                           |  |                    |              |                 |        |        | Post monsoon       | 1.63  |       |
| 5        | Srirampur (Naspur X road) | Naspur X Road,<br>18°51'17"N,<br>79°28'48"E                    | Suddula Shankar    | DW           | 10.00           | 0.60   | 1.00   | Winter             | 6.18  | 6.24  |
|          |                           |  |                    |              |                 |        |        | Pre monsoon        | 7.82  | 7.85  |
|          |                           |  |                    |              |                 |        |        | Monsoon            | 4.29  | 2.85  |
|          |                           |  |                    |              |                 |        |        | Post monsoon       | 4.68  |       |
| 6        | Sethar ampalli            | On the way to Intake well,<br>18°50'31.72" N,<br>79°28'34.46"E | Surimella Lachanna | DW           | 8.50            | 1.00   | 1.00   | Winter             | 2.92  | 3.76  |
|          |                           |  |                    |              |                 |        |        | Pre monsoon        | 4.47  | 5.80  |
|          |                           |  |                    |              |                 |        |        | Monsoon            | 2.23  | 1.58  |
|          |                           |  |                    |              |                 |        |        | Post monsoon       | 2.87  |       |
| 7        | Sethar ampalli            | On the way to Tallapalli,<br>18°50'37.91"N,<br>79°29'0.81"E    | M. Gopaiyah        | DW           | 15.00           | 1.20   | 1.20   | Winter             | 10.31 | 10.55 |
|          |                           |  |                    |              |                 |        |        | Pre monsoon        | 13.30 | 13.00 |
|          |                           |  |                    |              |                 |        |        | Monsoon            | 5.00  | 3.50  |
|          |                           |  |                    |              |                 |        |        | Post monsoon       | 7.25  |       |
|          |                           | Roadside, 18°49'59" N,<br>79°29'16"E                           | Rukum Ramaiah      |              |                 |        |        | Winter             | 2.08  | 2.96  |
|          |                           |  |                    |              |                 |        |        | Pre monsoon        | 2.17  | 3.09  |



| Well No. | Name of the Village | Location   | Owner's name         | Type of well | Total depth (m) | MP (m) | Dia(m) | Depth to water (m) |       |       |
|----------|---------------------|--|----------------------|--------------|-----------------|--------|--------|--------------------|-------|-------|
|          |                     |  |                      |              |                 |        |        |                    | 2023  | 2024  |
| 8*       | Tallapalli          |  |                      | DW           | 9.10            | 3.00   | 3.00   | Monsoon            | 2.03  | 2.60* |
|          |                     |  |                      |              |                 |        |        | Post monsoon       | 2.05  |       |
| 9        | Tallapalli          | Towards OC, 18°50'3.60"N, 79°29'34.41"E              | B.Rajaiah            | DW           | 10.50           | 1.20   | 1.20   | Winter             | 5.97  | 6.80  |
|          |                     |  |                      |              |                 |        |        | Pre monsoon        | 9.97  | 7.15  |
|          |                     |  |                      |              |                 |        |        | Monsoon            | 4.40  | 2.89  |
|          |                     |  |                      |              |                 |        |        | Post monsoon       | 6.15  |       |
| 10       | Singapuram          | Opp.Panchayatoffice, 18°49'26.43" N, 79°30'11.09"E   | Nammala Srinivasu    | DW           | 7.40            | 3.20   | 3.20   | Winter             | 3.18  | AB    |
|          |                     |  |                      |              |                 |        |        | Pre monsoon        | 4.17  | AB    |
|          |                     |  |                      |              |                 |        |        | Monsoon            | 1.83  | AB    |
|          |                     |  |                      |              |                 |        |        | Post monsoon       | 2.54  |       |
| 12       | Ramaraopet          | Nearbridge, 18°49'17.80" N, 79°30'48.89"E            | GuntaChadraiah       | DW           | 7.00            | 1.30   | 1.30   | Winter             | 5.22  | 4.85  |
|          |                     |  |                      |              |                 |        |        | Pre monsoon        | 5.67  | 5.60  |
|          |                     |  |                      |              |                 |        |        | Monsoon            | 1.08  | 1.00  |
|          |                     |  |                      |              |                 |        |        | Post monsoon       | 3.53  |       |
| 14       | Indaram             | Opp.Essar petrol bunk, 18°49'13.91" N, 79°31'39.44"E | Adla Bakkaiah        | DW           | 11.50           | 3x4    | 3X4    | Winter             | 6.17  | 5.60  |
|          |                     |  |                      |              |                 |        |        | Pre monsoon        | 3.60  | 6.53  |
|          |                     |  |                      |              |                 |        |        | Monsoon            | 3.44  | 2.00  |
|          |                     |  |                      |              |                 |        |        | Post monsoon       | 3.46  |       |
| 18       | Tekumatla           | Alongtheroad, 18°48'48.52" N, 79°32'37.20"E          | Ricemill (Kamalakar) | DW           | 11.50           | 1.60   | 1.60   | Winter             | 9.74  | 8.50  |
|          |                     |  |                      |              |                 |        |        | Pre monsoon        | 11.37 | 11.40 |
|          |                     |  |                      |              |                 |        |        | Monsoon            | 7.68  | 7.07  |
|          |                     |  |                      |              |                 |        |        | Post monsoon       | 8.21  |       |
| 19       | Tekumatla           | Along the road, 18°48'40.20" N, 79°32'50.84"E        | V. Ramireddy         | DW           | 11.00           | 1.00   | 1.00   | Winter             | 3.88  | 4.00  |
|          |                     |  |                      |              |                 |        |        | Pre monsoon        | 5.07  | 4.70  |
|          |                     |  |                      |              |                 |        |        | Monsoon            | 3.10  | 2.10  |
|          |                     |  |                      |              |                 |        |        | Post monsoon       | 3.19  |       |
| 20       | Indaram             | OnthewaytoTekumatla, 18°49'11.71" N, 79°31'59.03"E   | Govt.Well            | DW           | 9.30            | 2.00   | 2.00   | Winter             | 4.86  | 4.26  |
|          |                     |  |                      |              |                 |        |        | Pre monsoon        | 7.37  | 7.30  |
|          |                     |  |                      |              |                 |        |        | monsoon            | 3.73  | 3.00  |
|          |                     |  |                      |              |                 |        |        | Post monsoon       | 4.10  |       |

| Well No. | Name of the Village | Location  | Owner's name           | Type of well | Total depth (m) | MP (m) | Dia(m) | Depth to water (m) |      |       |
|----------|---------------------|---|------------------------|--------------|-----------------|--------|--------|--------------------|------|-------|
|          |                     |   |                        |              |                 |        |        |                    | 2023 | 2024  |
| 21       | Indaram             | Side of HP petrol bunk,<br>18°49'39.46" N,<br>79°31'39.96"E | M.Uppalaiah            | DW           | 8.00            | 1.20   | 1.20   | Winter             | 6.33 | 6.19  |
|          |                     |   |                        |              |                 |        |        | Pre monsoon        | 6.40 | 6.45  |
|          |                     |   |                        |              |                 |        |        | Monsoon            | 2.01 | 2.30  |
|          |                     |   |                        |              |                 |        |        | Post monsoon       | 2.81 |       |
| 22*      | Rasulpalli          | Near bus stop,<br>18°50'33.40" N,<br>79°33'8.13"E           | Gomati sattaiah        | DW           | 8.00            | 1.00   | 1.00   | winter             | 2.98 | 2.85  |
|          |                     |   |                        |              |                 |        |        | Pre monsoon        | 3.05 | 3.00  |
|          |                     |   |                        |              |                 |        |        | monsoon            | 1.48 | 1.22* |
|          |                     |   |                        |              |                 |        |        | Post monsoon       | 2.44 |       |
| 23       | Mudikunta           | Near Village junction,<br>18°51'43.69" N,<br>79°33'18.11"E  | G.Rajaiah              | DW           | 11.40           | 1.20   | 1.00   | Winter             | 5.08 | 6.20  |
|          |                     |   |                        |              |                 |        |        | Pre monsoon        | 5.51 | 8.20  |
|          |                     |   |                        |              |                 |        |        | Monsoon            | 2.70 | 2.00  |
|          |                     |   |                        |              |                 |        |        | Post monsoon       | 3.28 |       |
| 25       | Kankur              | SC Colony,<br>18°53'07" N,<br>79°32'44"E                    | Reguntla Mallesh       | DW           | 10.00           | 2.30   | 2.30   | Winter             | 6.82 | 2.63  |
|          |                     |   |                        |              |                 |        |        | Pre monsoon        | 2.85 | 3.00  |
|          |                     |   |                        |              |                 |        |        | Monsoon            | 2.00 | 1.75  |
|          |                     |   |                        |              |                 |        |        | Post monsoon       | 2.47 |       |
| 26       | Jaipur              | Near bus stop,<br>18°50'41.33" N,<br>79°34'43.27"E          | Behind AE off.         | DW           | 12.00           | 1.00   | 1.00   | Winter             | 2.99 | 3.45  |
|          |                     |   |                        |              |                 |        |        | Pre monsoon        | 3.80 | 3.96  |
|          |                     |   |                        |              |                 |        |        | Monsoon            | 0.88 | 0.83  |
|          |                     |   |                        |              |                 |        |        | Post monsoon       | 1.21 |       |
| 28       | Venkata Raopalli    | Opp. to Primary School,<br>18°52'5.81"N,<br>79°34'39.14"E   | --                     | Ag.W         | 14.00           | 1.80   | 1.80   | Winter             | 2.09 | 3.00  |
|          |                     |   |                        |              |                 |        |        | Pre monsoon        | 3.12 | 4.15  |
|          |                     |   |                        |              |                 |        |        | Monsoon            | 0.58 | AB    |
|          |                     |   |                        |              |                 |        |        | Post monsoon       | 2.04 |       |
| 29       | Mittapalli          | Village center,<br>18°52'30" N,<br>79°33'36"E               | Gaddam Suresh goud     | DW           | 8.00            | 1.00   | 1.00   | Winter             | 5.73 | 5.33  |
|          |                     |   |                        |              |                 |        |        | Pre monsoon        | 4.39 | 4.44  |
|          |                     |   |                        |              |                 |        |        | Monsoon            | 1.83 | 3.28  |
|          |                     |   |                        |              |                 |        |        | Post monsoon       | 4.10 |       |
| 30       | Elkanti             | Village center,   | Jalampalli Posha mallu | DW           | 10.00           | 2.40   | 2.40   | Winter             | 6.72 | 4.40  |
|          |                     |   |                        |              |                 |        |        | Pre monsoon        | 9.70 | 8.20  |

| Well No. | Name of the Village | Location   | Owner's name                                  | Type of well | Total depth (m) | MP (m) | Dia(m) | Depth to water (m) |       |       |
|----------|---------------------|--|---|--------------|-----------------|--------|--------|--------------------|-------|-------|
|          |                     |  |   |              |                 |        |        |                    | 2023  | 2024  |
|          |                     | 18°48'07"N,<br>79°34'24"E                                | (GDK10A-Maz.)                                 |              |                 |        |        | Monsoon            | 1.70  | 1.60  |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 2.73  |       |
| 31       | Ponnaram            | Opp.to TSSWR School,<br>18°55'26.88" N,<br>79°32'31.76"E | Penchal Anjanna                               | DW           | 8.00            | 1.00   | 1.00   | Winter             | 3.40  | 3.83  |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 4.67  | 4.71  |
|          |                     |  |   |              |                 |        |        | Monsoon            | 2.08  | 1.88  |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 3.11  |       |
| 32       | Gudipalli           | Along the mainroad,<br>18°54'4.14"N,<br>79°32'25.41"E    | Velpula Sampath                               | Ag.W         | 11.00           | 5.00   | 5.00   | Winter             | 6.91  | 6.98  |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 7.67  | 7.71  |
|          |                     |  |   |              |                 |        |        | Monsoon            | 3.38  | 2.48  |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 5.73  |       |
| 33       | Gangipalli          | Primaryschoolroad,<br>18°48'31.31" N,<br>79°35'4.60"E    | Opp.NaredlaMall<br>areddy<br>/PusalaRajeswari | DW           | 10.00           | 1.50   | 1.50   | Winter             | 4.63  | 7.56  |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | Dry   | 5.28  |
|          |                     |  |   |              |                 |        |        | Monsoon            | 4.75  | 2.44  |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 4.88  |       |
| 36       | Shetpalli           | Near Hanuman temple,<br>18°46'52" N,<br>79°34'26"E       | Rangu Kittaiah                                | DW           | 8.00            | 2.00   | 2.00   | Winter             | 6.87  | 3.75  |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 4.10  | 6.50  |
|          |                     |  |   |              |                 |        |        | monsoon            | 3.02  | 1.56  |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 3.21  |       |
| 37       | Jaipur              | Opp.to Post office,<br>18°50'45.19" N,<br>79°35'10.70"E  | Beeskula<br>Mallaiah                          | DW           | 10.00           | 1.50   | 1.50   | Winter             | 6.96  | 6.82  |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 7.02  | 7.72  |
|          |                     |  |   |              |                 |        |        | Monsoon            | 4.08  | 3.60  |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 4.49  |       |
| 38       | Jaipur              | Hanmanwada,<br>18°50'56.36" N,<br>79°35'5.14"E           | BhuneniRajaiah,N<br>earGram<br>panchayath     | DW           | 10.00           | 2.00   | 2.00   | Winter             | 6.86  | 7.56  |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 8.30  | 8.35  |
|          |                     |  |   |              |                 |        |        | Monsoon            | 6.19  | AB    |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 6.28  |       |
| 39       | Narwa               | Village entrance,<br>18°51'09" N,<br>79°33'49"E          | Salluri venkatesh<br>SCCL Employee            | DW           | 12.00           | 2.00   | 2.00   | Winter             | 8.81  | 8.82  |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 10.50 | 10.69 |
|          |                     |  |   |              |                 |        |        | Monsoon            | 6.08  | 4.90  |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 7.75  |       |

| Well No. | Name of the Village | Location   | Owner's name                              | Type of well | Total depth (m) | MP (m) | Dia(m) | Depth to water (m) |      |      |
|----------|---------------------|--|---|--------------|-----------------|--------|--------|--------------------|------|------|
|          |                     |  |   |              |                 |        |        |                    | 2023 | 2024 |
| 40       | Gudipalli           | OpptoSC Colony,<br>18°54'6.84"N,<br>79°32'12.90"E        | Segyam<br>rajuwell/Openland               | DW           | 10.00           | 3.00   | 3.00   | Winter             | 6.54 | 6.50 |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | dry  | 8.10 |
|          |                     |  |   |              |                 |        |        | Monsoon            | 3.23 | 2.49 |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 5.18 |      |
| 41       | VenkataRaopalli     | Villagecenter,<br>18°52'6.46"N,<br>79°34'33.74"E         | Durgam Kishtaiah                          | DW           | 12.00           | 5.00   | 5.00   | Winter             | 6.28 | 7.50 |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 7.67 | 8.00 |
|          |                     |  |   |              |                 |        |        | Monsoon            | 3.39 | 3.00 |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 4.05 |      |
| 42       | Narsingapur         | Near Hanuman temple,<br>18°47'17.08" N,<br>79°35'17.18"E | Naskur Mallaiah                           | DW           | 12.00           | 1.00   | 1.00   | Winter             | 5.39 | 6.25 |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 8.28 | 8.28 |
|          |                     |  |   |              |                 |        |        | Monsoon            | 2.74 | 1.00 |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 3.45 |      |
| 43       | Bejjala             | Village Centre,<br>18°46'11.73" N,<br>79°34'53.69"E      | ThotaBapu,<br>Adj.to<br>Grampanchayath    | DW           | 10.00           | 3.00   | 3.00   | Winter             | 4.91 | 4.30 |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 5.93 | 6.12 |
|          |                     |  |   |              |                 |        |        | Monsoon            | 2.56 | 3.00 |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 3.78 |      |
| 44       | Kistapur            | Near Hanuman temple,<br>18°44'53.49" N,<br>79°38'7.81"E  | Dhanda<br>Krishna Reddy                   | DW           | 8.00            | 1.00   | 1.00   | Winter             | 4.10 | 4.64 |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | dry  | 5.00 |
|          |                     |  |   |              |                 |        |        | Monsoon            | 3.35 | 1.00 |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 3.90 |      |
| 45       | Maddulapalli        | Village center,<br>18°47'2.53"N,<br>79°36'12.36"E        | SandhanaveniBala<br>iah/<br>SCCL Employee | DW           | 9.00            | 2.00   | 2.00   | Winter             | 5.99 | 3.74 |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 6.47 | 6.41 |
|          |                     |  |   |              |                 |        |        | Monsoon            | 0.88 | 2.00 |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 1.38 |      |
| 46       | Polampalli          | Indirama colony,<br>18°50'25.66" N,<br>79°39'8.63"E      | Dharshinala<br>Madhukar                   | DW           | 7.50            | 1.00   | 1.00   | Winter             | 4.64 | 3.54 |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | 4.80 | 5.00 |
|          |                     |  |   |              |                 |        |        | Monsoon            | 1.80 | 1.00 |
|          |                     |  |   |              |                 |        |        | Post monsoon       | 3.24 |      |
| 47       | Bhimaram            | Alongthehighway,<br>18°50'51.85" N,                      | Bandari<br>Ramaiah                        | DW           | 11.00           | 3.60   | 3.60   | Winter             | 4.18 | WD   |
|          |                     |  |   |              |                 |        |        | Pre monsoon        | WD   | WD   |
|          |                     |  |   |              |                 |        |        | Monsoon            | NA   | 1.00 |

| Well No. | Name of the Village | Location   | Owner's name                  | Type of well | Total depth (m) | MP (m) | Dia(m) | Depth to water (m) |       |       |
|----------|---------------------|--|-------------------------------|--------------|-----------------|--------|--------|--------------------|-------|-------|
|          |                     |  |                               |              |                 |        |        |                    | 2023  | 2024  |
|          |                     | 79°40'38.25"E  |                               |              |                 |        |        | Post monsoon       | WD    |       |
| 48       | Bhimaram            | Padmashaliwada,<br>18°51'10.60" N,<br>79°40'18.97"E                  | KokkulaRamulu                 | DW           | 9.00            | 1.16   | 1.15   | Winter             | 2.08  | 2.00  |
|          |                     |  |                               |              |                 |        |        | Pre monsoon        | 2.20  | 2.53  |
|          |                     |  |                               |              |                 |        |        | Monsoon            | 1.18  | 1.15  |
|          |                     |  |                               |              |                 |        |        | Post monsoon       | 1.93  |       |
| 49       | Kothagudem          | Adj.to<br>Road,18°51'47.07" N,<br>79°40'31.14"E                      | Govt well                     | Ag.W         | 5.50            | 4.00   | 4.00   | Winter             | 1.88  | 2.85  |
|          |                     |  |                               |              |                 |        |        | Pre monsoon        | 2.41  | 3.32  |
|          |                     |  |                               |              |                 |        |        | Monsoon            | 1.18  | 4.00  |
|          |                     |  |                               |              |                 |        |        | Post monsoon       | 1.99  |       |
| 50       | Kazipalli           | VillageEntrance,18°55'26.98" N,<br>79°38'44.18"E                     | KommuDevender                 | DW           | 7.00            | 2.00   | 2.00   | Winter             | 5.51  | 5.80  |
|          |                     |  |                               |              |                 |        |        | Pre monsoon        | 6.27  | 6.32  |
|          |                     |  |                               |              |                 |        |        | Monsoon            | 3.10  | 2.00  |
|          |                     |  |                               |              |                 |        |        | Post monsoon       | 4.84  |       |
| 51       | Dampur              | Gollawada,<br>18°54'45.59" N,<br>79°37'52.25"E                       | KoriviThirupathi              | DW           | 10.50           | 1.90   | 1.90   | Winter             | 4.57  | 4.30  |
|          |                     |  |                               |              |                 |        |        | Pre monsoon        | 6.47  | 4.60  |
|          |                     |  |                               |              |                 |        |        | monsoon            | 2.64  | 1.90  |
|          |                     |  |                               |              |                 |        |        | Post monsoon       | 3.89  |       |
| 52       | Reddipalli          | Villagecenter,<br>18°55'22.45" N,<br>79°37'12.10"E                   | KudenthaNelama                | DW           | 10.00           | 2.50   | 2.50   | Winter             | 3.54  | 4.41  |
|          |                     |  |                               |              |                 |        |        | Pre monsoon        | 3.97  | 4.60  |
|          |                     |  |                               |              |                 |        |        | monsoon            | 2.64  | 2.50  |
|          |                     |  |                               |              |                 |        |        | Post monsoon       | 2.08  |       |
| 53       | Dharmaram           | Villagecenter,<br>18°55'29.90" N,<br>79°36'52.94"E                   | SanthoshamSriram Reddy        | DW           | 10.00           | 2.45   | 2.45   | Winter             | 2.08  | 3.18  |
|          |                     |  |                               |              |                 |        |        | Pre monsoon        | 3.22  | 4.03  |
|          |                     |  |                               |              |                 |        |        | Monsoon            | 2.77  | 2.45  |
|          |                     |  |                               |              |                 |        |        | Post monsoon       | 1.80  |       |
| 54       | Theegalpahad        | Opp.to Bharat<br>petroleum bunk,<br>18°51'23.15" N,<br>79°29'24.72"E | Md.RahmanS/o Kaleel           | DW           | 10.00           | 2.00   | 2.00   | Winter             | 3.18  | 3.20  |
|          |                     |  |                               |              |                 |        |        | Pre monsoon        | 4.37  | 5.60  |
|          |                     |  |                               |              |                 |        |        | Monsoon            | 2.36  | 2.00  |
|          |                     |  |                               |              |                 |        |        | Post monsoon       | 3.11  |       |
| 55       | Mudikunta           | Village<br>center,18°51'42.63" N,<br>79°33'16.24"E                   | PadalaShankaraiahS/o Gattaiah | DW           | 15.00           | 2.20   | 2.20   | Winter             | 5.10  | 3.35  |
|          |                     |  |                               |              |                 |        |        | Pre monsoon        | 11.07 | 10.50 |
|          |                     |  |                               |              |                 |        |        | Monsoon            | 2.70  | 2.20  |
|          |                     |  |                               |              |                 |        |        | Post monsoon       | 3.65  |       |

| Well No. | Name of the Village | Location   | Owner's name    | Type of well | Total depth (m) | MP (m) | Dia(m) | Depth to water (m) |      |      |
|----------|---------------------|--|-----------------|--------------|-----------------|--------|--------|--------------------|------|------|
|          |                     |  |                 |              |                 |        |        |                    | 2023 | 2024 |
| 56       | Mancherial          | Opp.Sunnambattiwada,<br>18°51'47.99" N,<br>79°27'25.30"E | PesaraRayalingu | DW           | 15.00           | 2.20   | 2.20   | Winter             | 8.91 | 8.45 |
|          |                     |  |                 |              |                 |        |        | Pre monsoon        | 8.45 | 8.60 |
|          |                     |  |                 |              |                 |        |        | Monsoon            | 4.19 | 2.20 |
|          |                     |  |                 |              |                 |        |        | Post monsoon       | 6.80 |      |

**Note: MP: Measuring point ,WD: Well Damaged.**  
**Well No.:4,11,13,15,16,17,24,27,34&35 were Abandoned.**

#### ATTITUDE OF PIEZOMETRIC SURFACE AROUND SRIRAMPUR OC-II EXPANSION PROJECT

| Piezometric well no. | Location   | Depth (m) | Dia. (m) | Measuring point (m) | Depth to water (m) |                  |              |
|----------------------|--|-----------|----------|---------------------|--------------------|------------------|--------------|
|                      |  |           |          |                     | Winter 2024        | Pre monsoon 2024 | Monsoon-2024 |
| SRP_OCP.I PW-5       | About 500 m south of the quarry and 150m north of Indaram Tank<br>(N18°49'35.43" – E 79°30'57.60" )                  | 208       | 0.10     | 0.30                | 2.74               | 4.53             | 1.20         |
| SRP_OCP.II PW-7      | Near Singapur village<br>(N18°49'46.47" – E 79°30'25.52" )   | 50        | 0.10     | 0.20                | AB                 | AB               | AB           |
| SRP_OCP.II PW-8      | Near Project Office sub-station. About 125m from N side of quarry surface limit.<br>(N18°51'4.12" – E 79°29'39.90" ) | 50        | 0.10     | 0.40                | 22.98              | 23.80            | 17.70        |
| SRP_OCP.II PW-10     | Road to SRP bus stand, about 300m from N side of quarry surface limit  | 50        | 0.1      | 0.50                | 15.90              | 17.07            | 17.00        |

|                  |   |    |     |     |      |      |      |
|------------------|---|----|-----|-----|------|------|------|
|                  | (N18°51'7.10" – E 79°30'11.26" )  |    |     |     |      |      |      |
| *SRP_CSIRO PW-11 | West side External dump area, Near to Thallapalli village.<br>(N18°49'54.731" – E 79°29'11.085  | 50 | 0.1 | 0.2 | NA   | NA   | AB   |
| *SRP_CSIRO PW-12 | West side External dump area. Near to Thallapalli village<br>(N18°49'50.573" - E 79°29'06.202") | 50 | 0.1 | 0.2 | 2.00 | 2.65 | NA   |
| *SRP_CSIRO PW-13 | West side External dump area. Road to Godavari river<br>(N18°49'45.286" – E 79°29'06.811")      | 50 | 0.1 | 0.2 | 3.25 | 4.22 | 2.20 |
| *SRP_CSIRO PW-14 | West side External dump area. Road to Godavari River<br>(N18°49'32.305" – E 79°28'50.154")      | 50 | 0.1 | 0.2 | 4.55 | 6.48 | 4.24 |

Note: Piezometric well No.- SRP OCP-PW\_1, 2, 3, 4 and 6,7 & 9 were abandoned.

WD: Well damaged, \*NA: Not Approachable.

**ATTITUDE OF PHREATIC SURFACE IN GODAVARI VALLEY COAL FIELD**

Area: Chennur

| Well No | Name of the Village             | Location   | Owners Name            | Type of well | Total depth (m) | MP (m) | Dia (m) | D T W (m)   |                  |              |
|---------|---------------------------------|--|------------------------|--------------|-----------------|--------|---------|-------------|------------------|--------------|
|         |                                 |  |                        |              |                 |        |         | Winter-2024 | Pre monsoon-2024 | Monsoon-2024 |
| 5       | Chennur                         | Srinagar Colony,<br>18°51'16.48" N,<br>79°46'56.91"E | Sabbani Devaiah        | DW           | 8.50            | 0.50   | 1.20    | 4.98        | 7.40             | 2.75         |
| 8       | Chennur                         | Towards Theatre road,<br>18°51'27" N,<br>79°47'18"E  | Rambai                 | DW           | 10.00           | 0.60   | 0.80    | WD          | WD               | 4.30         |
| 10      | Shivalingapur<br>(Chennurlocal) | 18°51'39.30"N,<br>79°47'31.03"E                      | Ch. Rangaiah           | DW           | 7.80            | 0.70   | 2.00    | 6.74        | 6.90             | 1.50         |
| 12      | Chennur                         | ChennurG.P.Kothagudem,<br>18°51'33"N,<br>79°47'05"E  | SunkariLingaiah        | DW           | 10.00           | G.L.   | 1.20    | 9.95        | 9.91             | 2.20         |
| 13      | Chennur                         | Jendawada,<br>18°51'37.68" N,<br>79°47'49.81"E       | Monitoring by<br>TSGWD | DW           | 10.00           | G.L.   | 1.20    | 2.44        | 3.50             | AB           |
| 14      | Chennur                         | Bokkalagudem<br>18°51'30" N,<br>79°48'03"E           | Govt well              | DW           | 11.00           | 0.50   | 3.50    | 4.32        | 6.90             | 2.00         |



|     |                            |  |                  |          |       |      |      |      |      |      |
|-----|----------------------------|--|------------------|----------|-------|------|------|------|------|------|
| 15  | Kistampet                  | Opp. ZPHS School,<br>18°50'52.81" N,<br>79°45'14.11"E        | Bera Chiranjeevi | DW       | 7.00  | 0.55 | 3.60 | 3.73 | 4.10 | 0.73 |
| 16  | Ellakkapet                 | TowardsLambadipalliroad,18°5<br>1'24.53" N,<br>79°45'45.78"E | Opp.toCheruvu    | Ag.<br>W | 10.00 | GL   | 8.00 | 3.41 | 3.57 | 2.75 |
| 17* | Shivalingapur<br>(village) | 18°52'55"N,<br>79°47'51"E                                    | MekalaGattakka   | DW       | 8.00  | 0.50 | 2.00 | 4.64 | 7.40 | 2.95 |
| 18  | Buddaram                   | Endofthevillage,<br>18°54'51.82" N,<br>79°42'50.66"E         | Kotavena odelu   | Ag.W     | 9.50  | 0.40 | 2.70 | 8.82 | 9.00 | 3.42 |
| 19  | Kotapalli                  | TowardsVemanapalli<br>18°57'20.76" N,<br>79°47'24.35"E       | Kashetti Ramaiah | DW       | 11.00 | 0.50 | 1.50 | 2.35 | 2.41 | 1.25 |

**Note:-MP: Measuring point, Observation**

**well No.: From 1 to 4,6,7,9 &11 were Abandoned**

**\*Observation wellNo.17was shifted about 300m distance towards West.**

Block / Mine : **IKOCP Area: Srirampur**

| Piezometric Well No. | Location  | Depth(m) | Dia(m) | MP (m) | Depth to water(m) |                  |              |
|----------------------|---|----------|--------|--------|-------------------|------------------|--------------|
|                      |   |          |        |        | Winter-2024       | Pre Monsoon-2024 | Monsoon-2024 |
| IKOCP-PW1            | On the way to PO office, adj. to coal transport road, Dip side of the project.3057126.41,949693.45                      | 250      | 0.10   | 1.35   | 15.00             | 16.56            | 14.00        |
| IKOCP-PW2            | Near Indaram village, On the way to PO office adj. to coal transport road, Dip side of the project.3056296.11,950728.54 | 250      | 0.10   | 1.35   | 28.14             | 30.16            | 25.00        |

Block / Mine : **CHENNUR SAND MINE LEASE**

| Piezometric Well No. | Location   | TD(m) | Dia(m) | MP (m) | Monsoon-2024 |
|----------------------|--|-------|--------|--------|--------------|
|                      |  |       |        |        | DTW(m)       |
| PW-2                 | First well from upstream side of Godavari river (SW edge of the sand lease, Opp to Palgula village)18 <sup>0</sup> 50'34.9"N,79 <sup>0</sup> 49'21.7"E | 30    | 0.10   | 0.30   | <b>AB</b>    |
| PW-4                 | Third well from upstream side 18 <sup>0</sup> 51'12.8"N,79 <sup>0</sup> 49'16.5"E  | 30    | 0.10   | 0.30   | <b>3.10</b>  |

|                    |   |      |      |      |             |
|--------------------|---|------|------|------|-------------|
| <b>PW-5</b>        | Fourth well from upstream and adjacent to the road connecting the sand reach 18°51'31.7"N, 79°49'20.7"E | 30   | 0.10 | 0.30 | <b>7.80</b> |
| <b>Filter well</b> |   |      |      |      |             |
| <b>PW-2</b>        | Between PW-3 and PW-4<br>18°50'59.3"N, 79°49'17.4"E   | 9.75 | 0.10 | 0.40 | <b>3.50</b> |

Note: TD: Total depth, MP: Measuring point, WD: Well damaged and AB: Abandoned.

Piezometric well No: Filter well PW-1 was abandoned and Piezometric well No: PW-1,2,3,6&7 are abandoned due to heavy flood in River Godavari.





❖ Location of the water Quality monitoring Station : Area Workshop Effluent (ETP Outlet)

| Sl. No.            | Station name  | Date of sampling | Concentration in mg/Liter (Except pH) |                |                 |                |                |               |             |
|--------------------|---|------------------|---------------------------------------|----------------|-----------------|----------------|----------------|---------------|-------------|
|                    |   |                  | pH (at 250 C)                         | TSS At 1050 C  | TDS (At 1800 C) | COD            | BOD            | Oil & Grease  |             |
|                    | <b>MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines</b> |                  | 5.5-9.0                               | 100            | --              | 250            | 30             | 10            |             |
| 1.                 | Area Workshop Effluent (ETP Outlet)                                     | 15.04.2024       | 7.9                                   | 66             | 1145            | 40             | 9.5            | 2.2           |             |
|                    |   | 30.04.2024       | 8.1                                   | 72             | 105             | 52             | 13.6           | 1.8           |             |
|                    |   | 15.05.2024       | 7.7                                   | 59             | 1237            | 63             | 15.4           | 2             |             |
|                    |   | 30.05.2024       | 8.2                                   | 63             | 1172            | 55             | 11.2           | 2             |             |
|                    |   | 14.06.2024       | 7.8                                   | 55             | 1019            | 60             | 14.2           | 3             |             |
|                    |   | 27.06.2024       | 7.6                                   | 61             | 1233            | 67             | 15.3           | 3.2           |             |
|                    |   | 15.07.2024       | 7.3                                   | 47             | 1368            | 51             | 12.6           | 2.8           |             |
|                    |   | 30.07.2024       | 7.7                                   | 72             | 1179            | 56             | 11.2           | 3             |             |
|                    |   | 14.08.2024       | 7.8                                   | 37             | 1025            | 47             | 10.5           | 1.8           |             |
|                    |   | 31.08.2024       | 8.1                                   | 61             | 1148            | 55             | 11.2           | 2             |             |
|                    |   | 13.09.2024       | 7.6                                   | 61             | 1362            | 48             | 12.2           | 2.6           |             |
|                    |   | 30.09.2024       | 7.2                                   | 67             | 1085            | 59             | 14.4           | 2.2           |             |
|                    |   | <b>Minimum</b>   |                                       | <b>7.20</b>    | <b>37.00</b>    | <b>105.00</b>  | <b>40.00</b>   | <b>9.50</b>   | <b>1.80</b> |
|                    |   | <b>Maximum</b>   |                                       | <b>8.20</b>    | <b>72.00</b>    | <b>1368.00</b> | <b>67.00</b>   | <b>15.40</b>  | <b>3.20</b> |
| <b>Average</b>     |   | <b>7.75</b>      | <b>60.08</b>                          | <b>1089.83</b> | <b>54.42</b>    | <b>12.61</b>   | <b>2.38</b>    |               |             |
| <b>98% tile</b>    |   | <b>8.18</b>      | <b>72.00</b>                          | <b>1366.68</b> | <b>66.12</b>    | <b>15.38</b>   | <b>3.16</b>    |               |             |
| <b>Test Method</b> |   |                  | <b>4500H+B</b>                        | <b>2540-D</b>  | <b>2540-C</b>   | <b>5220-D</b>  | <b>IS 3025</b> | <b>2540-C</b> |             |

**POST PROJECT WATER QUALITY (EFFLUENTS) MONITORING DATA FOR THE PERIOD FROM APRIL, 2024 TO SEPTEMBER, 2024 FOR IK OCP .**

❖ Location of the water Quality monitoring Station: IK OC Mine discharge

| Sl. No. | Station name  | Date of sampling | Concentration in mg/Liter (Except pH) |               |                 |               |                |               |
|---------|---|------------------|---------------------------------------|---------------|-----------------|---------------|----------------|---------------|
|         |   |                  | pH (at 25° C)                         | TSS At 105° C | TDS (At 180° C) | COD           | BOD            | Oil & Grease  |
|         | <b>MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines</b> |                  | 5.5-9.0                               | 100           | --              | 250           | 30             | 10            |
| 1.      | IK OCP Mine discharge   | 15.04.2024       | 7.6                                   | 24            | 910             | 20            | 2.2            | <1            |
|         |   | 30.04.2024       | 7.1                                   | 19            | 714             | 28            | 3.2            | <1            |
|         |   | 15.05.2024       | 7.5                                   | 27            | 892             | 15            | 3.2            | <1            |
|         |   | 30.05.2024       | 7.9                                   | 34            | 796             | 27            | 4.1            | <1            |
|         |   | 14.06.2024       | 7.6                                   | 15            | 854             | 24            | 4.8            | <1            |
|         |   | 27.06.2024       | 7.1                                   | 28            | 942             | 31            | 6.1            | 1             |
|         |   | 15.07.2024       | 7.5                                   | 19            | 711             | 19            | 3.8            | <1            |
|         |   | 30.07.2024       | 8.1                                   | 24            | 897             | 28            | 5.4            | <1            |
|         |   | 14.08.2024       | 7.6                                   | 27            | 792             | 43            | 4.4            | 1             |
|         |   | 31.08.2024       | 7.8                                   | 21            | 830             | 23            | 3.8            | <1            |
|         |   | 13.09.2024       | 7.6                                   | 21            | 915             | 16            | 2.4            | <1            |
|         |   | 30.09.2024       | 7.8                                   | 41            | 749             | 27            | 3.6            | <1            |
|         | <b>Minimum</b>  |                  | <b>7.10</b>                           | <b>15.00</b>  | <b>711.00</b>   | <b>15.00</b>  | <b>2.20</b>    | <b>1.00</b>   |
|         | <b>Maximum</b>  |                  | <b>8.10</b>                           | <b>41.00</b>  | <b>942.00</b>   | <b>43.00</b>  | <b>6.10</b>    | <b>1.00</b>   |
|         | <b>Average</b>  |                  | <b>7.60</b>                           | <b>25.00</b>  | <b>833.50</b>   | <b>25.08</b>  | <b>3.92</b>    | <b>1.00</b>   |
|         | <b>98% tile</b>   |                  | <b>8.06</b>                           | <b>39.46</b>  | <b>936.06</b>   | <b>40.36</b>  | <b>5.95</b>    | <b>1.00</b>   |
|         | <b>Test Method</b>  |                  | <b>4500H<sup>+</sup>B</b>             | <b>2540-D</b> | <b>2540-C</b>   | <b>5220-D</b> | <b>IS 3025</b> | <b>2540-C</b> |

❖ Location of the water Quality monitoring Station : IK OCP Dump surface run off

| Sl. No. | Station name  | Date of sampling | Concentration in mg/Liter (Except pH) |               |                 |               |                |               |
|---------|---|------------------|---------------------------------------|---------------|-----------------|---------------|----------------|---------------|
|         |   |                  | pH (at 25° C)                         | TSS At 105° C | TDS (At 180° C) | COD           | BOD            | Oil & Grease  |
|         | <b>MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines</b> |                  | 5.5-9.0                               | 100           | --              | 250           | 30             | 10            |
| 2.      | IK OCP Dump surface run off   | 15.04.2024       | 7.8                                   | 33            | 687             | 32            | 3.2            | <1            |
|         |   | 30.04.2024       | 7.4                                   | 18            | 592             | 24            | 3.2            | <1            |
|         |   | 15.05.2024       | 7.2                                   | 25            | 786             | 27            | 2.8            | <1            |
|         |   | 30.05.2024       | 7.6                                   | 17            | 927             | 31            | 3.2            | <1            |
|         |   | 14.06.2024       | 7.9                                   | 29            | 874             | 20            | 2.2            | 1             |
|         |   | 27.06.2024       | 7.5                                   | 34            | 963             | 35            | 3.5            | <1            |
|         |   | 15.07.2024       | 7.5                                   | 20            | 812             | 27            | 3.1            | <1            |
|         |   | 30.07.2024       | 7.2                                   | 16            | 695             | 32            | 3.2            | <1            |
|         |   | 14.08.2024       | 7.5                                   | 24            | 863             | 23            | 2.4            | <1            |
|         |   | 31.08.2024       | 7.3                                   | 16            | 978             | 15            | 3.6            | <1            |
|         |   | 13.09.2024       | 7.5                                   | 16            | 745             | 28            | 2.8            | <1            |
|         |   | 30.09.2024       | 8.1                                   | 28            | 819             | 35            | 4.1            | <1            |
|         | <b>Minimum</b>  |                  | <b>7.20</b>                           | <b>16.00</b>  | <b>592.00</b>   | <b>15.00</b>  | <b>2.20</b>    | <b>1.00</b>   |
|         | <b>Maximum</b>  |                  | <b>8.10</b>                           | <b>34.00</b>  | <b>978.00</b>   | <b>35.00</b>  | <b>4.10</b>    | <b>1.00</b>   |
|         | <b>Average</b>  |                  | <b>7.54</b>                           | <b>23.00</b>  | <b>811.75</b>   | <b>27.42</b>  | <b>3.11</b>    | <b>1.00</b>   |
|         | <b>98% tile</b>   |                  | <b>8.06</b>                           | <b>33.78</b>  | <b>974.70</b>   | <b>35.00</b>  | <b>3.99</b>    | <b>1.00</b>   |
|         | <b>Test Method</b>  |                  | <b>4500H<sup>+</sup>B</b>             | <b>2540-D</b> | <b>2540-C</b>   | <b>5220-D</b> | <b>IS 3025</b> | <b>2540-C</b> |

❖ Location of the water Quality monitoring Station : IK OCP Base workshop

| Sl. No. | Station name  | Date of sampling | Concentration in mg/Liter (Except pH) |               |                 |               |                |               |
|---------|---|------------------|---------------------------------------|---------------|-----------------|---------------|----------------|---------------|
|         |   |                  | pH (at 25° C)                         | TSS At 105° C | TDS (At 180° C) | COD           | BOD            | Oil & Grease  |
|         | <b>MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines</b> |                  | <b>5.5-9.0</b>                        | <b>100</b>    | <b>--</b>       | <b>250</b>    | <b>30</b>      | <b>10</b>     |
| 3.      | IK OCP Base workshop  | 15.04.2024       | 7.3                                   | 71            | 1096            | 72            | 17.4           | 2             |
|         |   | 30.04.2024       | 7.6                                   | 59            | 1241            | 64            | 16.4           | 1.6           |
|         |   | 15.05.2024       | 7.9                                   | 68            | 993             | 55            | 11.2           | 2.2           |
|         |   | 30.05.2024       | 7.2                                   | 54            | 1022            | 47            | 12.4           | 2.2           |
|         |   | 14.06.2024       | 7.7                                   | 49            | 1163            | 52            | 13.2           | 2.6           |
|         |   | 27.06.2024       | 7.7                                   | 61            | 1243            | 63            | 14.5           | 3             |
|         |   | 15.07.2024       | 7.8                                   | 53            | 1368            | 55            | 13.5           | 3.8           |
|         |   | 30.07.2024       | 7.9                                   | 72            | 1192            | 68            | 14.8           | 3.6           |
|         |   | 14.08.2024       | 7.3                                   | 81            | 1364            | 51            | 13.1           | 3             |
|         |   | 31.08.2024       | 7.5                                   | 75            | 1019            | 67            | 14.2           | 2.8           |
|         |   | 13.09.2024       | 7.2                                   | 75            | 1163            | 72            | 15.1           | 1.2           |
|         |   | 30.09.2024       | 7.6                                   | 89            | 1311            | 67            | 16.4           | 2.4           |
|         | <b>Minimum</b>  |                  | <b>7.20</b>                           | <b>49.00</b>  | <b>993.00</b>   | <b>47.00</b>  | <b>11.20</b>   | <b>1.20</b>   |
|         | <b>Maximum</b>  |                  | <b>7.90</b>                           | <b>89.00</b>  | <b>1368.00</b>  | <b>72.00</b>  | <b>17.40</b>   | <b>3.80</b>   |
|         | <b>Average</b>  |                  | <b>7.56</b>                           | <b>67.25</b>  | <b>1181.25</b>  | <b>61.08</b>  | <b>14.35</b>   | <b>2.53</b>   |
|         | <b>98% tile</b>   |                  | <b>7.90</b>                           | <b>87.24</b>  | <b>1367.12</b>  | <b>72.00</b>  | <b>17.18</b>   | <b>3.76</b>   |
|         | <b>Test Method</b>  |                  | <b>4500H<sup>+</sup>B</b>             | <b>2540-D</b> | <b>2540-C</b>   | <b>5220-D</b> | <b>IS 3025</b> | <b>2540-C</b> |



## Annexure-VI.

## Analysis Report of monthly summary of 3.0MLD Sewage treatment Plant – Naspur Colony from April, 2024 to September, 2024.

All Values in Mg/Liter (Except pH)

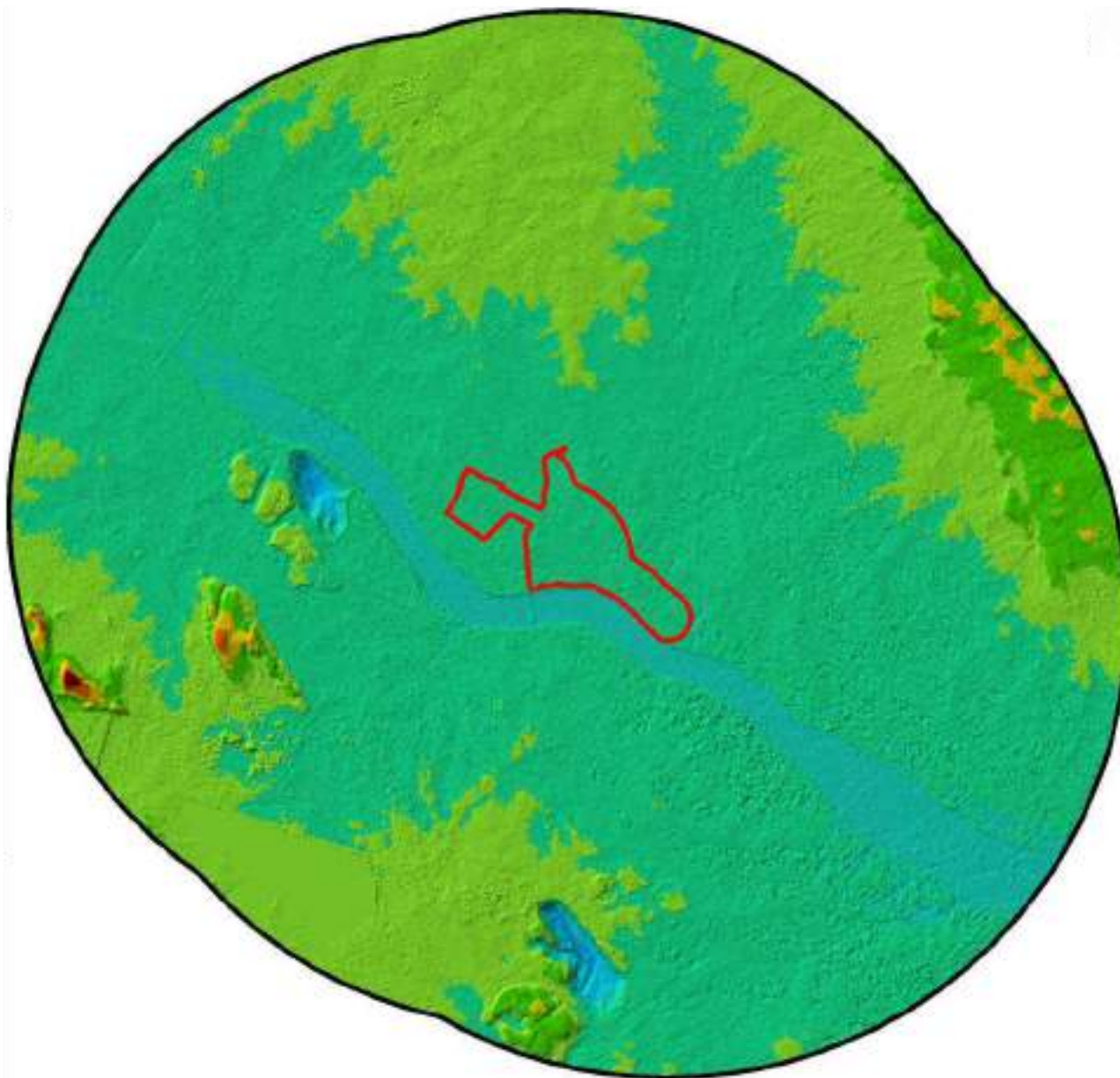
| Month       | Description | Characteristics of Raw Sewage |       |       |       | Characteristics of Aeration Water |     |        |       |        | Characteristics of Treated Water |     |      |      |      |
|-------------|-------------|-------------------------------|-------|-------|-------|-----------------------------------|-----|--------|-------|--------|----------------------------------|-----|------|------|------|
|             |             | pH                            | TSS   | COD   | BOD   | pH                                | DO  | MLSS   | MLVSS | TDS    | pH                               | DO  | TSS  | COD  | BOD  |
| April-2024  | Min         | 7.7                           | 205   | 205   | 205   | 7.3                               | 1.7 | 3200   | 382   | 1900   | 6.8                              | 1.2 | 12   | 12   | 28   |
|             | Max         | 7.9                           | 220   | 220   | 220   | 7.6                               | 1.9 | 3980   | 400   | 2410   | 7.1                              | 1.6 | 16   | 16   | 32   |
|             | Aver        | 7.8                           | 209.7 | 211.7 | 210.0 | 7.4                               | 1.8 | 3585.7 | 391.0 | 2201.3 | 7.0                              | 1.4 | 14.5 | 13.3 | 30.4 |
| May-2024    | Min         | 7.7                           | 205   | 205   | 205   | 7.3                               | 1.7 | 2900   | 382   | 1820   | 6.8                              | 1.2 | 12   | 12   | 28   |
|             | Max         | 7.9                           | 220   | 220   | 220   | 7.7                               | 1.9 | 3880   | 400   | 2390   | 7.1                              | 1.6 | 16   | 16   | 32   |
|             | Aver        | 7.8                           | 213.7 | 212.8 | 209.2 | 7.5                               | 1.8 | 3361.1 | 391.0 | 2142.9 | 6.9                              | 1.4 | 14.4 | 14.0 | 30.3 |
| June-2024   | Min         | 7.7                           | 200   | 205   | 205   | 7.3                               | 1.6 | 3100   | 382   | 1840   | 6.8                              | 1.2 | 12   | 12   | 28   |
|             | Max         | 7.9                           | 210   | 220   | 210   | 7.6                               | 1.9 | 3890   | 398   | 2480   | 7.1                              | 1.4 | 16   | 16   | 32   |
|             | Aver        | 7.8                           | 207.3 | 211.7 | 207.5 | 7.4                               | 1.8 | 3506.7 | 390.6 | 2218.8 | 7.0                              | 1.3 | 13.7 | 14.3 | 30.5 |
| July-2024   | Min         | 7.7                           | 205.0 | 205.0 | 205.0 | 7.2                               | 1.7 | 2460.0 | 381.0 | 1700.0 | 6.8                              | 1.2 | 12.0 | 14.0 | 28.0 |
|             | Max         | 7.9                           | 220.0 | 250.0 | 215.0 | 7.6                               | 1.9 | 3695.0 | 398.0 | 2390.0 | 7.1                              | 1.4 | 16.0 | 16.0 | 32.0 |
|             | Aver        | 7.8                           | 208.4 | 213.0 | 207.5 | 7.3                               | 1.8 | 3223.7 | 390.1 | 2113.8 | 6.9                              | 1.3 | 14.3 | 14.7 | 30.5 |
| August-2024 | Min         | 7.7                           | 205   | 205   | 205   | 7.3                               | 1.7 | 2800   | 384   | 1780   | 6.8                              | 1.2 | 12   | 14   | 28   |
|             | Max         | 7.9                           | 215   | 220   | 210   | 7.6                               | 1.9 | 4040   | 398   | 2490   | 7.1                              | 1.6 | 16   | 16   | 32   |
|             | Aver        | 7.9                           | 208.3 | 210.3 | 207.9 | 7.4                               | 1.8 | 3339.8 | 391.0 | 2105.7 | 6.9                              | 1.4 | 14.8 | 14.9 | 30.5 |
| Sep-2024    | Min         | 7.7                           | 205   | 205   | 205   | 7.3                               | 1.7 | 1740   | 384   | 1730   | 6.8                              | 1.2 | 14   | 14   | 28   |
|             | Max         | 7.9                           | 210   | 220   | 210   | 7.6                               | 1.9 | 4020   | 398   | 2495   | 7.1                              | 1.6 | 16   | 16   | 32   |
|             | Aver        | 7.8                           | 208.3 | 209.0 | 207.5 | 7.4                               | 1.8 | 2922.7 | 392.1 | 2185.6 | 7.0                              | 1.4 | 15.1 | 14.7 | 30.0 |
|             | standard    | -                             | -     | -     | -     | -                                 | -   | -      | -     | --     | 5.5-9.0                          | --  | 100  | 30   | 250  |



# Report on Land Use Land Cover Study of Core & Buffer Zone of Indaram Khani Opencast Coal Mine Project

Project Location: Srirampur, Mancherial District, Telangana.

Year of Study: 2022



PROJECT PROPONENT  
THE SINGARENI COLLIERIES COMPANY LIMITED  
(A Government Company)  
Department of Environment and Project Planning.  
(ISO-9001-2015 certified)



ENVIRONMENT CONSULTANT  
M/s Greencindia Consulting Private Limited  
QCI-NABET certificate no: NABET/EIA/2023/SA0155

**THE LAND USE / LAND COVER STUDY REPORT FOR**

**INDARAM KHANI OPENCAST COAL MINE PROJECT  
LOCATED AT SRIRAMPUR, MANCHERIAL DISTRICT, TELANGANA STATE. PROJECT PROPONENT: M/S  
SINGARENI COLLIERIES COMPANY LTD.**

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# 1 INTRODUCTION

## 1.1 PURPOSE OF THE REPORT

The mining industry in India is a significant economic activity which contributes significantly to the economy of India. The mining and quarrying sector contributes around 2.5% of the Gross Domestic Product (GDP). The mining sector under the index of Industrial Production (IIP) witnessed a growth of 1.7 percent Year on Year basis. Indian economy is on the aspirational path of becoming a \$5 trillion GDP economy by 2024-25. Mining Industry is going to have a sizable contribution to the envisaged GDP and wealth creation (Desk of DG & CIM 2020).

Unless mining of the minerals is properly regulated, they can show adverse consequences on environment and socio-economic components of the society. It also disturbs the Air, soil, water and ecological parameters. On the other hand, it develops the economic standard of the region. Issues of Technology for zero waste or low waste mining, relief & rehabilitation, mine closure activity need to implemented strictly and monitored otherwise leads to land degradation and other adverse consequences on environment.

The study of land use and land cover changes by remote sensing and GIS tools give valuable and accurate information for the study area. This kind of study beneficial for regulator and mine operator and developer for making sustainable planning of mine operation. In order to mitigate the impact of mineral mining on the environment, a scientific assessment is very important for framing sustainable development strategies.

The ISRO/DOS have built the framework for indigenous remote sensing system specially design for Indian sub-continent. The evolution of Indian remote sensing program over the past two decades, providing a variety of remote sensing- based solutions for national development, is an apt and timely national initiative. Some of the important projects of ISRO/DOS under the theme of LULC are given in the Table – 1-1.

**Table 1-1: Major Land Use Land Cover Mapping Projects carried out by ISRO / DOS**

| S. No. | PROJECT NAME                 | YEAR   |
|--------|------------------------------|--|
| 1      | Nationwide Wasteland Mapping | 1985, 1986 – 1999, 2003, 2005-06, 2008-09, 2015-16 |

Source: Desk of DG & CIM 2020 (<https://www.dgms.gov.in/UserView/index?mid=1287>).

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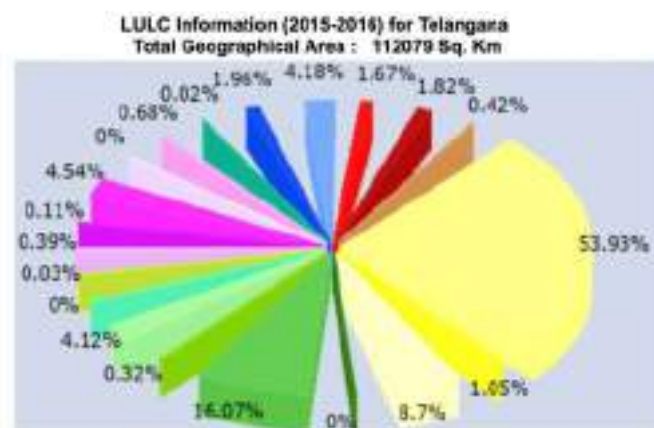
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| S. No. | PROJECT NAME   | YEAR                                 |
|--------|--|--------------------------------------|
| 2      | Land Use Land Cover Mapping for Planning based on Agro-Climatic Zone   | 1989 – 1990                          |
| 3      | Nationwide Wetland Mapping   | 1995                                 |
| 4      | Urban Sprawl of Million Plus Cities                                    | 1988 – 1990                          |
| 5      | Land Use Land Cover Database for Zoning Atlas for siting of Industries | 1999                                 |
| 6      | Urban Information Systems (BMR; NCR; MMDA; AUDA, HUDA, NCRPB etc.      | From 1990 onwards at different times |
| 7      | Land Use Land Cover Mapping using AWiFS data                           | 2004 onwards at one year of interval |
| 8      | Integrated Mission for Sustainable Development                         | 1992-1998                            |
| 9      | Integrated Resource Information for Desert Areas                       | 2002                                 |
| 10     | Land Use/Land Cover Mapping on 1: 50,000 scale                         | 2005-06, 2011-12                     |

A project on National Land Use/ Land Cover Mapping on 1:50,000 scale (Second Cycle) using multi-temporal Resourcesat-2 terrain corrected Linear Imaging Self Scanning Sensor (LISS) -III data was taken up by DOS, under Natural Resources Census (NRC) Project of National Natural Resources Repository (NRR) Program. The above project final outcome of the land use and land cover study for Telangana state are presented in figure 1-1. For Telangana state major land use type is Agriculture, crop land and Fallow land are 63.68 % of the total geographic area of the state. Second highest land cover type is Forest cover and plantation, which is approx. 20.52 % of the total geographic area of the state.



**Figure 1-1: LULC statistical information (2015-2016) for Telangana state.**

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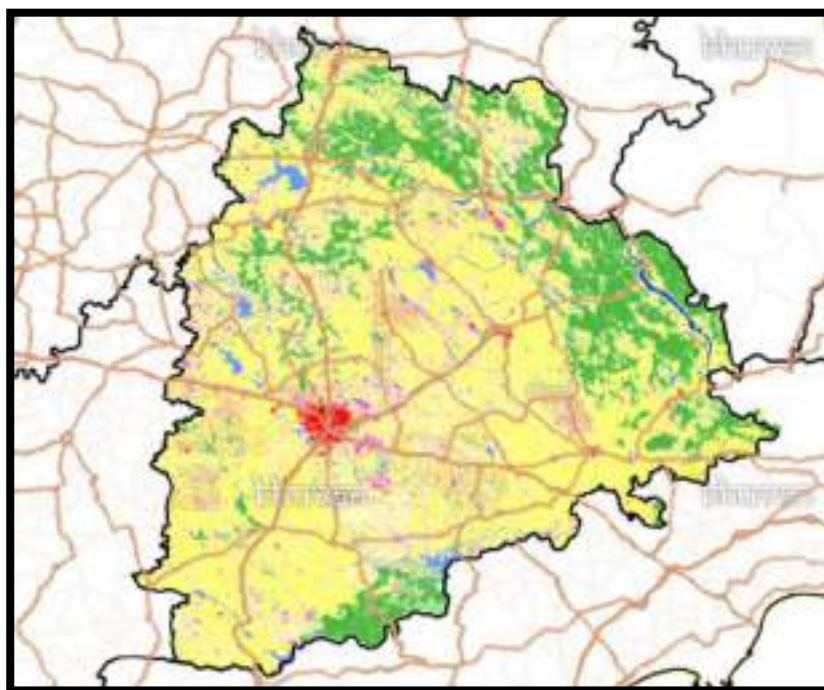
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Date Source: National Remote Sensing Centre, Hyderabad.  
<https://bhuvan-app1.nrsc.gov.in/thematic/thematic/index.php>

**Table 1-2: LULC class with respective area for Telangana State**

| LULC Class  | Area (Sq.Km) | LULC Class   | Area (Sq.Km) |
|---|--------------|--|--------------|
| Builtup,Urban                                       | 1866.44      | Builtup,Rural  | 2035.82      |
| Builtup,Mining                                      | 466.35       | Agriculture,Crop land                                  | 60442.02     |
| Agriculture,Plantation                              | 1176.89      | Agriculture,Fallow                                     | 9748.65      |
| Forest,Evergreen/ Semi evergreen                    | 0.13         | Forest,Deciduous                                       | 18014.42     |
| Forest,Forest Plantation                            | 354.02       | Forest,Scrub Forest                                    | 4616.13      |
| Forest,Swamp/ Mangroves                             | 0.03         | Grass/Grazing  | 32.48        |
| Barren/unculturable/ Wastelands, Salt Affected land | 434.11       | Barren/unculturable/ Wastelands, Gullied/Ravinous Land | 128.8        |
| Barren/unculturable/ Wastelands, Scrub land         | 5067.01      | Barren/unculturable/ Wastelands, Sandy area            | 4.99         |
| Barren/unculturable/ Wastelands, Barren rocky       | 767.26       | Wetlands/Water Bodies, Inland Wetland                  | 18.97        |
| Wetlands/Water Bodies, River/Stream/canals          | 2196.58      | Wetlands/Water Bodies, Reservoir/Lakes/Ponds           | 4687.91      |

Date Source: National Remote Sensing Centre, Hyderabad.  
<https://bhuvan-app1.nrsc.gov.in/thematic/thematic/index.php>



**Figure 1-2: LULC map of Telangana state (2015-2016)**

Date Source: National Remote Sensing Centre, Hyderabad.  
<https://bhuvan-app1.nrsc.gov.in/thematic/thematic/index.php>

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M/s The Singareni Collieries Company Limited, Srirampur is holding a mining lease of Indaram Khani Opencast Coal Mine Project with EC No. J-11015/145/2007-IA-II (M) Project for an area of 846.77 Ha at Mancherial District, Srirampur, Telangana State. EPTRI is preparing Environmental Impact Assessment Study and Environment Compliance Report to maintain Environmental Clearance for coal mining in the SCCL Project area from Ministry of Environment, Forest and Climate Change (MOEFCC), Government of India.

M/s Greencindia consultant Private Limited is an Indian company providing world-class Enterprise Geographic Information System (GIS) solutions thereby helping businesses, governments and private organizations to make timely, informed and mission-critical decisions by leveraging the power of geography.

## **1.2 SCOPE OF THE STUDY**

The objective of the present study is to prepare the Essential (Thematic) Maps of Core zone (project area) & Buffer zone (10 Km. radius around periphery of the project) for coal mining projects to be provided to the Ministry of Environment & Forests as part of the EIA/EMP and Environment Compliance Report, for maintaining the Environmental Clearance (EC), as per Environmental Impact Assessment Guidance Manual.

## **1.3 LOCATION OF THE PROJECT**

The mine is covered in Jaipur Village, Indaram Tehsil, Mancherial District, Telangana State. The location of the Mining lease area falls under Survey of India Toposheet No E44H9 (56N/9) the geographical co- ordinates of the lease area as follows:

North-West Corner: 18°49'6.1896" N (Latitude), 79°30'5.202" E (Longitude)

South-East Corner: 18°46'43.266" N (Latitude), 79°33'17.4564" E (Longitude)

The 10km buffer Zone of the Indaram Khani Opencast Coal Mine Project is falling in E44H5 (56 N/5), E44H6 (56 N/6), E44H9 (56 N/9) and E44H10 (56 N/10) SOI Toposheets. The buffer zone is covered in Peddapalli and Mancherial District of Telangana State. Location Map shown in Figure 1-3.

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## 1.4 TOOLS AND RESOURCES

To meet the project requirements, M/s Greencindia consultant Private Limited has acquired the following satellite data for the study area from National Remote Sensing Centre, Hyderabad. The Resourcesat-2 imageries have been merged with the Cartosat-2E imageries for the core zone to get the high spatial and spectral information in single image. The Cartosat-2E imagery for the core zone is shown in the Figure 1-6.

**Table 1-3: Details of the satellite data used for LULC study.**

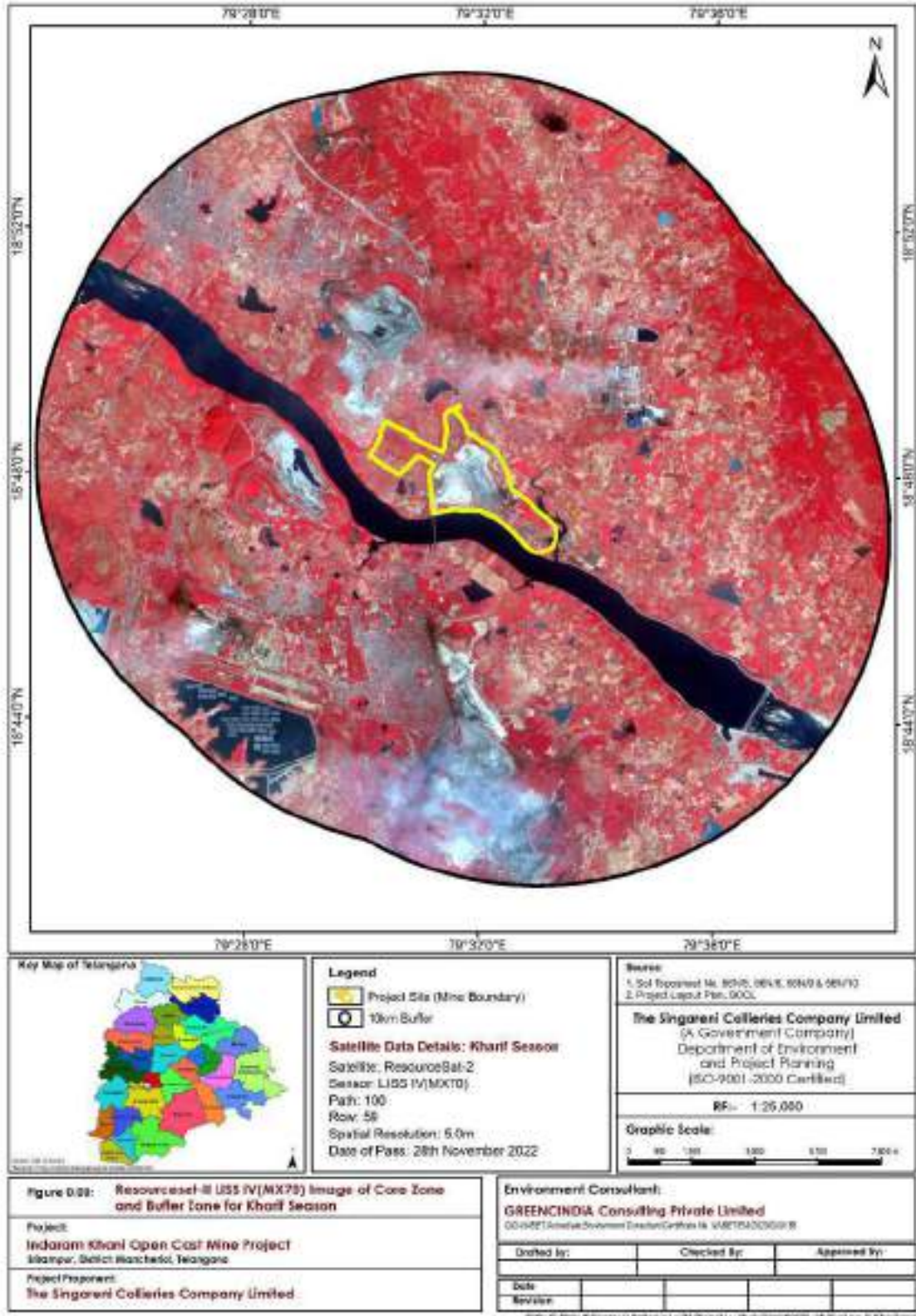
| Details Parameters of the data Source | 10 km Buffer Zone     |                       | Core Zone                         |
|---------------------------------------|-----------------------|-----------------------|-----------------------------------|
|                                       | Rabi Season           | Kharif Season         | High resolution Panchromatic Data |
| <b>Satellite:</b>                     | Resourcesat-2 LISS IV | Resourcesat-2 LISS IV | CartoSat-2E                       |
| <b>Sensor:</b>                        | LISS4(MX70)           | LISS4(MX70)           | MX (SPOT)                         |
| <b>Path:</b>                          | 100                   | 100                   | 34315                             |
| <b>Row:</b>                           | 59                    | 59                    | 4                                 |
| <b>Spatial Resolution:</b>            | 5.0m                  | 5.0m                  | 1.6 m                             |
| <b>Date of pass:</b>                  | 13th February 2022    | 28th November 2022    | 2 January 2023                    |

## 1.5 LIMITATIONS

The limitations of Remote Sensing, Image Processing, Geographical Information Systems, cartography and GPS are applicable in this study.



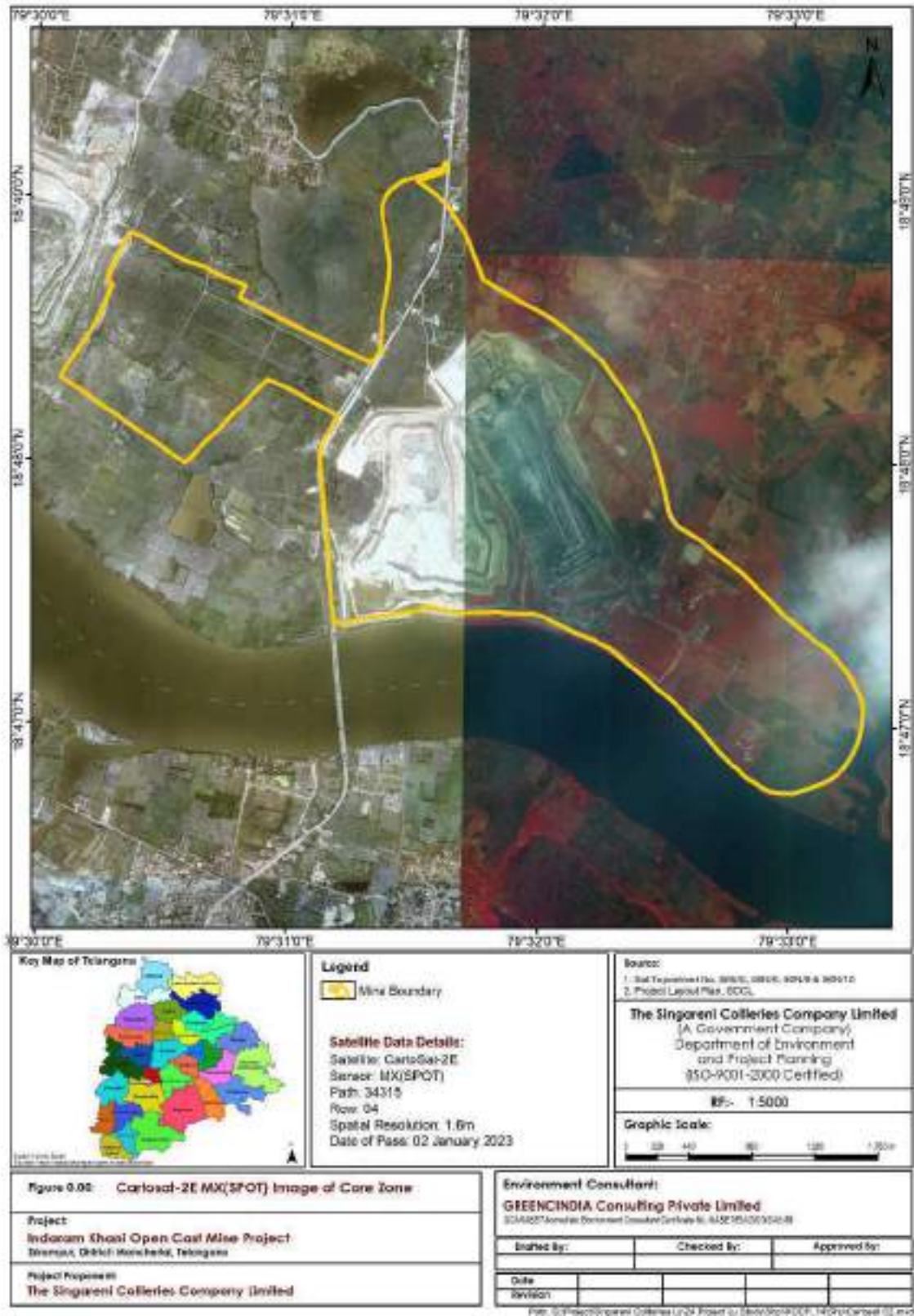
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**Figure 1-4: Resourcesat-II LISS IV (MX70) Image of Core and Buffer Zone for Kharif season.**



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**Figure 1-6: Cartosat -2E Imagery Map of The Core Zone.**

|  |   |
|--|---|
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## **2 METHODOLOGY**

### **2.1 DATA PROCESSING**

For the creation of the Land use/Land cover maps, the IRS Resourcesat 2 LISS IV Multispectral satellite imageries of the Kharif and Rabi seasons for buffer zone and Cartosat 2E MX (SPOT) and PAN (SPOT) imageries for core zone were used.

ArcGIS Desktop and ArcGIS Pro software tools have been used to carry out the digital image processing, classification and on-screen digitization. At the end, a polygon map was created, with each polygon standing for a different class. Thereafter the, the classes were matched with the appropriate attributes. Using high resolution photos from independent sources, accuracy was verified.

For the purpose of creating the land use/land cover map, both remote sensing and the visual image interpretation technique of classification were used. It is a process of recognising the characteristics that appear in photographs and conveying the knowledge gathered from these images to others for the purpose of assessing their importance.

For the study area, the remote sensing and visual interpretation method was used. It includes the following six crucial steps:

1. Selection and acquisition of data
2. Pre-Processing
3. Classification
4. Ground data collection and verification
5. Post-field Interpretation and Modification
6. Computation of area
7. Final cartographic Map preparation.

Each endeavour to map the earth's natural resources must begin with a reconnaissance of the area under consideration. In order to adopt a suitable categorization scheme and interpretation key for the final map production, the preliminary survey of the area helped in familiarising with the various classes of LULC types that are present in the field.

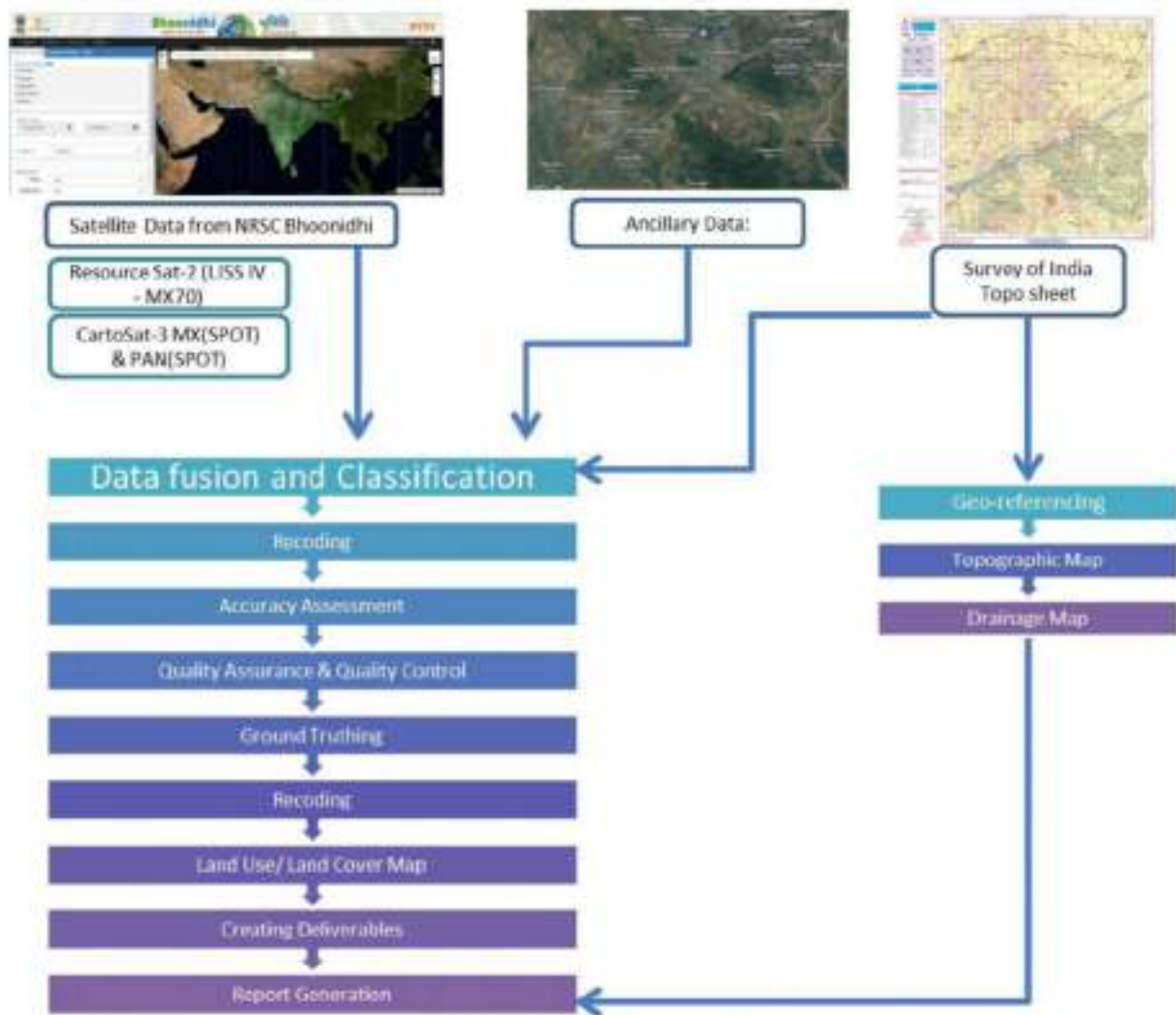


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Using the spectral properties of the classes and with reference to other sources, a final Interpretation key for the different classes was created. Table 2-1 contains the LULC classification's interpretation key.

### 2.2 FLOWCHART OF THE STUDY







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**Table 2-1: Image Interpretation techniques.**

| S.no | LULC Class                | Tone                                      | Texture | Shape              | Spectral Signature   | Description  |
|------|---------------------------|---|---------|--------------------|--|--|
| 1    | Water Bodies              | Dark Blue or Light Blue                   | Smooth  | Irregular /Regular |    | Rivers, Streams and Ponds                                  |
| 2    | Mining area               | Light Blue or Light Cyan with white spots | Smooth  | Irregular          |    | Place where Mining Operations are taken.                   |
| 3    | Industrial Establishments | Cyan or White                             | Rough   | Irregular /Regular |   | Large footed building in Urban and Rural Areas             |
| 4    | Built-up Land             | Cyan                                      | Rough   | Irregular          |  | Urban and Rural Areas                                      |
| 5    | Open Forest               | Light Red                                 | Smooth  | Irregular          |  | Tree Cover (If Forest Canopy Density is between 10-40%)    |
| 6    | Dense Forest              | Dark Red to Light Red                     | Rough   | Irregular          |  | Tree Cover (If Forest Canopy Density >40%)                 |
| 7    | Roads                     | Cyan                                      | Rough   | Linear             |  | Major and other roads used for transportation              |
| 8    | Barren Land               | Light Blue or Light Cyan                  | Smooth  | Irregular          |  | Areas are sparse, stunted and contain limited biodiversity |

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| S.no | LULC Class  | Tone   | Texture                       | Shape                           | Spectral Signature   | Description   |
|------|-------------|--|-------------------------------|---------------------------------|--|---|
| 9    | Fallow Land | Light Cyan or Whitish                              | Medium Smooth                 | Regular                         |    | Fields without any Crop surrounded by small to Medium Size Settlements    |
| 10   | Plantation  | Blackish Red to Dark Red                           | Medium Smooth / Medium Coarse | Irregular/ Regular/ Rectangular |    | Mature or Young Plants  |
| 11   | Single Crop | Pinkish or Light Green or Light Blue or Light Cyan | Medium Smooth                 | Regular                         |    | Crops/Current Fallow Lands surrounded by small to Medium Size Settlements |
| 12   | Double Crop | Dark Red to Light Red                              | Medium Smooth                 | Regular                         |  | Crops Lands surrounded by small to Medium Size Settlements                |

ArcGIS Desktop and ArcGIS Pro were used for classification and on-screen digitisation. At the end, a polygon map was created, with each polygon standing for a different class. Afterwards, the classes were matched with the appropriate attributes. During the field visit, a handheld GPS device was used to verify the ground truth. It was discovered that the satellite image's points were highly accurate. Ultimately, a color-coded classification map and area statistics for the various LULC categories were developed.

### 2.3 LAND USE / LAND COVER CLASSIFICATION FOR BUFFER ZONE

IRS Resourcesat 2 LISS IV Multispectral satellite imageries of the Kharif and Rabi seasons were used for buffer zone LULC classification. By assigning the necessary training sets, which were identified based on tone, texture, size, shape pattern, and location information, digital image processing was used to delineate various land use/ land cover categories in the 10 km buffer Zone, including built-up area, crop lands, forests, scrubs, land with or without scrub, and water bodies. Where there is a disagreement between the signatures of different classes, the right land use class has been identified with the

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necessary care. The final land use/land cover map was created after the interpreted map was only validated on the ground at limited points.

## **2.4 LAND USE / LAND COVER CLASSIFICATION FOR CORE ZONE**

Cartosat 2E MX (SPOT) and PAN(SPOT) imageries were used for core zone LULC classification. By assigning the necessary training sets, which were identified based on tone, texture, size, shape pattern, and location information, digital image processing was used to delineate various land use/ land cover categories in the core Zone, including active mining, area under reclamation, area under plantation, agricultural area, waste land, forest land, water body and settlements. The final land use/land cover map was created after the interpreted map was only validated on the ground.

### 3 LULC Results and Discussion

#### 3.1 LAND USE & LAND COVER DETAILS FOR BUFFER ZONE

The satellite imagery of the study area around 10 km from mine site (core zone boundary) as captured by satellite. The Land use land cover in this study area is given here below.

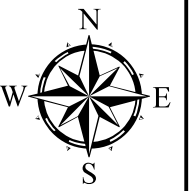
**Table 3-1: Land use Land Cover details of 10 km Buffer zone.**

| Land Use Land Cover Class | 2022              |                 |
|---------------------------|-------------------|-----------------|
|                           | Area in Hectares  | Area Percentage |
| Water Bodies              | 4119.78           | 8.65            |
| Mining Area               | 2576.26           | 5.41            |
| Industrial Establishments | 308.75            | 0.65            |
| Built-up Land             | 3302.32           | 6.93            |
| Open Forest               | 2155.33           | 4.52            |
| Dense Forest              | 5483.78           | 11.51           |
| Roads                     | 1321.18           | 2.77            |
| Barren Land               | 928.53            | 1.95            |
| Fallow Land               | 1838.63           | 3.86            |
| Plantation                | 6954.22           | 14.60           |
| Single Crop               | 5081.26           | 10.67           |
| Double Crop               | 9315.53           | 19.55           |
| Land with/without scrub   | 4258.08           | 8.94            |
| <b>TOTAL AREA</b>         | <b>47643.6425</b> | <b>100</b>      |

79°28'0"E

79°32'0"E

79°36'0"E



18°52'0"N

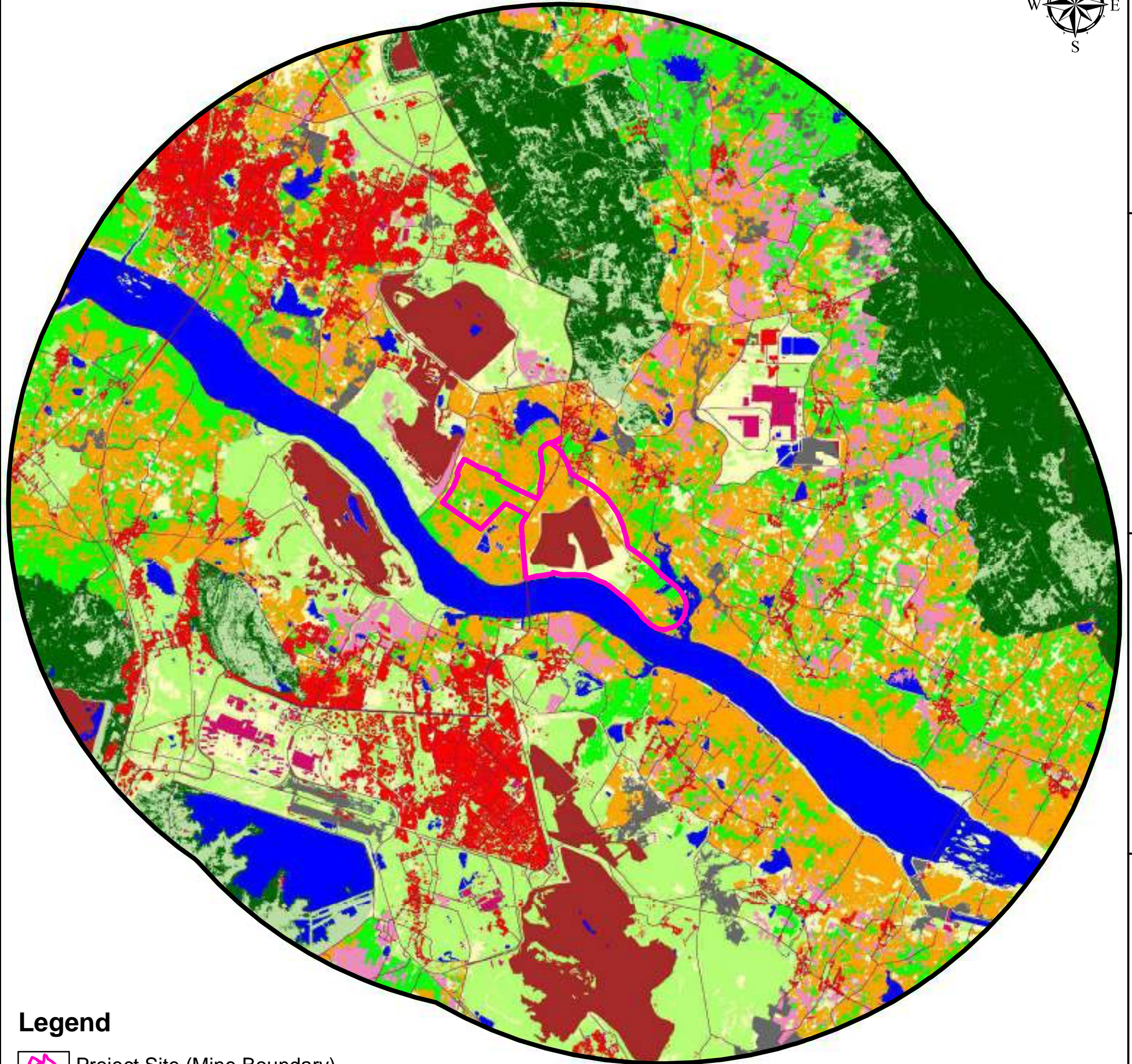
18°52'0"N

18°48'0"N



18°48'0"N

18°44'0"N

18°44'0"N



### Legend

-  Project Site (Mine Boundary)
-  10km Buffer

79°28'0"E

79°32'0"E

79°36'0"E

### Key Map of Telangana



Scale: Not to Scale  
Source: <https://www.telangana.gov.in/about/districts>

| Map Symbol  | Land Use Land Cover Class | Area in Hectares | Area Percentage |
|---|---------------------------|------------------|-----------------|
|  | Water Bodies              | 4119.78          | 8.65            |
|  | Mining Area               | 2576.26          | 5.41            |
|  | Industrial Establishments | 308.75           | 0.65            |
|  | Built-up Land             | 3302.32          | 6.93            |
|  | Open Forest               | 2155.33          | 4.52            |
|  | Dense Forest              | 5483.78          | 11.51           |
|  | Roads                     | 1321.18          | 2.77            |
|  | Barren Land               | 928.53           | 1.95            |
|  | Fallow Land               | 1838.63          | 3.86            |
|  | Plantation                | 6954.22          | 14.60           |
|  | Single Crop               | 5081.26          | 10.67           |
|  | Double Crop               | 9315.53          | 19.55           |
|  | Land with/without scrub   | 4258.08          | 8.94            |

### Source:

1. Sol Toposheet No. 56N/5, 56N/6, 56N/9 & 56N/10
2. Project Layout Plan, SCCL

**The Singareni Collieries Company Limited**  
 (A Government Company)  
 Department of Environment  
 and Project Planning  
 (ISO-9001-2000 Certified)

RF:- 1:25,000

### Graphic Scale:

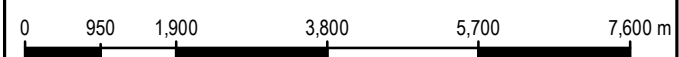


Figure 0.00: Land Use/Land Cover pattern map of the Buffer Zone

### Project:

**Buffer Area Classification of Indaram Khani Open Cast Mine Project**  
Srirampur, District: Mancherial, Telangana

### Project Proponent:

**The Singareni Collieries Company Limited**

### Environment Consultant:

**GRENCINDIA Consulting Private Limited**

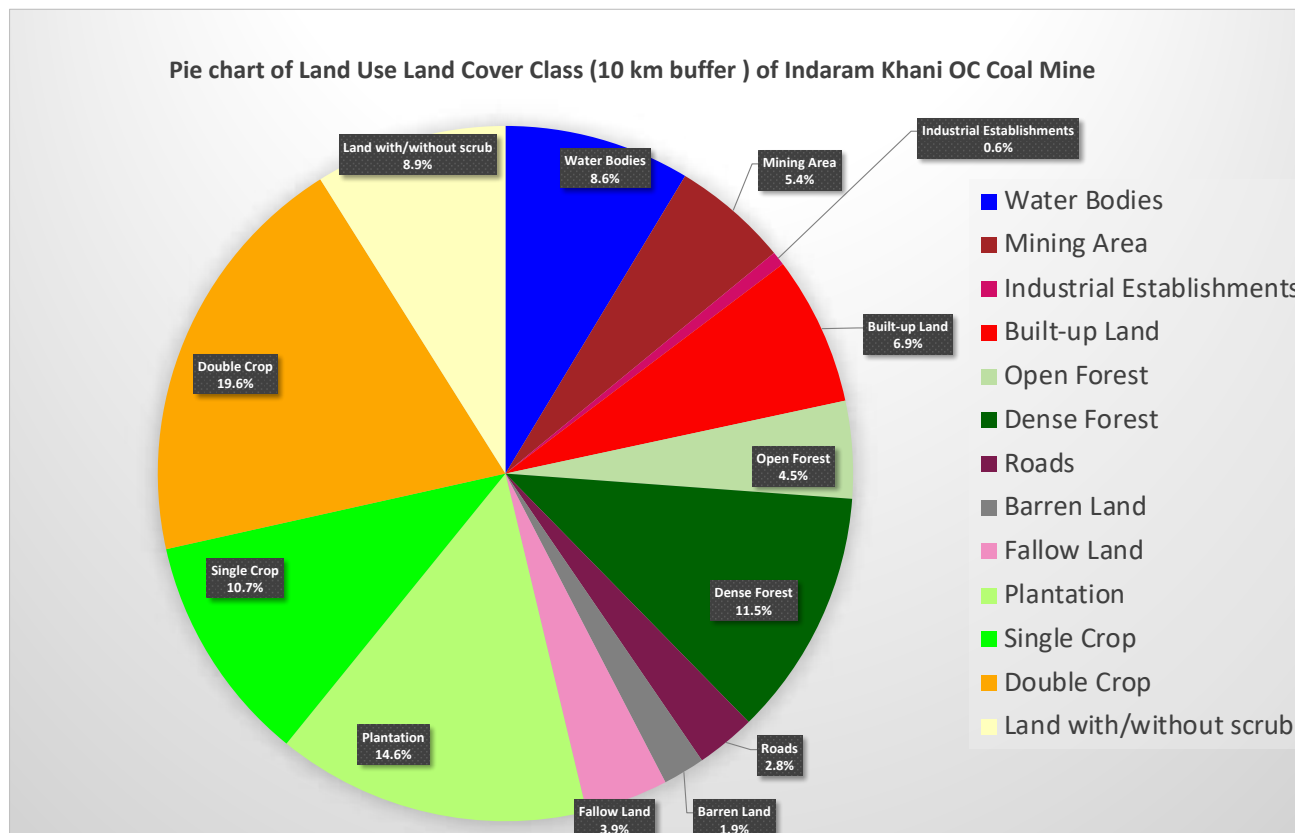
QCI-NABET Accrediate Environment Consultant Certificate No. NABET/EIA/2023/SA0155

|             |             |              |
|-------------|-------------|--------------|
| Drafted By: | Checked By: | Approved By: |
|-------------|-------------|--------------|

|          |  |  |  |
|----------|--|--|--|
| Date     |  |  |  |
| Revision |  |  |  |

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**Figure 3-2: Pie chart of LULC class (10 km buffer) of Indaram Khani OC Coal Mine.**

### 3.2 RESULTS FOR BUFFER AREA

The visual interpretation of the satellite imagery data along with ground verification was used to map different categories of land use/ land cover (LULC) for Buffer Area. Figure 3-1 shows the LULC map of Indaram Khani OC Coal Mine for buffer area. The area statistics of different categories of Buffer Area of land use/ land cover is also given in Table 3-1 and figure 3-2.

In the LULC study, thirteen categories of LULC were classified in the buffer area as represented in Table 3-2. The major proportion (48.67 %) of the buffer zone is under agricultures land (Single crop + Double crop+ Plantation + Fallow land). Followed by forest cover (Open + Dense) i.e., 16.03% of the buffer area of Indaram Khani OC Coal Mine. Water bodies occupy 8.65%. Major water bodies is the Godavari river and Jyoti Sagar are the major water bodies with few ponds were found scattered in and around the area. Industrial Establishments occupy around 0.65% of the total buffer area. The mining area 5.41 % and Build up land area 6.93 % of the buffer area. The mining area of 5.41 % of the buffer zone.

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**SINGARENI COLLIERIES COMPANY LTD.**

### 3.3 LULC COMPARATIVES STUDY OF BUFFER ZONE FOR 2019 AND 2022

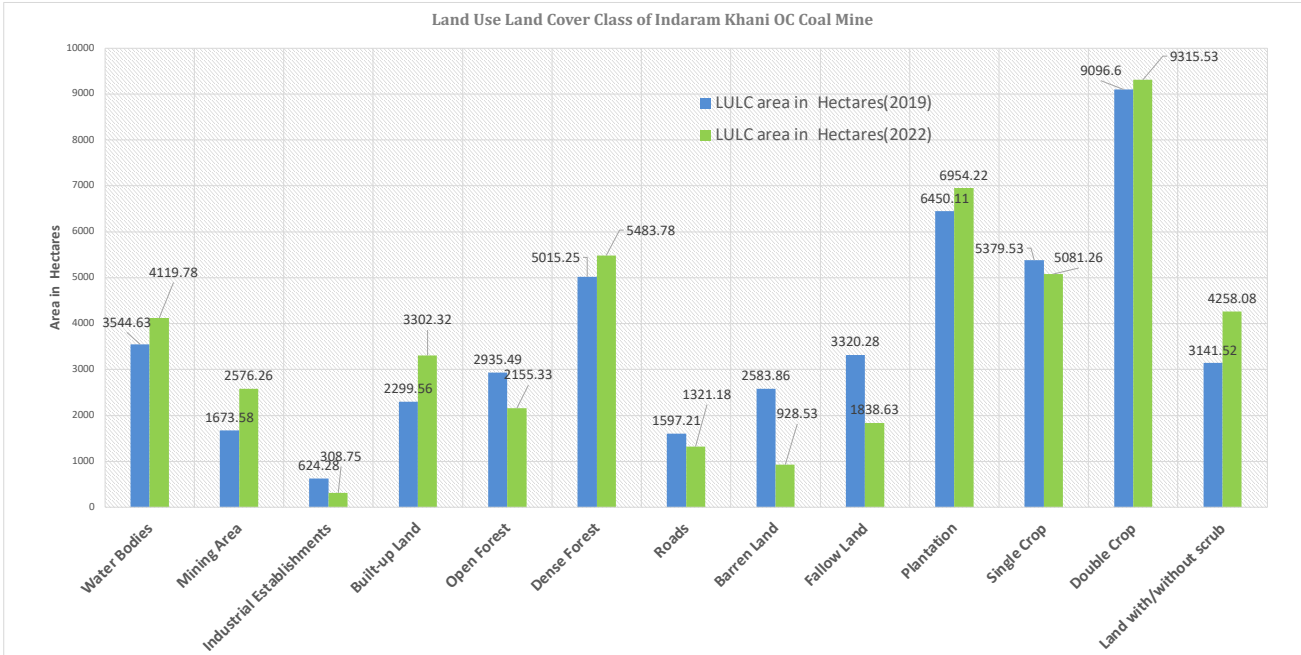
**Table 3-2: LULC data (Buffer Zone) of 2019 and 2022**

| Land Use Land Cover Class | 2019                        |                    | 2022                        |                    | Area change (in %) form 2019 to 2022** |
|---------------------------|-----------------------------|--------------------|-----------------------------|--------------------|--|
|                           | LULC area in Hectares(2019) | Area in Percentage | LULC area in Hectares(2022) | Area in Percentage |  |
| Water Bodies              | 3544.63                     | 7.44               | 4119.78                     | 8.65               | <b>1.21</b>                            |
| Mining Area               | 1673.58                     | 3.51               | 2576.26                     | 5.41               | <b>1.90</b>                            |
| Industrial Establishments | 624.28                      | 1.31               | 308.75                      | 0.65               | <b>-0.66</b>                           |
| Built-up Land             | 2299.56                     | 4.82               | 3302.32                     | 6.93               | <b>2.11</b>                            |
| Open Forest               | 2935.49                     | 6.16               | 2155.33                     | 4.52               | <b>-1.64</b>                           |
| Dense Forest              | 5015.25                     | 10.52              | 5483.78                     | 11.51              | <b>0.99</b>                            |
| Roads                     | 1597.21                     | 3.35               | 1321.18                     | 2.77               | <b>-0.58</b>                           |
| Barren Land               | 2583.86                     | 5.42               | 928.53                      | 1.95               | <b>-3.47</b>                           |
| Fallow Land               | 3320.28                     | 6.97               | 1838.63                     | 3.86               | <b>-3.11</b>                           |
| Plantation                | 6450.11                     | 13.53              | 6954.22                     | 14.60              | <b>1.07</b>                            |
| Single Crop               | 5379.53                     | 11.29              | 5081.26                     | 10.67              | <b>-0.62</b>                           |
| Double Crop               | 9096.6                      | 19.09              | 9315.53                     | 19.55              | <b>0.46</b>                            |
| Land with/without scrub   | 3141.52                     | 6.59               | 4258.08                     | 8.94               | <b>2.35</b>                            |
| <b>Total Area</b>         | <b>47661.9</b>              | <b>100</b>         | <b>47643.6425</b>           | <b>100</b>         | <b>---</b>                             |

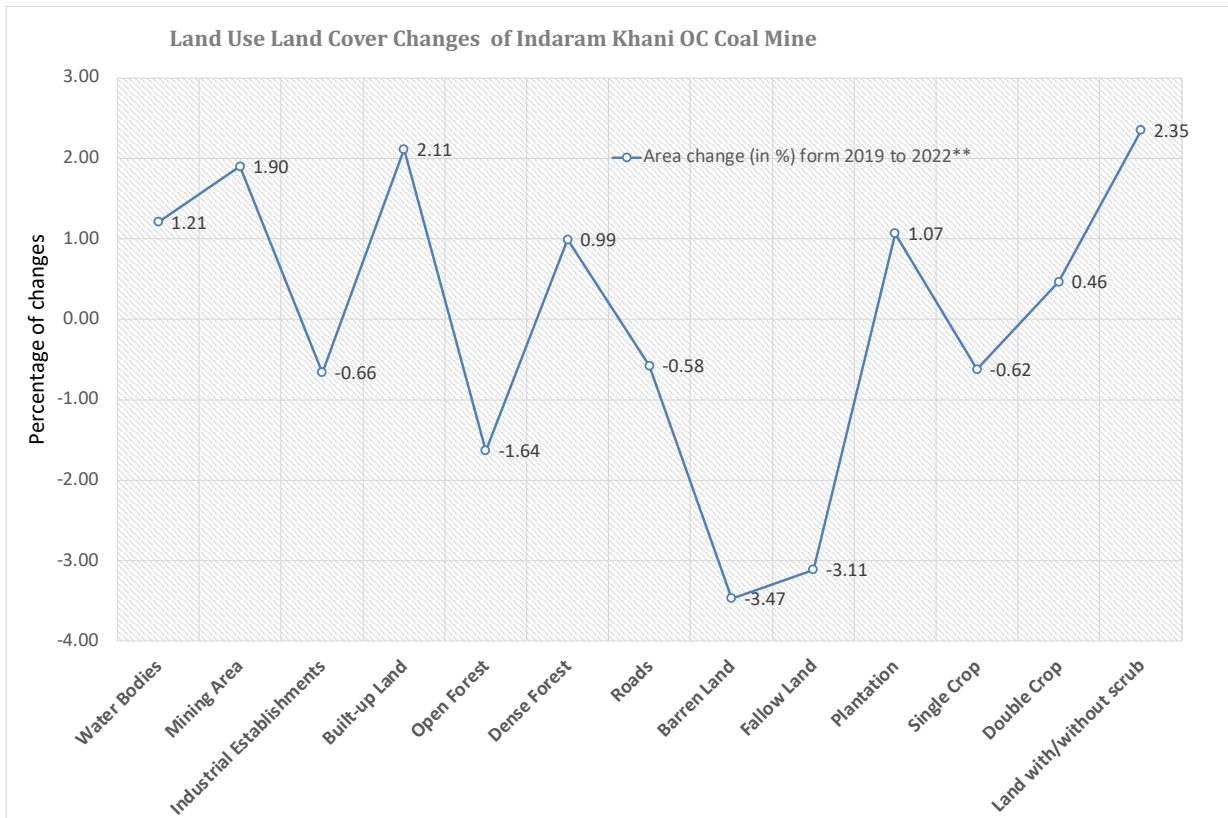
\*\* Positive and Negative value implies LULC specific class area (in %) correspondingly increases or decrease from 2019 to 2022. The formula used for calculating LULC changes is (% of area change = Percentage of LULC class area for 2022 - Percentage of LULC class area for 2019).



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**Figure 3-3: LULC Class (10 km buffer) of Indaram Khani OC Coal Mine on 2019 and 2022.**



**Figure 3-4: LULC Changes (10 km buffer area) of Indaram Khani OC Coal Mine on 2019 and 2022.**

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### 3.4 LAND USE & LAND COVER DETAILS FOR CORE ZONE

The Satellite data of the core zone area of 846.77 ha and data are presented in table 3-3. The classified data of the Mine core zone. The extents of various Land Use/Land Cover classes pertaining to the study area.

**Table 3-3: Land use Land Cover details of Core zone.**

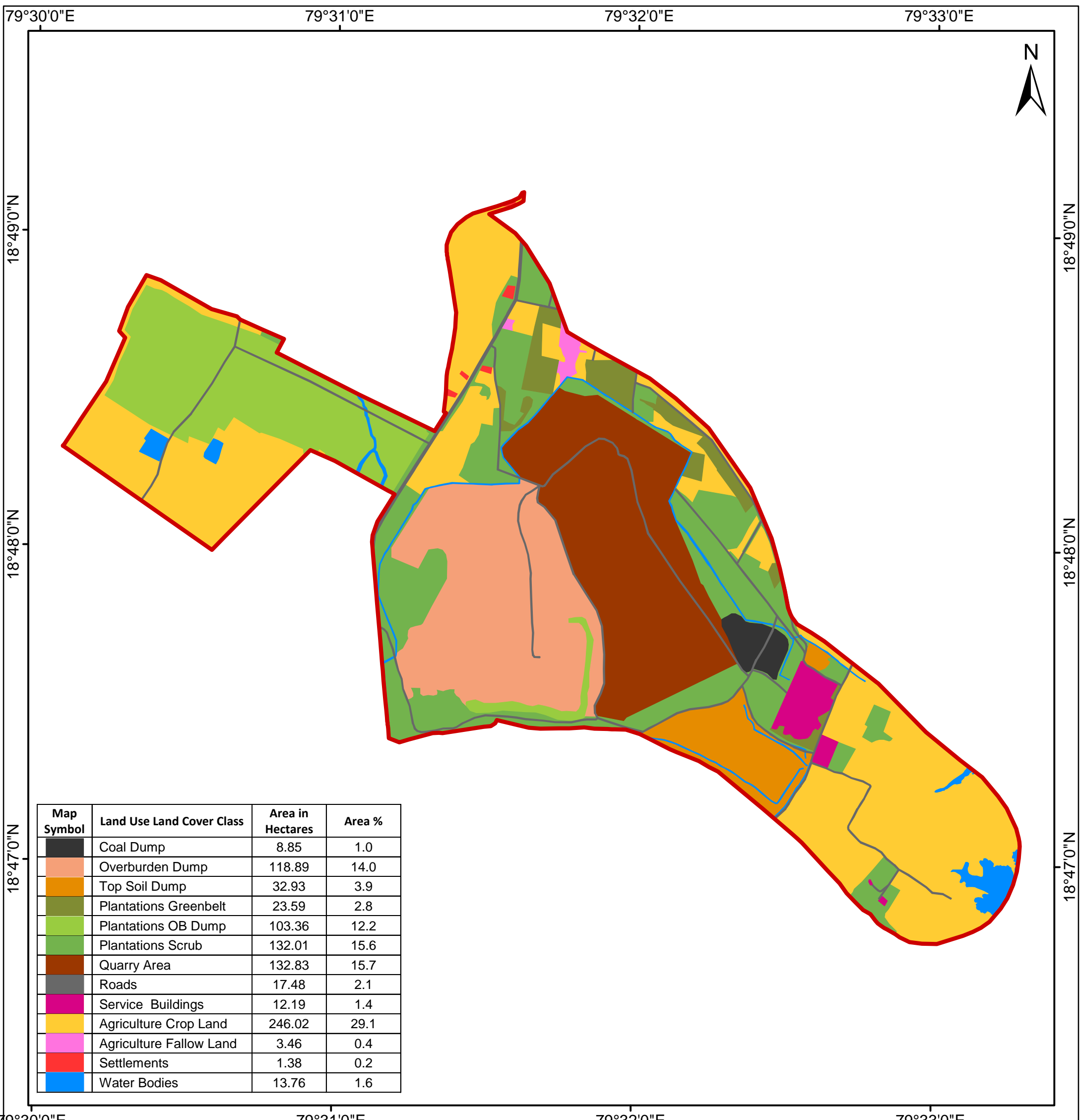
| <b>Land Use Land Cover Class</b> | <b>Area in Hectares</b> | <b>Area in Percentage</b> |
|----------------------------------|-------------------------|---------------------------|
| Coal Dump                        | 8.85                    | 1.0                       |
| Over Burden Dump                 | 118.89                  | 14.0                      |
| Top Soil Dump                    | 32.93                   | 3.9                       |
| Plantations Greenbelt            | 23.59                   | 2.8                       |
| Plantations OB Dump              | 103.36                  | 12.2                      |
| Plantations Scrub                | 132.01                  | 15.6                      |
| Quarry Area                      | 132.83                  | 15.7                      |
| Roads                            | 17.48                   | 2.1                       |
| Service Buildings                | 12.19                   | 1.4                       |
| Water Bodies                     | 13.76                   | 1.6                       |
| Agriculture Crop Land            | 246.02                  | 29.1                      |
| Agriculture Fallow Land          | 3.46                    | 0.4                       |
| Settlements                      | 1.38                    | 0.2                       |
| <b>Total Area</b>                | <b>846.77</b>           | <b>100.00</b>             |

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### **3.5 RESULTS FOR CORE AREA**

Figure 3-5 shows the LULC map of Indaram Khani OC Coal Mine for Core zone or project area. The area statistics of different categories of land use/ land cover for core area was also given in Table 3-3. Thirteen categories of LULC were classified in the core zone area. The highest land use type is plantations of 30.6 % of the project area (Plantations Greenbelt + Plantations OB Dump + Plantations Scrub). The Agriculture land use (Agriculture Crop Land + Agriculture Fallow Land) area (29.5 %) is the second largest area of LULC class in core zone. Other land use categories included Coal dump (1%), Quarry Area 15.7%, Water bodies covers 1.6 % and Service Building 1.4 % of the total area. The three new LULC type (Over Burden Dump, Top Soil Dump and Settlements) are found in 2022 LULC study as compare with 2019 LULC data. The area percentage of Over Burden Dump is 14%, Top Soil Dump is 3.9% and Settlements is 0.2% of the core area.



| Map Symbol | Land Use Land Cover Class | Area in Hectares | Area % |
|------------|---------------------------|------------------|--------|
|            | Coal Dump                 | 8.85             | 1.0    |
|            | Overburden Dump           | 118.89           | 14.0   |
|            | Top Soil Dump             | 32.93            | 3.9    |
|            | Plantations Greenbelt     | 23.59            | 2.8    |
|            | Plantations OB Dump       | 103.36           | 12.2   |
|            | Plantations Scrub         | 132.01           | 15.6   |
|            | Quarry Area               | 132.83           | 15.7   |
|            | Roads                     | 17.48            | 2.1    |
|            | Service Buildings         | 12.19            | 1.4    |
|            | Agriculture Crop Land     | 246.02           | 29.1   |
|            | Agriculture Fallow Land   | 3.46             | 0.4    |
|            | Settlements               | 1.38             | 0.2    |
|            | Water Bodies              | 13.76            | 1.6    |



| Legend |                         |
|--------|-------------------------|
|        | Mine Boundary           |
|        | Coal Dump               |
|        | Overburden Dump         |
|        | Top Soil Dump           |
|        | Plantations Greenbelt   |
|        | Plantation OB Dump      |
|        | Plantations Scrub       |
|        | Quarry Area             |
|        | Roads                   |
|        | Service Buildings       |
|        | Agriculture Crop Land   |
|        | Agriculture Fallow Land |
|        | Settlements             |
|        | Water Bodies            |

**Source:**  
1. Sol Toposheet No. 56N/5, 56N/6, 56N/9 & 56N/10  
2. Project Layout Plan, SCCL

**The Singareni Collieries Company Limited**  
(A Government Company)  
Department of Environment and Project Planning  
(ISO-9001-2000 Certified)

**RF:- 1:5000**

**Graphic Scale:**  
0 220 440 880 1,320 1,760 m

**Figure 0.00: Core Area Classification Indaram Khani Open Cast Mine Project**

**Project:**  
**Indaram Khani Open Cast Mine Project**  
Srirampur, District: Mancherial, Telangana

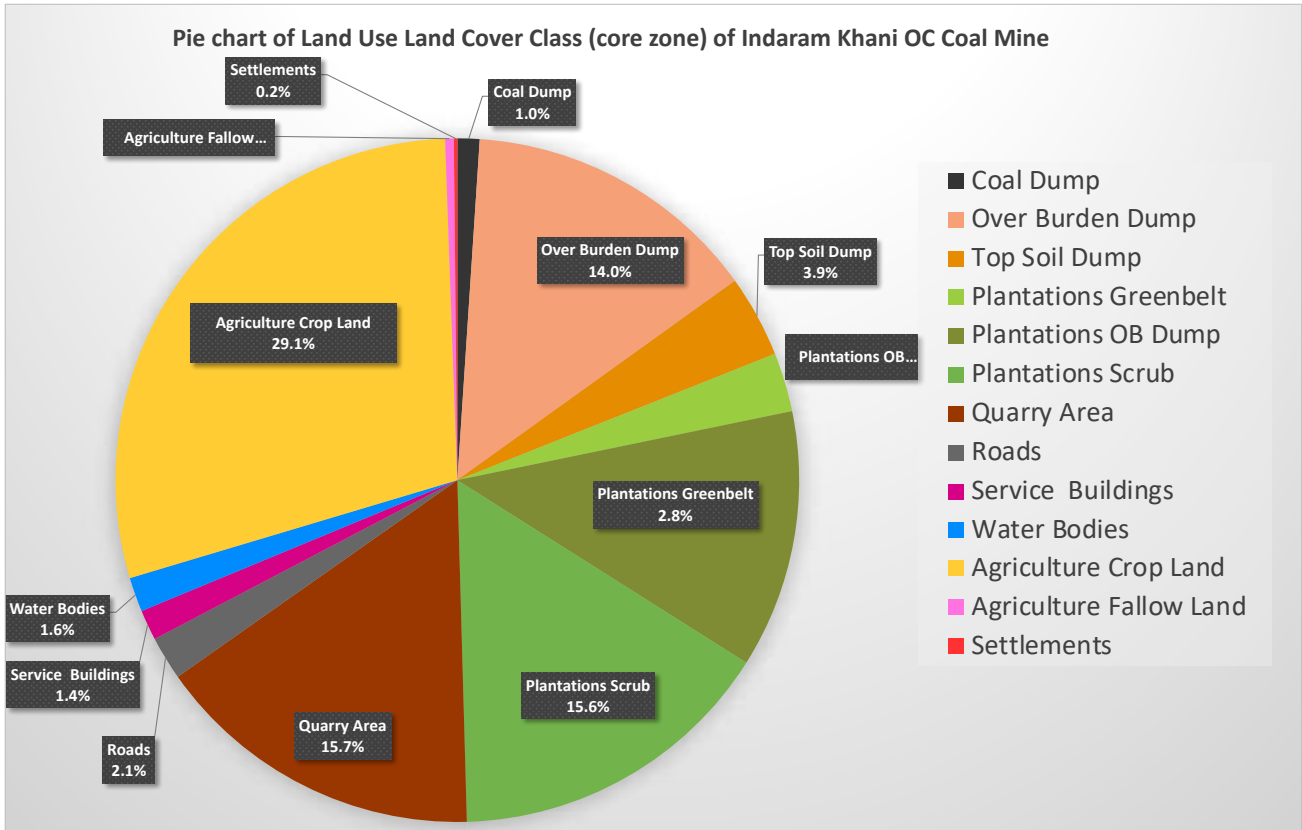
**Project Proponent:**  
**The Singareni Collieries Company Limited**

**Environment Consultant:**  
**GRENCINDIA Consulting Private Limited**  
QCI-NABET Accrediate Environment Consultant Certificate No. NABET/EIA/2023/SA0155

|                    |                    |                     |
|--------------------|--------------------|---------------------|
| <b>Drafted By:</b> | <b>Checked By:</b> | <b>Approved By:</b> |
|                    |                    |                     |
| <b>Date</b>        |                    |                     |
| <b>Revision</b>    |                    |                     |

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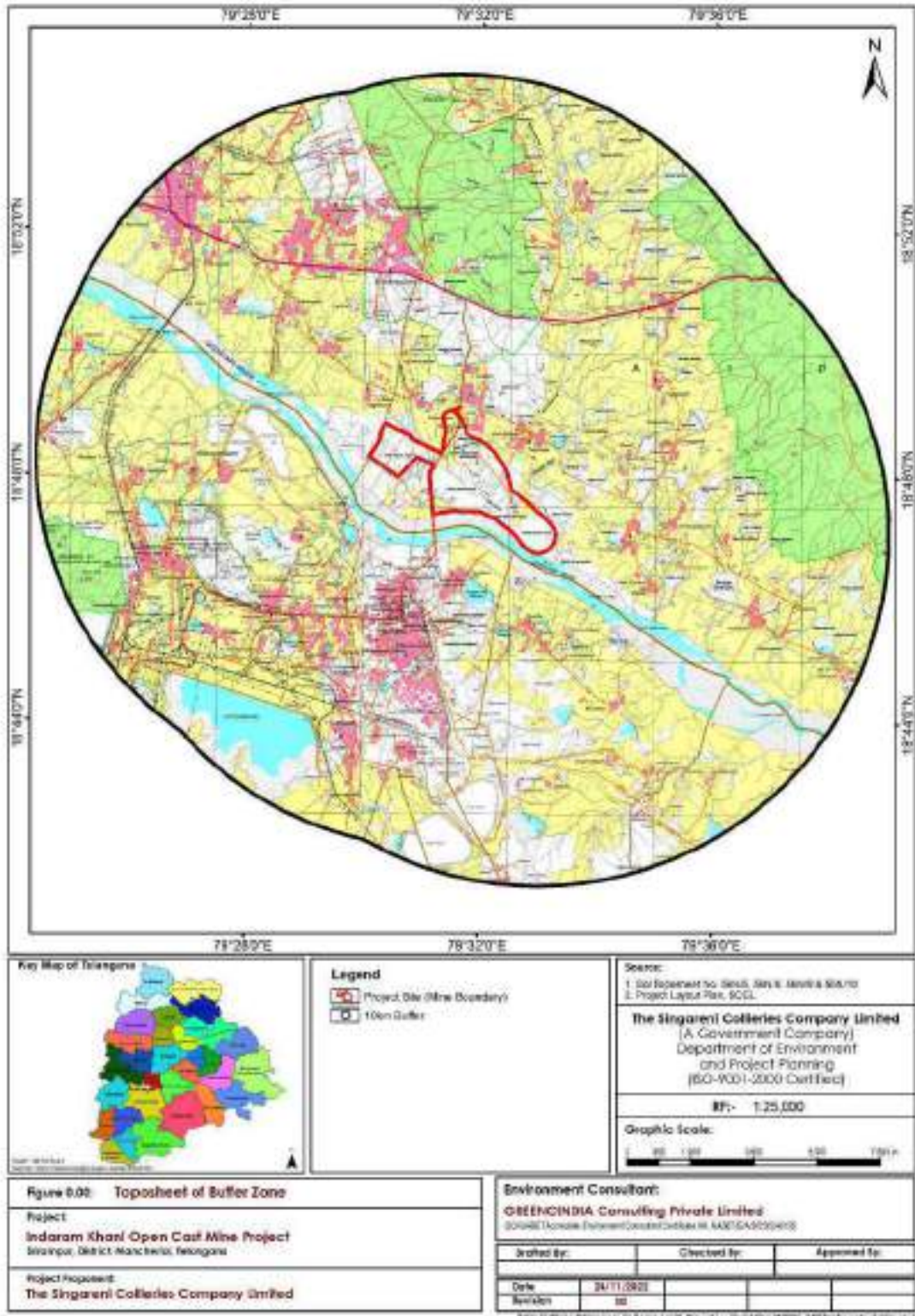
**Figure 3-6: Pie chart of Land use Land Cover details of Core zone.**

**3.6 TOPOGRAPHY**

Survey of India Toposheets E44H5, E44H6, E44H9 and E44H10 has been used for the topography studies. In topography map of buffer zone contours, drainage pattern, Roads, settlements, water bodies and forest boundaries has been shown.

The 10km buffer zone from the core zone boundary i.e., mine lease area of Indaram Khani Opencast Coal Mine Project is mostly plain area, the elevation values range between 70m to 450m. There is hilly terrain in the South - East and South - West parts of the buffer zone. The buffer zone covers the reserved forests namely Begumpet Reserve Forest and Ramgir Reserve Forest. Vepala vagu, Bokkala vagu and Godavari River are passing through the buffer zone. The buffer zone is covered with 1- 4th order streams. Kamanpur and Manthani are the major urban Settlements that are covered in the 10km buffer zone. The South- Central Railway main line is passing in the buffer zone.

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**SINGARENI COLLIERIES COMPANY LTD.**

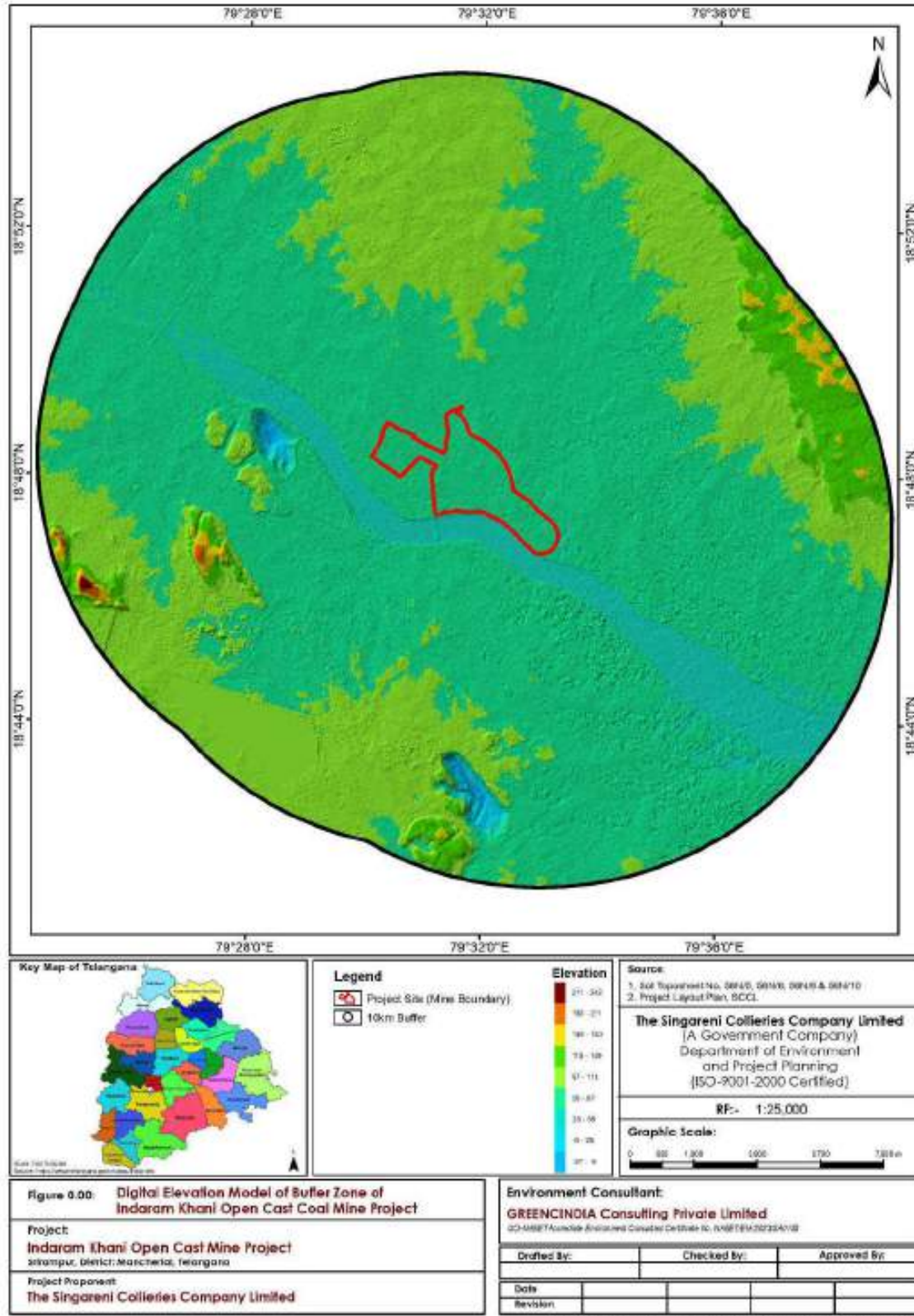


**Figure 3-7: Indaram Khani OC Coal Mine with 10 km buffer zone on Toposheet.**

**ENVIRONMENT CONSULTANT:**  
**GREENCINDIA CONSULTING PRIVATE LIMITED**

**PROJECT PROPONENT: M/S SINGARENI**  
**COLLIERIES COMPANY LTD.**

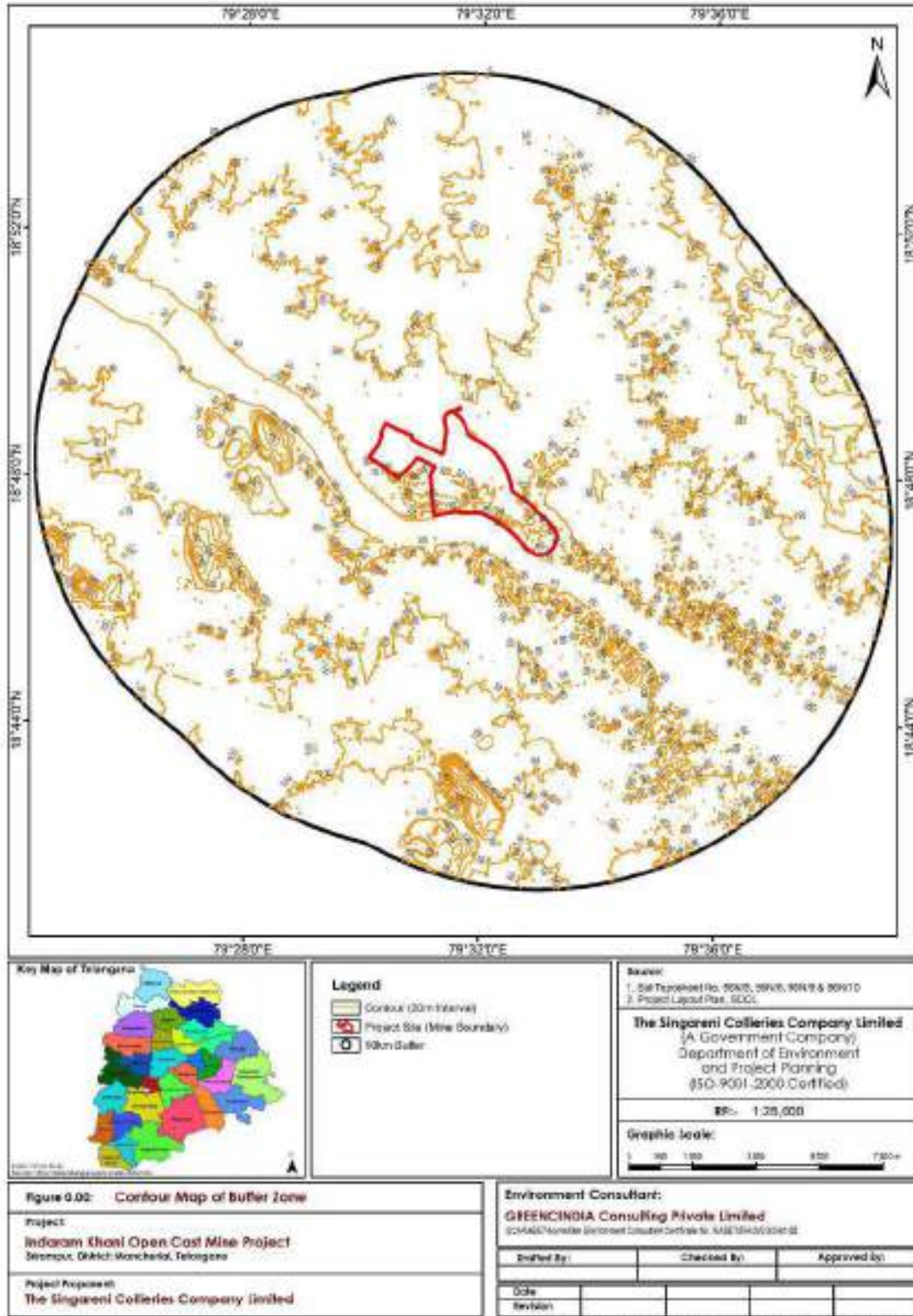
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**Figure 3-8: DEM of Indaram Khani OC Coal Mine with 10 km buffer zone**

|   |   |
|---|---|
| <b>ENVIRONMENT CONSULTANT:</b><br><b>GREENCINDIA CONSULTING PRIVATE LIMITED</b> | <b>PROJECT PROPONENT: M/S SINGARENI COLLIERIES COMPANY LTD.</b> |
|---|---|

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**SINGARENI COLLIERIES COMPANY LTD.**



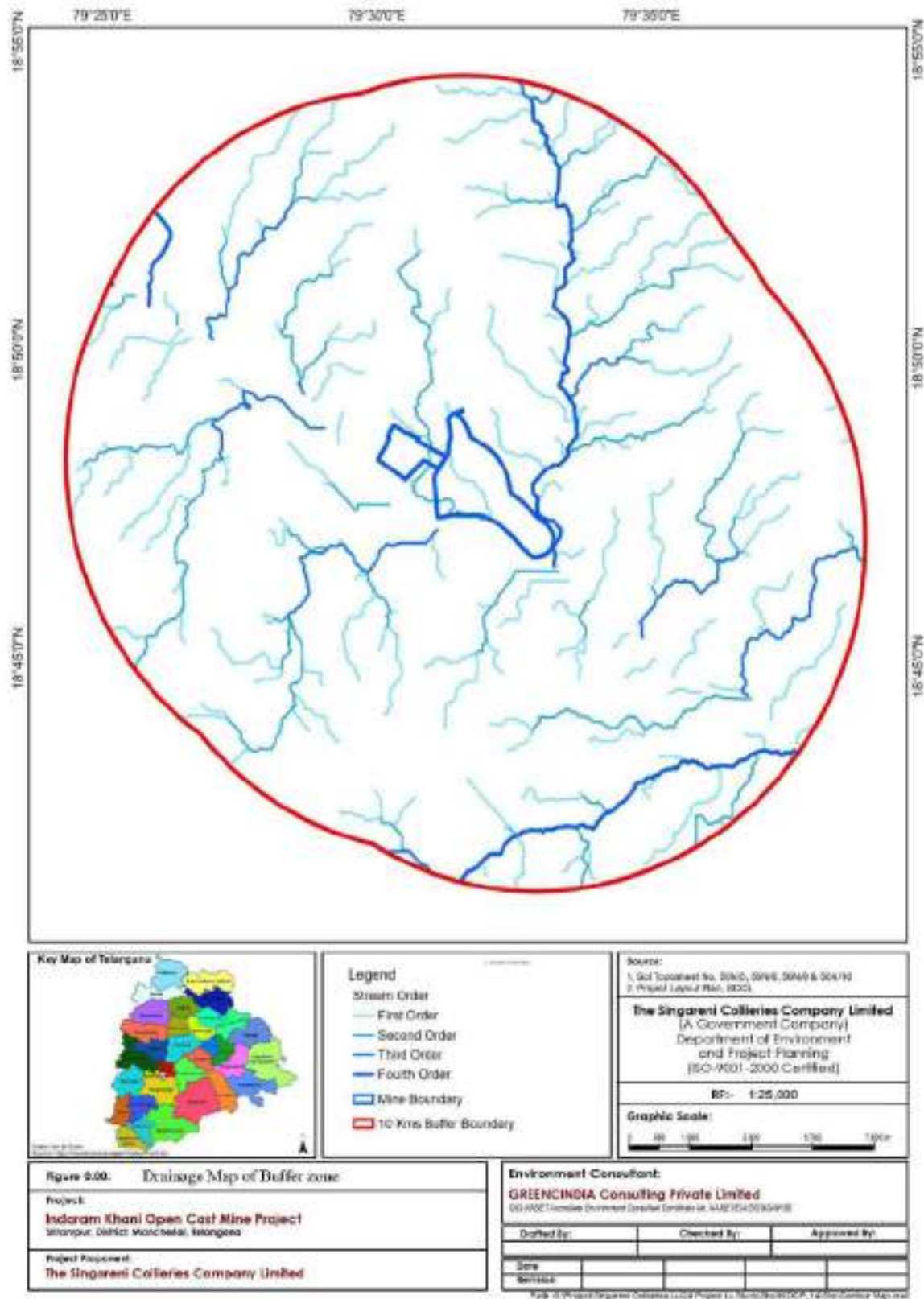
**Figure 3-9: Contour for Buffer Zone.**

**ENVIRONMENT CONSULTANT:**  
**GREENCINDIA CONSULTING PRIVATE LIMITED**

**PROJECT PROPONENT: M/S SINGARENI**  
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**Figure 3-10: Drainage Map of Buffer zone.**

**ENVIRONMENT CONSULTANT:**  
**GREENCINDIA CONSULTING PRIVATE LIMITED**

**PROJECT PROPONENT: M/S SINGARENI**  
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SINGARENI COLLIERIES COMPANY LTD.**

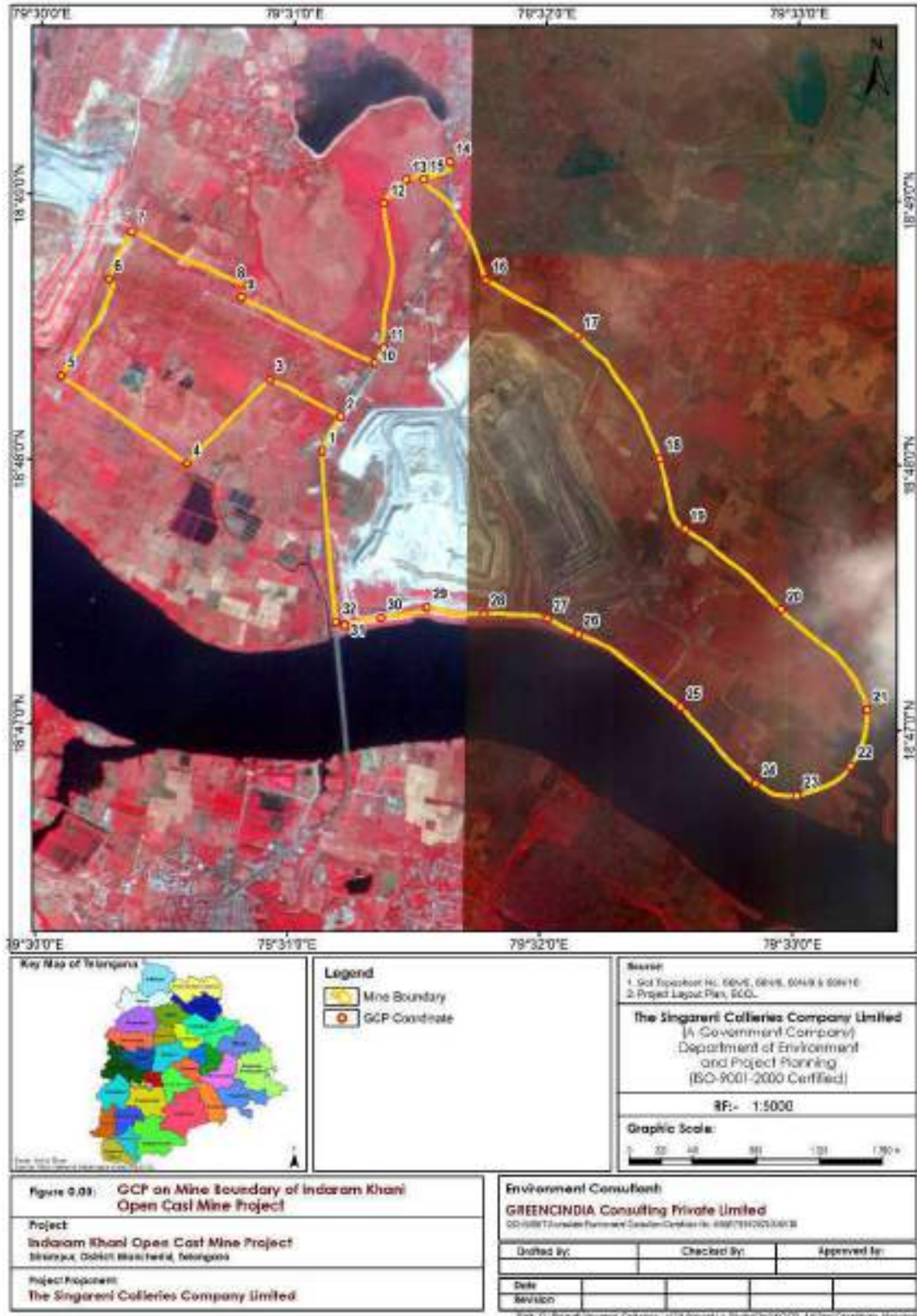
### **3.7 BOUNDARY COORDINATES**

The Geographic Coordinates of the boundary have been collected from field visit. The Coordinates of the Mine Boundary's GCP are shown below.

**Table 3-4: Project Boundary Co-ordinates.**

| <b>GCP_ID</b> | <b>Longitude</b> | <b>Latitude</b> |
|---------------|------------------|-----------------|
| 1             | 79.5187653820    | 18.8006240850   |
| 2             | 79.5199677760    | 18.8027971140   |
| 3             | 79.5152716090    | 18.8051128630   |
| 4             | 79.5098379730    | 18.7997843460   |
| 5             | 79.5015082180    | 18.8052300700   |
| 6             | 79.5045759310    | 18.8113324030   |
| 7             | 79.5060662580    | 18.8143078890   |
| 8             | 79.5137469520    | 18.8109817810   |
| 9             | 79.5133458930    | 18.8102515830   |
| 10            | 79.5221710300    | 18.8061777900   |
| 11            | 79.5227967250    | 18.8071376800   |
| 12            | 79.5227327121    | 18.8162353696   |
| 13            | 79.5242120070    | 18.8177111330   |
| 14            | 79.5270377240    | 18.8188633040   |
| 15            | 79.5253213790    | 18.8177620500   |
| 16            | 79.5295162340    | 18.8114698950   |
| 17            | 79.5355704330    | 18.8080110070   |
| 18            | 79.5410780122    | 18.8003192233   |
| 19            | 79.5427273905    | 18.7959195553   |
| 20            | 79.5491387566    | 18.7909133098   |
| 21            | 79.5548866500    | 18.7846561720   |
| 22            | 79.5538787300    | 18.7811073890   |
| 23            | 79.5503373270    | 18.7792118130   |
| 24            | 79.5475586480    | 18.7799692610   |
| 25            | 79.5425543287    | 18.7847287711   |
| 26            | 79.5357730530    | 18.7892699440   |
| 27            | 79.5337271380    | 18.7902103360   |
| 28            | 79.5295454990    | 18.7904737323   |
| 29            | 79.5257710630    | 18.7908876230   |
| 30            | 79.5227463520    | 18.7901748160   |
| 31            | 79.5203574440    | 18.7896637730   |
| 32            | 79.5197761130    | 18.7898699810   |

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**SINGARENI COLLIERIES COMPANY LTD.**



**Figure 3-11: Mine boundary on high resolution satellite image.**

**ENVIRONMENT CONSULTANT:**  
**GREENCINDIA CONSULTING PRIVATE LIMITED**

**PROJECT PROPONENT: M/S SINGARENI**  
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**THE LAND USE / LAND COVER STUDY REPORT FOR**  
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### 3.8 LULC COMPARATIVES STUDY CORE ZONE FOR 2019 AND 2022

**Table 3-5: LULC data (Core Zone) of 2019 and 2022.**

| Land Use Land Cover Class | 2019                        |                    | 2022                         |                    | Area change (in %) form 2019 to 2022** |
|---------------------------|-----------------------------|--------------------|------------------------------|--------------------|--|
|                           | LULC area in Hectares(2019) | Area in Percentage | LULC area in Hectares (2022) | Area in Percentage |  |
| Coal Dump                 | 0.15                        | 0.02               | 8.85                         | 1.0                | <b>1.03</b>                            |
| Over Burden Dump          | 0                           | 0                  | 118.89                       | 14.0               | <b>14.04</b>                           |
| Top Soil Dump             | 0                           | 0                  | 32.93                        | 3.9                | <b>3.89</b>                            |
| Plantations Greenbelt     | 27.45                       | 3.24               | 23.59                        | 2.8                | <b>-0.45</b>                           |
| Plantations OB Dump       | 0                           | 0                  | 103.36                       | 12.2               | <b>12.21</b>                           |
| Plantations Scrub         | 31.69                       | 3.74               | 132.01                       | 15.6               | <b>11.85</b>                           |
| Quarry Area               | 0                           | 0                  | 132.83                       | 15.7               | <b>15.69</b>                           |
| Roads                     | 12.88                       | 1.52               | 17.48                        | 2.1                | <b>0.54</b>                            |
| Service Buildings         | 23.52                       | 2.78               | 12.19                        | 1.4                | <b>-1.34</b>                           |
| Water Bodies              | 3.97                        | 0.47               | 13.76                        | 1.6                | <b>1.16</b>                            |
| Agriculture Crop Land     | 682.22                      | 80.57              | 246.02                       | 29.1               | <b>-51.52</b>                          |
| Agriculture Fallow Land   | 64.9                        | 7.66               | 3.46                         | 0.4                | <b>-7.25</b>                           |
| Settlements               | 0                           | 0                  | 1.38                         | 0.2                | <b>0.16</b>                            |
| <b>Total Area</b>         | <b>846.78</b>               | <b>100</b>         | <b>846.77</b>                | <b>100.00</b>      |  |

\*\* Positive and Negative value implies LULC specific class area (in %) correspondingly increases or decrease from 2019 to 2022. The formula used for calculating LULC changes is (% of area change = Percentage of LULC class area for 2022 - Percentage of LULC class area for 2019).

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SINGARENI COLLIERIES COMPANY LTD.**

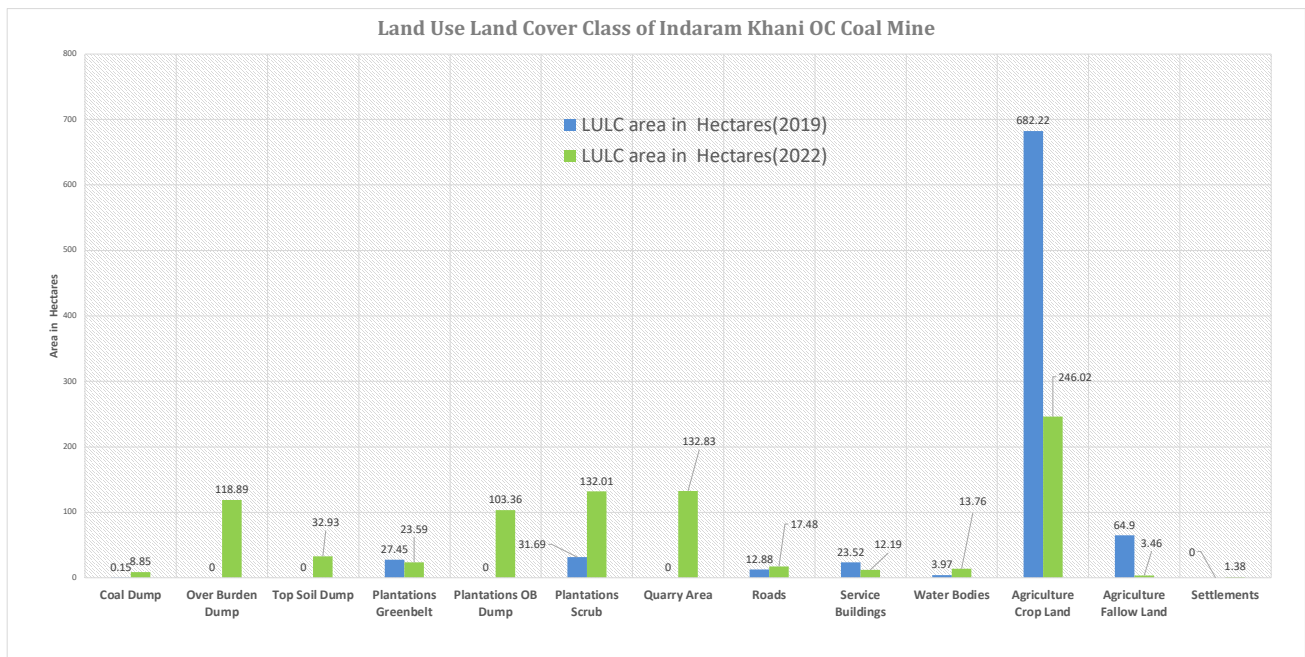
**3.9 COMPARISON OF LULC DATA OF 2019 & 2022**

In 2022 LULC of the project site or core area changes from 2019 LULC are presented in table 3-5, in fourteen LULC class.

The three new LULC types (Over Burden Dump, Top Soil Dump and Settlements) are found in 2022 LULC study as compare with 2019 LULC data. The area percentage of Over Burden Dump is 14%, Top Soil Dump is 3.9% and Settlements is 0.2% of the core area.

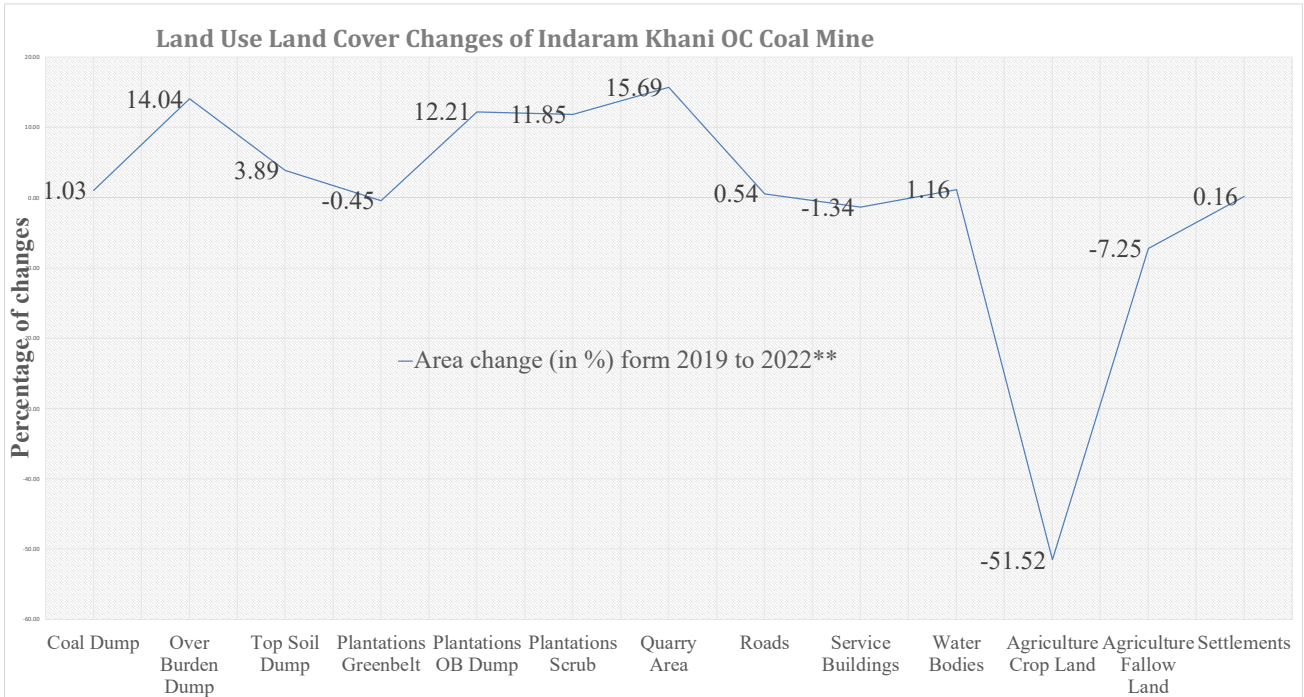
The major LULC type in 2019 was agriculture (Agriculture Crop Land + Agriculture Fallow Land), 88.23% of the project area, in 2022 the LULC of agriculture area reduce to 29.5% of the core area. The overall plantation area (Plantations Greenbelt + Plantations OB Dump + Plantations Scrub) is 6.98 % of the core area in 2019 and in 2022 it increases to 30.6 percentage of the total project area.

The coal Dump area decreased from 0.02 % in 2019 to 1 % in 2022 of the core zones. The water bodies area is 0.47% in 2019 and increased to 1.6% of the project area. Service buildings area (2.78% in 2019), is reduce to 1.4 % of the project area in 2022. The roads area also increased from 1.52 % to 2.1% of the project site.



**Figure 3-12: LULC Class (Core Zone) of Indaram Khani OC Coal Mine at 2019 and 2022**

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**SINGARENI COLLIERIES COMPANY LTD.**



**Figure 3-13: Land Use Land Cover Changes (Core Zone) of Indaram Khani OC Coal Mine.**

**SITE PHOTOGRAPHS**



**Quarry Area**



**Coal Dump**

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**Top Soil Dump**



**Over Burden Dump**



**Roads**



**Roads**



**Water Bodies**



**Service Buildings**

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**PROJECT PROPONENT: M/S SINGARENI  
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**Agriculture Crop Land**



**Industrial Establishments**

**ENVIRONMENT CONSULTANT:  
GREENCINDIA CONSULTING PRIVATE LIMITED**

**PROJECT PROPONENT: M/S SINGARENI  
COLLIERIES COMPANY LTD.**



**Annexure-VIII****Production Details**

| <b>Sl. No</b> | <b>Year</b>          | <b>Coal (in MT)</b> |               |
|---------------|----------------------|---------------------|---------------|
|               |                      | <b>As per EC</b>    | <b>Actual</b> |
| 1.            | 2020-21              | 1.50                | 1.001         |
| 2.            | 2021-22              | 1.50                | 1.499         |
| 3.            | 2022-23              | 1.50                | 1.497         |
| 4.            | 2023-24              | 1.50                | 1.221         |
| 5.            | 2024-25<br>(apr-sep) | 1.50                | 0.307         |
|               | <b>Total</b>         | <b>7.50</b>         | <b>5.525</b>  |

## Monitoring Locations:

| S.No.              | Station Code | Name of the Stations | Latitude      | Longitude     |
|--------------------|--------------|----------------------|---------------|---------------|
| <b>CORE ZONE</b>   |              |                      |               |               |
| 1.                 | CA13         | IK OCP Site Office   | N 18°79'05.1" | E 79°54'20.2" |
| 2.                 | CA15         | IK OC Pit Head CHP   | N 18°79'50.9" | E 79°54'12.1" |
| 3.                 | CA16         | IK OC Camp Office    | N 18°78'99.4" | E 79°54'37.4" |
| <b>BUFFER ZONE</b> |              |                      |               |               |
| 4.                 | BA8          | Indaram Village      | N 18°49'18.7" | E 79°31'43.7" |
| 5.                 | BA9          | Nizamabad Village    | N 18°48'46.9" | E 79°32'47.2" |
| 6.                 | BA10         | Shettipalli Village  | N 18°47'09.8" | E 79°34'31.8" |
| 7.                 | BA11         | Tekumatla Village    | N 18°48'37.5" | E 79°32'58.2" |

**POST PROJECT AMBIENT AIR QUALITY MONITORING DATA FOR THE PERIOD FROM APRIL, 2024 TO SEPTEMBER, 2024 FOR INDARAM OPENCAST PROJECT.**

❖ Location of the Fugitive dust emission monitoring Station: IK OCP Site Office.

| Sl. No. | Station Name  | Date of Sampling | Parameters ( µg/ Cu.Mtr.) |                   |                 |                 |
|---------|---|------------------|---------------------------|-------------------|-----------------|-----------------|
|         |   |                  | PM <sub>10</sub>          | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |
|         | <b>Coal mine standards GSR 742(E), dtd.25.09.2000 &amp; NAAQS, Dtd.18.11.2009</b> |                  | <b>250</b>                | <b>--</b>         | <b>120</b>      | <b>120</b>      |
| 1.      | IK OCP Site Office  | 12.04.2024       | 164                       | 57.2              | 10.7            | 14.1            |
|         |   | 22.04.2024       | 159                       | 47.4              | 10              | 13.6            |
|         |   | 07.05.2024       | 174                       | 69.5              | 14.6            | 17.1            |
|         |   | 22.05.2024       | 176                       | 67.5              | 10.4            | 15.6            |
|         |   | 06.06.2024       | 151                       | 59.7              | 10.2            | 13.7            |
|         |   | 22.06.2024       | 176                       | 61.3              | 11.5            | 15.1            |
|         |   | 06.07.2024       | 172                       | 51.1              | 10.9            | 15.4            |
|         |   | 22.07.2024       | 149                       | 52.4              | 11.7            | 15.5            |
|         |   | 07.08.2024       | 109                       | 50.5              | 10.2            | 13.2            |
|         |   | 22.08.2024       | 116                       | 52.1              | 11.6            | 14.2            |
|         |   | 06.09.2024       | 119                       | 58.9              | 10.2            | 15              |
|         | 23.09.2024  | 138              | 59.3                      | 8.5               | 14.2            |                 |
|         |   | <b>Minimum</b>   |                           | <b>109.0</b>      | <b>47.4</b>     | <b>8.5</b>      |
|         | <b>Maximum</b>  |                  | <b>176.0</b>              | <b>69.5</b>       | <b>14.6</b>     | <b>17.1</b>     |
|         | <b>Average</b>  |                  | <b>150.3</b>              | <b>57.2</b>       | <b>10.9</b>     | <b>14.7</b>     |
|         | <b>98% tile</b>   |                  | <b>176.0</b>              | <b>69.1</b>       | <b>14.0</b>     | <b>16.8</b>     |

❖ Location of the Fugitive dust emission monitoring Station : IK OCP Camp Office.

| Sl. No. | Station Name  | Date of Sampling | Parameters ( µg/ Cu.Mtr.) |                   |                 |                 |
|---------|---|------------------|---------------------------|-------------------|-----------------|-----------------|
|         |   |                  | PM <sub>10</sub>          | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |
|         | <b>Coal mine standards GSR 742(E), dtd.25.09.2000 &amp; NAAQS, Dtd.18.11.2009</b> |                  | <b>250</b>                | <b>--</b>         | <b>120</b>      | <b>120</b>      |
| 2.      | IK OCP Camp Office  | 12.04.2024       | 187                       | 66.4              | 13.4            | 17.1            |
|         |   | 22.04.2024       | 143                       | 45.3              | 9.6             | 14.5            |
|         |   | 07.05.2024       | 163                       | 69.4              | 11.2            | 17.1            |
|         |   | 22.05.2024       | 160                       | 66.2              | 9.1             | 14.7            |
|         |   | 06.06.2024       | 117                       | 51.2              | 11              | 16.7            |
|         |   | 22.06.2024       | 177                       | 62.7              | 10.5            | 14.8            |
|         |   | 06.07.2024       | 169                       | 54.3              | 11.9            | 14              |
|         |   | 22.07.2024       | 114                       | 46.1              | 11.2            | 16.6            |
|         |   | 07.08.2024       | 125                       | 56.6              | 10.1            | 14.4            |
|         |   | 22.08.2024       | 109                       | 46.2              | 10.4            | 14.4            |
|         |   | 06.09.2024       | 128                       | 69.2              | 10.7            | 14.6            |
|         | 23.09.2024  | 148              | 64.5                      | 9.5               | 12.2            |                 |
|         |   | <b>Minimum</b>   |                           | <b>109.0</b>      | <b>45.3</b>     | <b>9.1</b>      |
|         | <b>Maximum</b>  |                  | <b>187.0</b>              | <b>69.4</b>       | <b>13.4</b>     | <b>17.1</b>     |
|         | <b>Average</b>  |                  | <b>145.0</b>              | <b>58.2</b>       | <b>10.7</b>     | <b>15.1</b>     |
|         | <b>98% tile</b>   |                  | <b>184.8</b>              | <b>69.4</b>       | <b>13.1</b>     | <b>17.1</b>     |

❖ Location of the Fugitive dust emission monitoring Station : IK OC Pit Head CHP.

| Sl. No. | Station Name  | Date of Sampling | Parameters ( µg/ Cu.Mtr.) |                   |                 |                 |
|---------|---|------------------|---------------------------|-------------------|-----------------|-----------------|
|         |   |                  | PM <sub>10</sub>          | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |
|         | <b>Coal mine standards GSR 742(E), dtd.25.09.2000 &amp; NAAQS, Dtd.18.11.2009</b> |                  | <b>250</b>                | <b>--</b>         | <b>120</b>      | <b>120</b>      |
| 3.      | IK OC Pit Head CHP  | 12.04.2024       | 216                       | 79.3              | 11.1            | 17.8            |
|         |   | 23.04.2024       | 209                       | 69.7              | 11.6            | 16              |
|         |   | 08.05.2024       | 196                       | 73.2              | 13.3            | 16              |
|         |   | 23.05.2024       | 209                       | 77.5              | 10.5            | 13.7            |
|         |   | 07.06.2024       | 219                       | 69.4              | 10.2            | 16.9            |
|         |   | 24.06.2024       | 189                       | 74.4              | 9.2             | 15.3            |
|         |   | 08.07.2024       | 190                       | 58.7              | 9.2             | 15.4            |
|         |   | 23.07.2024       | 167                       | 58.9              | 10.1            | 15              |
|         |   | 08.08.2024       | 142                       | 61.5              | 9.6             | 14.2            |
|         |   | 23.08.2024       | 137                       | 58.5              | 10.5            | 14.5            |
|         |   | 07.09.2024       | 159                       | 79.5              | 10.2            | 13.4            |
|         | 24.09.2024  | 167              | 64.4                      | 9.1               | 13.2            |                 |
|         |   | <b>Minimum</b>   |                           | <b>137.0</b>      | <b>58.5</b>     | <b>9.1</b>      |
|         | <b>Maximum</b>  |                  | <b>219.0</b>              | <b>79.5</b>       | <b>13.3</b>     | <b>17.8</b>     |
|         | <b>Average</b>  |                  | <b>183.3</b>              | <b>68.8</b>       | <b>10.4</b>     | <b>15.1</b>     |
|         | <b>98% tile</b>   |                  | <b>218.3</b>              | <b>79.5</b>       | <b>12.9</b>     | <b>17.6</b>     |

❖ Location of the Ambient Air Quality monitoring Station : Indaram village

| Sl. No. | Station Name                                 | Date of Sampling | Parameters ( µg/Cu.Mtr.) |                   |                 |                 |
|---------|--|------------------|--------------------------|-------------------|-----------------|-----------------|
|         |  |                  | PM <sub>10</sub>         | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |
|         | <b>NAAQ Standards, CPCB Dated:18.11.2009</b> |                  | <b>100</b>               | <b>60</b>         | <b>80</b>       | <b>80</b>       |
| 4.      | Indaram village                              | 10.04.2024       | 67                       | 40.1              | 8.8             | 11.8            |
|         |  | 23.04.2024       | 79                       | 41.9              | 8.6             | 11.8            |
|         |  | 08.05.2024       | 81                       | 43.5              | 8.8             | 15.4            |
|         |  | 23.05.2024       | 84                       | 44.2              | 10.1            | 13.8            |
|         |  | 07.06.2024       | 63                       | 33.5              | 8.3             | 14.2            |
|         |  | 24.06.2024       | 76                       | 39.8              | 9.1             | 12.2            |
|         |  | 08.07.2024       | 59                       | 33.6              | 9.2             | 12.4            |
|         |  | 23.07.2024       | 56                       | 30.4              | 10.1            | 12.9            |
|         |  | 08.08.2024       | 51                       | 28.2              | 8.5             | 13.6            |
|         |  | 23.08.2024       | 54                       | 29.5              | 8.3             | 13.4            |
|         |  | 07.09.2024       | 54                       | 28.4              | 8.6             | 12.9            |
|         | 24.09.2024                                   | 74               | 39.9                     | 9.7               | 14.2            |                 |
|         |  | <b>Minimum</b>   | <b>51.0</b>              | <b>28.2</b>       | <b>8.3</b>      | <b>11.8</b>     |
|         | <b>Maximum</b>                               | <b>84.0</b>      | <b>44.2</b>              | <b>10.1</b>       | <b>15.4</b>     |                 |
|         | <b>Average</b>                               | <b>66.5</b>      | <b>36.1</b>              | <b>9.0</b>        | <b>13.2</b>     |                 |
|         | <b>98%tile</b>                               | <b>83.3</b>      | <b>44.0</b>              | <b>10.1</b>       | <b>15.1</b>     |                 |
|         |  | <b>51.0</b>      | <b>28.2</b>              | <b>8.3</b>        | <b>11.8</b>     |                 |

❖ Location of the Ambient Air Quality monitoring Station : Nizamabad Village.

| Sl. No. | Station Name                                 | Date of Sampling | Parameters ( µg/Cu.Mtr.) |                   |                 |                 |
|---------|--|------------------|--------------------------|-------------------|-----------------|-----------------|
|         |  |                  | PM <sub>10</sub>         | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |
|         | <b>NAAQ Standards, CPCB Dated:18.11.2009</b> |                  | <b>100</b>               | <b>60</b>         | <b>80</b>       | <b>80</b>       |
| 5.      | Nizamabad Village                            | 10.04.2024       | 62                       | 39.7              | 8.3             | 11.4            |
|         |  | 23.04.2024       | 64                       | 36.4              | 8.3             | 13.2            |
|         |  | 08.05.2024       | 69                       | 37.2              | 11              | 13.9            |
|         |  | 23.05.2024       | 77                       | 39.7              | 9.5             | 12.8            |
|         |  | 07.06.2024       | 55                       | 39                | 9.6             | 12.4            |
|         |  | 24.06.2024       | 72                       | 37.2              | 10.6            | 13.7            |
|         |  | 08.07.2024       | 62                       | 34.7              | 8.6             | 14.6            |
|         |  | 23.07.2024       | 52                       | 32.2              | 9               | 12.9            |
|         |  | 08.08.2024       | 56                       | 30.4              | 10.9            | 13.9            |
|         |  | 23.08.2024       | 55                       | 29.2              | 8.8             | 12.9            |
|         |  | 07.09.2024       | 53                       | 30.5              | 10              | 13.6            |
|         | 24.09.2024                                   | 56               | 30.4                     | 9.3               | 12.9            |                 |
|         |  | <b>Minimum</b>   | <b>52.0</b>              | <b>29.2</b>       | <b>8.3</b>      | <b>11.4</b>     |
|         | <b>Maximum</b>                               | <b>77.0</b>      | <b>39.7</b>              | <b>11.0</b>       | <b>14.6</b>     |                 |
|         | <b>Average</b>                               | <b>61.1</b>      | <b>34.7</b>              | <b>9.5</b>        | <b>13.2</b>     |                 |
|         | <b>98%tile</b>                               | <b>75.9</b>      | <b>39.7</b>              | <b>11.0</b>       | <b>14.4</b>     |                 |

❖ Location of the Ambient Air Quality monitoring Station: Shettipalli Village.

| Sl. No         | Station Name                                 | Date of Sampling | Parameters ( µg/Cu.Mtr.) |                   |                 |                 |
|----------------|--|------------------|--------------------------|-------------------|-----------------|-----------------|
|                |  |                  | PM <sub>10</sub>         | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |
|                | <b>NAAQ Standards, CPCB Dated:18.11.2009</b> |                  | <b>100</b>               | <b>60</b>         | <b>80</b>       | <b>80</b>       |
| 6.             | Shettipalli Village                          | 10.04.2024       | 74                       | 40.2              | 10              | 13.1            |
|                |  | 22.04.2024       | 69                       | 38.2              | 9.8             | 12.1            |
|                |  | 07.05.2024       | 66                       | 35.4              | 9               | 14.7            |
|                |  | 22.05.2024       | 80                       | 47.9              | 9.3             | 12.8            |
|                |  | 06.06.2024       | 62                       | 33.4              | 9.3             | 14.6            |
|                |  | 22.06.2024       | 69                       | 36.6              | 8               | 12.2            |
|                |  | 06.07.2024       | 71                       | 37.2              | 8               | 13.8            |
|                |  | 22.07.2024       | 57                       | 27.3              | 9.5             | 12.8            |
|                |  | 07.08.2024       | 59                       | 32.9              | 8.7             | 12.9            |
|                |  | 22.08.2024       | 53                       | 27.7              | 9.5             | 13.7            |
|                |  | 06.09.2024       | 66                       | 36.9              | 9.2             | 13.3            |
|                | 23.09.2024                                   | 62               | 33.5                     | 10                | 12.1            |                 |
|                | <b>Minimum</b>                               |                  |                          | <b>53.0</b>       | <b>27.3</b>     | <b>8.0</b>      |
| <b>Maximum</b> |  |                  | <b>80.0</b>              | <b>47.9</b>       | <b>10.0</b>     | <b>14.7</b>     |
| <b>Average</b> |  |                  | <b>65.7</b>              | <b>35.6</b>       | <b>9.2</b>      | <b>13.2</b>     |
| <b>98%tile</b> |  |                  | <b>78.7</b>              | <b>46.2</b>       | <b>10.0</b>     | <b>14.7</b>     |

❖ Location of the Ambient Air Quality monitoring Station : Tekumatla village.

| Sl. No         | Station Name                                 | Date of sampling | Parameters ( µg/Cu.Mtr.) |                   |                 |                 |
|----------------|--|------------------|--------------------------|-------------------|-----------------|-----------------|
|                |  |                  | PM <sub>10</sub>         | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |
|                | <b>NAAQ Standards, CPCB Dated:18.11.2009</b> |                  | <b>100</b>               | <b>60</b>         | <b>80</b>       | <b>80</b>       |
| 7.             | Tekumatla village                            | 10.04.2024       | 79                       | 42.3              | 9.3             | 12.5            |
|                |  | 22.04.2024       | 62                       | 34.3              | 10.1            | 13.1            |
|                |  | 07.05.2024       | 70                       | 38.6              | 9.8             | 16.1            |
|                |  | 22.05.2024       | 73                       | 39.4              | 8.2             | 12.9            |
|                |  | 06.06.2024       | 74                       | 39.2              | 9.2             | 14.7            |
|                |  | 22.06.2024       | 82                       | 43.9              | 9               | 13.8            |
|                |  | 06.07.2024       | 59                       | 32.2              | 9.8             | 14.5            |
|                |  | 22.07.2024       | 61                       | 32.1              | 9.7             | 13.6            |
|                |  | 07.08.2024       | 53                       | 31.7              | 9.3             | 12.9            |
|                |  | 22.08.2024       | 59                       | 33.5              | 8.7             | 13.7            |
|                |  | 06.09.2024       | 51                       | 28.4              | 9.7             | 12.9            |
|                | 23.09.2024                                   | 55               | 29.9                     | 9.6               | 13.3            |                 |
|                | <b>Minimum</b>                               |                  |                          | <b>51.0</b>       | <b>28.4</b>     | <b>8.2</b>      |
| <b>Maximum</b> |  |                  | <b>82.0</b>              | <b>43.9</b>       | <b>10.1</b>     | <b>16.1</b>     |
| <b>Average</b> |  |                  | <b>64.8</b>              | <b>35.5</b>       | <b>9.4</b>      | <b>13.7</b>     |
| <b>98%tile</b> |  |                  | <b>81.3</b>              | <b>43.5</b>       | <b>10.0</b>     | <b>15.8</b>     |

**Air Pollution Control Measures:**

As the open cast mining operations involve fugitive dust generation, the following measures are being taken up in the project to prevent/control dust generation and air pollution:

- Wind erosion from the dumps will be controlled significantly by planting grasses on slopes and plants on dumps soon after their formation.
- Continuous water sprinkling arrangements are being made on haul roads, at coal dump yard and other transport routes.
- Black topping of internal roads, coal transport roads and roads to CHP will be done.
- Wet drilling methods and controlled blasting techniques are being adopted to contain dust and gaseous emissions.
- Use of NONELS for blasting and avoiding overcharging of blast holes.
- Green belt will be developed around quarry, external and internal overburden dumps to control dust pollution.
- Spraying of water on permanent transport roads at required frequencies. One 28 KL, Four 12 KL and one 10 KL water sprinklers are being deployed for spraying of water on haul roads at a frequency of 4 trips per sprinkler per each shift (eight hours). Static water sprinkling arrangement will also be made all along the haul roads for effective dust suppression.
- Periodical maintenance of Heavy Earth Moving Machinery (HEMM) and other transport vehicles are being ensured to reduce vehicular exhaust emissions.  
Effective dust suppression measures will be taken up at Coal Handling Plant (CHP). The crusher house would be enclosed to the extent possible and dust suppression arrangement will be provided at suitable locations in the CHP. All conveyors, screens, crusher etc., will be provided with the covers to avoid fugitive dust during operation. Some of the measures proposed to be adopted at CHP in order to control dust emission include:
  - Continuous water spraying arrangements such as mist spraying would be done prior and after loading into the trucks for dust suppression.
  - In case of long transportation the trucks after loading should be covered with tarpaulin.

- Speed of the vehicles should be maintained within the prescribed limits.
- Trucks should not be over loaded and should be maintained to the body level.
- Laying of concrete pavement around bunkers.
- Height of fall to be minimized at all coal transfer points.
- Internal lining of chutes and bins would be done to take care of abrasion and dust.

**ANNEXURE -XI**

**NOISE LEVEL MONITORING DATA FOR THE PERIOD FROM APRIL, 2024 TO SEPTEMBER, 2024 AROUND INDARAM OPENCAST PROJECT**

| Fortnight       | IK OCP Site Office |             |             | IK OCP BWS |              |              | Indaram Village |              |              | Tekumatla Village |              |              |
|-----------------|--------------------|-------------|-------------|------------|--------------|--------------|-----------------|--------------|--------------|-------------------|--------------|--------------|
|                 | Date               | L day       | Lnight      | Date       | L day        | Lnight       | Date            | L day        | Lnight       | Date              | L day        | Lnight       |
| <b>Apr-I</b>    | 13.04.2024         | 48.7        | 39.9        | 13.04.2024 | 45.6         | 38.7         | 11.04.2024      | 42.7         | 30.9         | 11.04.2024        | 45.9         | 35.5         |
| <b>Apr -II</b>  | 23.04.2024         | 53.8        | 41.6        | 24.04.2024 | 50.3         | 40.1         | 24.04.2024      | 42.7         | 31.8         | 23.04.2024        | 42.3         | 30.3         |
| <b>May -I</b>   | 08.05.2024         | 51.6        | 41.9        | 09.05.2024 | 53.5         | 42.6         | 09.05.2024      | 42.9         | 32.4         | 08.05.2024        | 48.3         | 39.6         |
| <b>May -II</b>  | 23.05.2024         | 57.4        | 47.7        | 24.05.2024 | 59.8         | 45.6         | 25.05.2024      | 43.3         | 35.5         | 23.05.2024        | 38.3         | 26.5         |
| <b>June-I</b>   | 07.06.2024         | 51.5        | 44.7        | 07.06.2024 | 54.6         | 43.8         | 08.06.2024      | 42.8         | 34.7         | 07.06.2024        | 49.5         | 39.6         |
| <b>June -II</b> | 24.06.2024         | 58.7        | 47.7        | 24.06.2024 | 55.0         | 42.8         | 25.06.2024      | 43.3         | 31.2         | 24.06.2024        | 45.8         | 31.6         |
| <b>July-I</b>   | 08.07.2024         | 57.5        | 50.5        | 08.07.2024 | 55.5         | 47.3         | 09.07.2024      | 47.2         | 37.5         | 08.07.2024        | 37.3         | 32.2         |
| <b>July-II</b>  | 23.07.2024         | 52.2        | 44          | 23.07.2024 | 53.4         | 48.0         | 24.07.2024      | 42.7         | 33.9         | 23.07.2024        | 44.7         | 39.4         |
| <b>Aug-I</b>    | 08.08.2024         | 51.5        | 44.6        | 08.08.2024 | 53.1         | 40.4         | 09.08.2024      | 43.4         | 35.6         | 08.08.2024        | 49.7         | 34.1         |
| <b>Aug -II</b>  | 23.08.2024         | 53.4        | 45.1        | 23.08.2024 | 53.4         | 42.2         | 24.08.2024      | 42.4         | 34.5         | 23.08.2024        | 49.8         | 36.6         |
| <b>Sep-I</b>    | 07.09.2024         | 52.6        | 49.5        | 09.09.2024 | 56.7         | 45.2         | 09.09.2024      | 48.3         | 36.6         | 08.09.2024        | 44.4         | 34.9         |
| <b>Sep -II</b>  | 24.09.2024         | 52.2        | 43.2        | 25.09.2024 | 54.3         | 49.5         | 25.09.2024      | 39.8         | 29.5         | 24.09.2024        | 34.2         | 31.8         |
|                 | <b>Average</b>     | <b>53.4</b> | <b>45.0</b> |            | <b>53.77</b> | <b>43.85</b> |                 | <b>43.46</b> | <b>33.68</b> |                   | <b>44.18</b> | <b>34.34</b> |
| <b>Limits</b>   |                    | <b>75</b>   | <b>70</b>   |            | <b>55</b>    | <b>45</b>    |                 | <b>55</b>    | <b>45</b>    |                   | <b>55</b>    | <b>45</b>    |



## Vehicular Emissions Study in INDARAM OCP SRP AREA

| S.No | Vehicle No/capacity | Vehicle Make | Test Date  | Commission Date | Hrs Runned | HSU % | K m <sup>-1</sup> | Test Status |
|------|---------------------|--------------|------------|-----------------|------------|-------|-------------------|-------------|
| 1.   | Shovel S-1          | TATA Hitachi | 25.10.2019 | 12.08.2024      | 11251      | 29.5  | 0.40              | PASS        |
| 2.   | DOZER -1            | KOMAT        | 26.06.2017 | 12.08.2024      | 15711      | 14.3  | 0.18              | PASS        |
| 3.   | DUMPER 100 T K-1    | KOMAT        | 15.11.2021 | 12.08.2024      | 7924       | 17.4  | 0.12              | PASS        |
| 4.   | WS-1                | BEML         | 19.11.2018 | 12.08.2024      | 5388       | 24.2  | 0.15              | PASS        |
| 5.   | LOADER-1            | VOLVO        | 04.11.2019 | 12.08.2024      | 13504      | 19.8  | 0.25              | PASS        |
| 6.   | LOADER-2            | KOMAT        | 29.11.2021 | 12.08.2024      | 10328      | 22.4  | 0.14              | PASS        |
| 7.   | MG-1                | BEML         | 18.08.2021 | 12.08.2024      | 1625       | 15.2  | 0.16              | PASS        |
| 8.   | 40 T CRANE -C1      | TIL          | 16.09.2021 | 12.08.2024      | 584        | 17.3  | 1.02              | PASS        |
| 9.   | CRANE-C2            | Till         | 19.05.2018 | 12.08.2024      | NA         | -     | -                 | BD          |

|                           |   |
|---------------------------|---|
| Total no of vehicles      | 9 |
| No of vehicles tested     | 8 |
| Passed vehicles           | 8 |
| Failed vehicles           | 0 |
| Break Down vehicles (B/D) | 1 |

**DETAILS OF BLAST INDUCED GROUND VIBRATIONS OF INDARAM OPENCAST PROJECT SRIRAMPUR AREA**

| Date      | Location RL | OB /COAL | Dia of the hole (150mm) | No of holes | Avg.Chg/ hole(kg) | MCD (kg) | Total explosives (kg) | Dist.from instrument to nearest blast hole(m) | Fly rock Dist.from farthest hole(m) | ppv (mm/s) | Frequency (Hz) | Air over pr. pa (L) | Minimate location (Doragaripally towards Indaram village within 500m dist.) |
|-----------|-------------|----------|-------------------------|-------------|-------------------|----------|-----------------------|---|-------------------------------------|------------|----------------|---------------------|---|
| 01-Apr-24 | 820         | OB       | 150                     | 177         | 25                | 30       | 7030.00               | 480   | 10                                  | 0.67       | 6.9            | 130.00              | DORAGARI PALLI  |
| 02-Apr-24 | 780         | OB       | 150                     | 343         | 30                | 35       | 10330.00              | 480   | 10                                  | 0.843      | 8.4            | 118.00              | Tekumatla Road  |
| 03-Apr-24 | 790         | OB       | 150                     | 257         | 35                | 40       | 12190.00              | 300   | 10                                  | 2.38       | 12             | 130.00              | DORAGARI PALLI  |
| 04-Apr-24 | 790         | OB       | 150                     | 314         | 35                | 40       | 11330.00              | 440   | 15                                  | 0.591      | 10             | 121.00              | "   |
| 07-May-24 | 810         | OB       | 150                     | 471         | 40                | 45       | 18870.00              | 350   | 10                                  | 0.962      | 10             | 117.00              | TEKUMATLA   |
| 08-May-24 | 770         | OB       | 150                     | 253         | 40                | 45       | 10810.00              | 460   | 10                                  | 0.812      | 24             | 127.00              | DORAGARI PALLI  |
| 09-May-24 | 780         | OB       | 150                     | 428         | 35                | 40       | 15450.00              | 380   | 10                                  | 1.647      | 15             | 119.00              | UYVALAPO SAMMA  |

**DETAILS OF BLAST INDUCED GROUND VIBRATIONS OF INDARAM OPENCAST PROJECT SRIRAMPUR AREA**

| Date      | Location RL | OB /COAL | Dia of the hole (150mm) | No of holes | Avg.Chg/ hole(kg) | MCD (kg) | Total explosives (kg) | Dist.from instrument to nearest blast hole(m) | Fly rock Dist.from farthest hole(m) | ppv (mm/s) | Frequency (Hz) | Air over pr. pa (L) | Minimate location (Doragaripally towards Indaram village within 500m dist.) |
|-----------|-------------|----------|-------------------------|-------------|-------------------|----------|-----------------------|---|-------------------------------------|------------|----------------|---------------------|---|
| 10-May-24 | 770         | OB       | 150                     | 418         | 35                | 40       | 16940.00              | 450   | 10                                  | 0.307      | 18             | 108.00              | "   |
| 08-Jun-24 | 825         | OB       | 150                     | 455         | 25                | 30       | 23380.00              | 400   | 10                                  | 0.221      | 23             | 120.00              | DORAGARI PALLI  |
| 09-Jun-24 | 830         | OB       | 150                     | 471         | 25                | 30       | 16210.00              | 390   | 10                                  | 0.757      | 7.9            | 128.00              | DORAGARI PALLI  |
| 10-Jun-24 | 735         | OB       | 150                     | 640         | 35                | 40       | 23400.00              | 400   | 10                                  | 0.654      | 9.8            | 124.00              | "   |
| 08-Jun-24 | 825         | OB       | 150                     | 455         | 25                | 30       | 23380.00              | 400   | 10                                  | 0.221      | 23             | 120.00              | DORAGARI PALLI  |
| 05-Jul-24 | 820         | OB       | 150                     | 358         | 20                | 25       | 8710.00               | 410   | 10                                  | 0.678      | 34             | 115.00              | "   |
| 06-Jul-24 | 790         | OB       | 150                     | 547         | 35                | 40       | 20490.00              | 460   | 10                                  | 0.512      | 8.3            | 125.00              | "   |
| 07-Jul-24 | 810         | OB       | 150                     | 207         | 30                | 35       | 6890.00               | 430   | 10                                  | 0.765      | 14             | 117.00              | "   |
| 05-Jul-24 | 820         | OB       | 150                     | 358         | 20                | 25       | 8710.00               | 410   | 10                                  | 0.678      | 34             | 115.00              | "   |
| 05-Aug-24 | 770         | OB       | 150                     | 127         | 35                | 40       | 5050.00               | 430   | 10                                  | 0.481      | 24             | 116.00              | "   |
| 06-Aug-24 | 760         | OB       | 150                     | 100         | 35                | 40       | 4060.00               | 420   | 10                                  | 0.843      | 15             | 122.00              | "   |
| 07-Aug-24 | 770         | OB       | 150                     | 347         | 35                | 40       | 12330.00              | 420   | 10                                  | 0.725      |                | 127.00              | "   |
| 04-Sep-24 | 0           | 0        | 0                       | 0           | 0                 | 0        | 0.00                  | 0   | 0                                   |            | NO BLASTING    |                     |   |
| 05-Sep-24 | 0           | 0        | 0                       | 0           | 0                 | 0        | 0.00                  | 0   | 0                                   |            | NO BLASTING    |                     |   |
| 06-Sep-24 | 0           | 0        | 0                       | 0           | 0                 | 0        | 0.00                  | 0   | 0                                   |            | NO BLASTING    |                     |   |
| 07-Sep-24 | 0           | 0        | 0                       | 0           | 0                 | 0        | 0.00                  | 0   | 0                                   |            | NO BLASTING    |                     |   |
| 28-Sep-24 | 780         | OB       | 150                     | 193         | 20                | 25       | 3925.00               | 420   | 10                                  | 0.72       | 16             | 123                 | "   |
| 29-Sep-24 | 805         | OB       | 150                     | 261         | 30                | 35       | 8105.00               | 420   | 10                                  | 0.78       | 18             | 109.00              | "   |
| 30-Sep-24 | 790         | OB       | 150                     | 285         | 35                | 40       | 8485.00               | 460   | 10                                  | 0.59       | 14             | 97.5                | "   |

**ANNEXURE –XII**

❖ Location of the water Quality monitoring Station : Area Workshop Effluent (ETP Outlet)

| Sl. No.            | Station name  | Date of sampling | Concentration in mg/Liter (Except pH) |                |                 |                |               |              |             |
|--------------------|---|------------------|---------------------------------------|----------------|-----------------|----------------|---------------|--------------|-------------|
|                    |   |                  | pH (at 250 C)                         | TSS At 1050 C  | TDS (At 1800 C) | COD            | BOD           | Oil & Grease |             |
|                    | <b>MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines</b> |                  | 5.5-9.0                               | 100            | --              | 250            | 30            | 10           |             |
| 1.                 | Area Workshop Effluent (ETP Outlet)                                     | 15.04.2024       | 7.9                                   | 66             | 1145            | 40             | 9.5           | 2.2          |             |
|                    |   | 30.04.2024       | 8.1                                   | 72             | 105             | 52             | 13.6          | 1.8          |             |
|                    |   | 15.05.2024       | 7.7                                   | 59             | 1237            | 63             | 15.4          | 2            |             |
|                    |   | 30.05.2024       | 8.2                                   | 63             | 1172            | 55             | 11.2          | 2            |             |
|                    |   | 14.06.2024       | 7.8                                   | 55             | 1019            | 60             | 14.2          | 3            |             |
|                    |   | 27.06.2024       | 7.6                                   | 61             | 1233            | 67             | 15.3          | 3.2          |             |
|                    |   | 15.07.2024       | 7.3                                   | 47             | 1368            | 51             | 12.6          | 2.8          |             |
|                    |   | 30.07.2024       | 7.7                                   | 72             | 1179            | 56             | 11.2          | 3            |             |
|                    |   | 14.08.2024       | 7.8                                   | 37             | 1025            | 47             | 10.5          | 1.8          |             |
|                    |   | 31.08.2024       | 8.1                                   | 61             | 1148            | 55             | 11.2          | 2            |             |
|                    |   | 13.09.2024       | 7.6                                   | 61             | 1362            | 48             | 12.2          | 2.6          |             |
|                    |   | 30.09.2024       | 7.2                                   | 67             | 1085            | 59             | 14.4          | 2.2          |             |
|                    |   | <b>Minimum</b>   |                                       | <b>7.20</b>    | <b>37.00</b>    | <b>105.00</b>  | <b>40.00</b>  | <b>9.50</b>  | <b>1.80</b> |
|                    |   | <b>Maximum</b>   |                                       | <b>8.20</b>    | <b>72.00</b>    | <b>1368.00</b> | <b>67.00</b>  | <b>15.40</b> | <b>3.20</b> |
| <b>Average</b>     |   | <b>7.75</b>      | <b>60.08</b>                          | <b>1089.83</b> | <b>54.42</b>    | <b>12.61</b>   | <b>2.38</b>   |              |             |
| <b>98% tile</b>    |   | <b>8.18</b>      | <b>72.00</b>                          | <b>1366.68</b> | <b>66.12</b>    | <b>15.38</b>   | <b>3.16</b>   |              |             |
| <b>Test Method</b> |   | <b>4500H+B</b>   | <b>2540-D</b>                         | <b>2540-C</b>  | <b>5220-D</b>   | <b>IS 3025</b> | <b>2540-C</b> |              |             |

**Revenue Expenditure incurred on Environment Management and Pollution Control Measures:**

| Sl. No | Expenditure Head                                    | Revenue Expenditure (in Rs.) |                      |                   |
|--------|---|------------------------------|----------------------|-------------------|
|        |   | (UP TO )<br>2023-24          | 2024-25<br>(apr-sep) | Total             |
| I      | Air pollution (Prevention & control)                | 12302430                     | 1825388.8            | <b>14127819</b>   |
| II     | Water pollution (Prevention & Control)              | 3923578                      | 494799               | <b>4418377</b>    |
| III    | Land development                                    | 0                            | 0                    | <b>0</b>          |
| IV     | Plantation  | 528348                       | 325215               | <b>853563</b>     |
| V      | Equipment for maintenance of environment protection | 2242516                      | 457940               | <b>2700456</b>    |
| VI     | Consultancy payments                                | 0                            | 0                    | <b>0</b>          |
| VII    | OB Reclamation / Subsidence management              | 181000                       | 22500                | <b>203500</b>     |
| VIII   | Environment awareness / Environment education       | 4000                         | 5000                 | <b>9000</b>       |
| IX     | Noise & Blasting vibration                          | 163980.3                     | 34333.6              | <b>198313.9</b>   |
| X      | Others  | 0                            | 0                    | <b>0</b>          |
|        | <b>Total</b>  | 19345852                     | <b>3165176.4</b>     | <b>22511028.9</b> |



**REGD.POST WITH ACK.DUE**

**Order No. 44/PCB/CFE/RO-NZB/HO/2008 - 2092**

**Dt. 19.11.2016**

**Sub: PCB - CFE – M/s Singareni Collieries Co. Ltd., Indaram Open Cast Project (Indaram-OCP), Srirampur area, Indaram (V), Jaipur (M), Adilabad District - Extension of validity of CFE period – Issued – Reg.**

- Ref:**
- 1) Environmental Clearance order dt. 31.07.2008.
  - 2) CFE Order No. 44/PCB/CFE/RO-NZB/HO/2008, dt. 06.01.2009.
  - 3) Industry's request lr.dt. 05.10.2016
  - 4) R.O's inspection report dt. 12.02.2016.

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The Board vide reference 2<sup>nd</sup> cited, issued CFE for following activity with installed capacities as mentioned below:

| Sl. No. | Products    | Capacity  |
|---------|-------------|---|
| 1       | Coal mining | 1.2 million TPA with a peak production of 1.5 million TPA |

The proponent vide reference 2<sup>nd</sup> cited, requested for extension of CFE order 5 more years from the date of expiry, as they could not complete the project due to administrative reasons, the project could not be grounded as per the Schedule date.

In view of the above, after careful scrutiny of the application, the Board hereby issues extension of validity of CFE for a further period of five years from the expiry of validity of CFE i.e., upto 05.01.2019 with following additional condition:

"Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Rules, to such an authority (hereinafter referred to as the Appellate Authority) constituted under Section 28 of Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981."

All other conditions mentioned in the CFE order issued vide reference 2<sup>nd</sup> cited remain the same.

**Sd/-  
MEMBER SECRETARY**

To,  
The General Manager,  
M/s Singareni Collieries Co. Ltd.,  
Srirampur (Post),  
Mancherial (M),  
Adilabad District – 504 303.

//TC.F.B.O//

  
**SENIOR ENVIRONMENTAL ENGINEER**

REGD.POST WITH ACK.DUE

CONSENT ORDER FOR ESTABLISHMENT

Order No.44 /PCB/CFE/RO-NZB/HQ/2008 ← 2661 → DL06.01.2009

Sub: PCB - CFE - M/s. Singareni Collieries Co. Ltd., Indaram Open cast Project (Indaram-OCP), Srirampur area , Indaram (V), Jaipur (M), Adilabad District - Consent for Establishment of the Board under Sec.25 of Water (P & C of P) Act, 1974 and Under Sec.21 of Air (P&C of P) Act, 1981 - Issued - Reg.

- Ref. 1) Public Hearing conducted on 3.9.2007 at Indaram (V), Jaipur (M), Adilabad District  
2) Environmental Clearance dt. 31.7.2008 issued by MOE&F, GOI.  
3) Industry's application received through SWCC on 3.10.2008 & addl. Information on 24.11.2008  
4) R.O's inspection report dt. 2.12.2008  
5) CFE Committee meeting held on 03.01.2008.

1. In the reference 1st cited, an application was submitted to the Board seeking Consent for Establishment (CFE) for Indaram Open cast Project to produce the following products with installed capacities as mentioned below, with a project cost of Rs. 91.20 Crores with a Mine lease area - 846.76 Ha.

| Sl. No. | Product     | Capacity  |
|---------|-------------|---|
| 1       | Coal mining | 1.2 million TPA with a peak production of 1.5 million TPA |

2. As per the application, the Indaram Open cast Project is to be located at Srirampur area , Indaram (V), Jaipur (M), Adilabad District.
3. The above site was inspected by the Environmental Engineer and Asst. Environmental Engineer, Regional office, A.P Pollution Control Board, Nizamabad on 25.11.2008 and found that the site is surrounded by

**North** : Indaram (V), Tekumalla (V) & Vagu  
**South** : Open lands & Godavari River  
**East** : Open lands & Tekumalla (V)  
**West** : Open lands & Mancherla to Godavarikhani Highway road

4. The Board, after careful scrutiny of the application and verification report of Regional Officer, hereby issues CONSENT FOR ESTABLISHMENT to your activity Under Section 25 of Water (Prevention & Control of Pollution) Act 1974 and Section 21 of Air (Prevention & Control of Pollution) Act, 1981 and the rules made there under. This order is issued to the activity as mentioned at para (1) only.


5. This Consent Order now issued is subject to the conditions mentioned in Schedule 'A' and Schedule 'B'.
6. This order is issued from pollution control point of view only. Zoning and other regulations are not considered.

Encl: Schedule 'A'  
Schedule 'B'

Sd/-  
MEMBER SECRETARY

To  
M/s. Singareni Collieries Co. Ltd.,  
Indaram Open-cast Project (Indaram-OCP),  
Kothgudem Collieries,  
Khammam district.

/// T.C.F.B.O ///

  
JOINT CHIEF ENVIRONMENTAL ENGINEER (CFE)

7/1/09



### SCHEDULE - A

1. Progress on implementation of the project shall be reported to the Regional Office, A.P. Pollution Control Board, Nizamabad once in six months.
2. Separate energy meters shall be provided for Effluent Treatment Plant (ETP) and Air pollution Control equipments to record energy consumed.
3. The proponent shall obtain Consents for Operation (CFO) from APPCB, as required Under Sec.25/26 of the Water (P&C of P) Act, 1974 and under sec. 21/22 of the Air (P&C of P) Act, 1981, before commencement of the activity.
4. Notwithstanding anything contained in this conditional letter or consent, the Board hereby reserves its right and power Under Sec.27(2) of Water (Prevention and Control of Pollution) Act, 1974 and Under Sec.21(4) of Air (Prevention and Control of Pollution) Act, 1981 to review any or all the conditions imposed herein and to make such alternation as deemed fit and stipulate any additional conditions by the Board.
5. The consent of the Board shall be exhibited in the premises at a conspicuous place for the information of the inspecting officers - of different departments.
6. Compensation is to be paid for any environmental damage caused by it, as fixed by the Collector and District Magistrate as civil liability.
7. Washings shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
8. Rain Water Harvesting (RWH) structure (s) shall be established on the plant site. The proponent shall ensure that effluent shall not enter the Rain Water Harvesting structure.
9. The rules and regulations notified by Ministry of Law and Justice, GOI, regarding the Public Liability Insurance Act, 1991 shall be followed.
10. This order is valid for period of 5 years from the date of issue.

### SCHEDULE - B

#### Water:

1. The source of water is Mine discharge water and the maximum permitted water consumption is 689 KLD.

| Sl No. | Source            | Water consumption (KLD) |
|--------|-------------------|-------------------------|
| 1      | Dust suppression  | 624                     |
| 2      | Washings of HEMM  | 36                      |
| 3      | Domestic & others | 22                      |
| 4      | Plantation        | 7                       |
|        | <b>Total</b>      | <b>689</b>              |

2. The Effluent Treatment Plant (ETP) shall be constructed and commissioned and Air Pollution control equipment shall be installed along with the commissioning of the activity. All the units of the ETP shall be impervious to prevent ground water pollution.
3. The maximum Waste Water Generation (KLD) shall not exceed the following:

| Sl No. | Source            | Wastewater generation (KLD) |
|--------|-------------------|-----------------------------|
| 1      | Excess mine water | 3411                        |
| 2      | Washings of HEMM  | 36                          |
| 3      | Domestic & others | 17                          |
|        | <b>Total</b>      | <b>3464</b>                 |

| Effluent Source                         | Treatment                               | Mode of final disposal   |
|---|---|--|
| Mine discharge water (4100 KLD)         | Sedimentation tanks                     | For dust suppression (624 KLD + washing of HEMM – 36 KLD + Domestic – 22 KLD + plantation – 7 KLD) |
| Washing of machinery (36 KLD)           | Sedimentation tank, Oil & grease trap   | For plantation   |
| Domestic waste water (17 KLD)           | Septic tank                             | Soak pit   |
| Sewage from SCCL township               | Sewage Treatment Plant (STP)            | Treated water shall be reused for plants within the township.                                      |
| Excess mine water (3411 KLD)            | After treatment in sedimentation tanks. | For ground water recharging / agricultural purpose   |
| Surface runoff channeled through drains | Settling tank                           |  |

4. The industry shall treat the wastewater from workshop, CHP and mine discharge water etc., in the ETP so as to comply with the onland for irrigation standards stipulated by the MOE&F, GOI under the E (P) Rules, 1986.
5. The industry shall discharge the domestic waste water from the proposed mines & Township in Septic tank and STP respectively. The domestic wastewater after treatment shall be utilized onland for gardening / plantation within the premises.
6. Separate meters with necessary pipe-line shall be provided for assessing the quantity of water used for each of the purposes mentioned below.
  - a) Spraying in mine pits
  - b) Domestic purposes.

#### Air:

7. The proponent shall comply with the following for controlling air pollution.
  - To avoid the dust generation from the drilling operations, wet-drilling shall be proposed.

- Use of appropriate explosives for controlled blasting and avoiding overcharging the blast holes.
  - The volume of dust rising from dumps by the action of wind shall be controlled significantly by planting grasses on slopes and plants on dumps soon after their formation.
  - To overcome the problems of dust generation from mine haul roads the following steps shall be adopted.
    - Black topping of permanent roads like routes to coal handling plant, permanent internal roads etc.
    - Water spraying on haul roads and permanent transport routes at required frequencies. Provision shall be made for procurement of six water sprinklers for this purpose.
    - Avenue plantation along roads shall be adopted.
  - Development of greenbelt along the roads, around the quarry and OB dump shall serve as barrier to prevent the dispersion of dust.
  - Effective dust suppression measures are proposed to be taken up at pit head coal handling plant (CHP). The crusher house shall be enclosed to the extent possible and dust suppression arrangement shall be provided at suitable locations in the CHP. All the conveyors, screens, crusher etc., shall be provided with covers to avoid fugitive dust during operation. Some of the measures proposed to be adopted at CHP in order to control dust emission include:
    - Height of fall to be minimized at all coal transfer points.
    - Internal lining of chutes and bins shall be done to take care of abrasion & dust.
    - Continuous water spraying arrangements shall be made for dust suppression.
8. Wet drilling & controlled blasting shall be practiced only during day time with use of delay detonators.
9. The proponent shall install high efficiency Bag filters for the crushers at the Coal Handling Plant (CHP), water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, Haulage roads and transfer points.
10. The generator shall be installed in a closed area with a silencer and suitable noise absorption systems. The ambient noise level shall not exceed 75 dB(A) during day time and 70 dB(A) during night time.

#### **Solid Waste:**

11. Out of total over burden and topsoil of 402.3 million cu.m, 266.11 million cu.m shall be accommodated in the internal dump yard (de-coaled area) of 30 m height above GL and the balance 136.20 million cu.m in the external dump yard of 90 m height above GL.

12. OB shall be stocked at earmarked external OB dumpsites within the mine lease area.
13. Topsoil shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of greenbelt.
14. The Hazardous Waste (Management and Handling), Rules, 1989 and regulations notified by the MOE&F, GOI shall be implemented.

**Other Conditions:**

15. Thick Green belt shall be developed along the boundary of the mine. Green belt development shall be started along with the mine preparation activity. Afforestation in reclaimed external OB dump, reclaimed top soil dump the back filled area shall be ecologically reclaimed and afforested by planting native plant species in consultation with local DFO /Agricultural Department with density of around 2500 plants / hectare.
16. An Area Drainage study shall be conducted and protective measures shall be taken to prevent mine inundation.
17. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, greenbelt development etc. The drains shall be regularly desilted and maintained properly.
18. Garland drain of suitable size, gradient & length and sump capacity shall be designed. Sump capacity shall also be provided for adequate retention period to allow proper settling of silt material.
19. The recommendations / commitments made during the Public Hearing held on 3.9.2007 at Indaram (V), Jaipur (M), Adilabad District shall explicitly be followed from pollution control point of view.
20. The industry shall comply with all the conditions stipulated in the Environmental Clearance issued vide order dt. 31.7.2008
21. The industry shall comply with the relevant standards stipulated in the E (P) Rules, 1986.

Sd/-  
MEMBER SECRETARY

To  
M/s. Singareni Collieries Co. Ltd.,  
Indaram Open cast Project (Indaram-OCP),  
Kothgudem Collieries,  
Khammam district.

/// T.C.F.B.O ///

*P. Ravindoo*  
JOINT CHIEF ENVIRONMENTAL ENGINEER (CFE)

7/1/09

250  
93/2/9



**CONSENT ORDER (RENEWAL)  
RED CATEGORY**

**Consent Order No : 230524601423**

**04.29.09.2023**

*(Consent Order for Existing/New or altered discharge of sewage and/or trade effluents/outlet under Section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and amendments thereof, Operation of the plant under section 21/22 of Air (Prevention & Control of Pollution) Act 1981 and amendments thereof and Authorisation / Renewal of Authorisation under Rule 5 of the Hazardous Wastes (Management, Handling & Transboundary Movement) Rules 2016 & Amendments thereof.*

CONSENT is hereby granted under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974, under section 21/22 of Air (Prevention & Control of Pollution) Act 1981 and amendments thereof, and Authorisation under the provisions of HW (MH & TM) Rules, 2016 (hereinafter referred to as 'the Acts', 'the Rules') and amendments thereof and the rules and orders made there under to M/s. Singareni Collieries Co. Ltd., Indaram Khani OCP, Sreerampur Area, Indaram (V), Jaipur (M), Mancherla District (hereinafter referred to as 'the Applicant / Project') and the project is authorized to operate and to discharge the Effluents and the quantity of Emissions from the chimneys, by operating pollution control equipment, as detailed below,

**i) Out lets for discharge of Effluents:**

| Outlet No. | Description of Outlet | Max Daily Discharge in KLD | Point of Disposal   |
|------------|-----------------------|----------------------------|---|
| 1.         | Mine discharge Water  | 4100                       | After treatment in sedimentation tanks, shall be used for Dust suppression and excess for agricultural purpose after meeting the standards at Schedule -B.      |
| 2.         | Excess Mine Water     | 3411                       | After treatment in sedimentation tanks, shall be used for ground water recharging / agricultural purpose, duly meeting the standards stipulated in Schedule - B |
| 3.         | Washings of Machinery | 36                         | After treatment, shall be used for greenbelt development duly meeting the standards stipulated in Schedule -B   |
| 4.         | Domestic              | 7                          | Septic tank followed by soak pit.   |

This consent order is valid for Mining of Coal in the Mine Lease Area of 512 Ha (total mine lease area is 846.76 Ha) to the following installed capacity and actual production shall be limited as per IBM approval only.

| Sl. No. | Product                 | Quantity  |
|---------|-------------------------|---|
| 1.      | Coal Mining (Open cast) | 1.2 Million TPA with a peak production of 1.5 Million TPA |

This order is subject to the provisions of 'the Acts' and the Rules' and amendments made thereunder and further subject to the terms and conditions incorporated in the schedule A and B enclosed to this order.

This order of Consent is valid for a period ending with the 31<sup>st</sup> October, 2028.

Sd/-  
MEMBER SECRETARY

To  
M/s. Singareni Collieries Co. Ltd.,  
Indaram Khani OCP, Sreerampur Area,  
Indaram (V), Jaipur (M), Mancherla District

///T.C.F.B.O///

*M. Prasad 29/10/2023*

SENIOR ENVIRONMENTAL ENGINEER  
(CFO - UNIT-III)

## SCHEDULE - A

1. The applicant shall make applications through online for renewal of Consent (under Water & Air Acts) and Authorisation under HWM Rules at least 120 days before the date of expiry of this order, along with prescribed fee under Water and Air Acts for obtaining Consent & HW Authorisation of the Board. The applicant can also apply for Auto Renewal of the CFO atleast 30 days before the expiry of this order as per the procedure and eligibility stipulated in the Board Circular dt.19.11.2015 & 08.12.2015 (available in Board's Website: <http://tspcb.cgg.gov.in/Pages/Circulars.aspx>).
2. This order is issued in line with Board's CFO order dt. 17.09.2020. Concealing the factual data or submission of false information/ fabricated data and failure to comply with any of the conditions mentioned in this order may result in withdrawal of this order and attract action under the provisions of relevant pollution control Acts. The industry shall comply with all other conditions of CFO order dt. 17.09.2020 is still applicable.
3. Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Rules, to such authority (hereinafter referred to as the Appellate Authority) constituted under Section 28 of the Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981.
4. The industry may explore the possibility of tapping the solar energy for their energy requirements.
5. The Board reserves its right to modify above conditions or stipulate any further conditions and to take action including revoke of this order in the interest of protection of public health and environment.

## SCHEDULE - B

1. Total Water Consumption shall not exceed : 676.0 KLD

| S. No | Purpose           | Quantity (KLD)   |
|-------|-------------------|------------------|
| 1.    | Dust suppression  | 624              |
| 2.    | Washing of HEMM   | 36               |
| 3.    | Domestic & others | 9                |
| 4.    | Plantation        | 7                |
|       | <b>Total</b>      | <b>676.0 KLD</b> |

2. The effluent discharged should not contain constituents in excess of the tolerance limits prescribed below.

| Outlet No. | Parameter No.                | Limiting Standards |
|------------|------------------------------|--------------------|
| 1, 2 & 3   | pH                           | 5.5 - 9.0          |
|            | Total Suspended Solids (TSS) | 200 mg/l           |
|            | Oil & Grease                 | 10 mg/l            |
|            | BOD (3 days at 27° C)        | 100 mg/l           |
|            | Total Dissolved Solids (TDS) | 2100 mg/l          |

3. The mine should not produce beyond the permitted capacity as mentioned in this order, without obtaining prior CFE & CFO of the Board. The mining capacity of the coal also should not be increased more than IBM approved capacity.
4. The mine should ensure segregation of Acid Mine Discharges (AMD) from abandoned mines, coal stocks, coal handling facilities, washeries & coal waste tips etc. and should adopt adequate treatment to achieve prescribed standards for the AMD as stipulated at S.No.2 prior to disposal. The plan of action for segregation of AMD, technology of the proposed treatment and mode of disposal should be submitted to Board.
4. The mine shall comply with emission limits for D3 sets upto 800 KW as per the Notification G.S.R.520 (E), dated 01.07.2003 under the Environment (Protection) Amendment Rules, 2003 and G.S.R.448(E), dated 12.07.2004 under the Environment (Protection) Second Amendment

Rules, 2004. In case of DG sets more than 800 KW should comply with emission limits as per the Notification G.S.R.489 (E), dated 09.07.2002 at serial no.96, under the Environment (Protection) Act, 1986.

6. The mine shall comply with ambient air quality standards of  $PM_{10}$ (Particulate Matter size less than  $10\mu m$ ) -  $100\ \mu g/m^3$ ;  $PM_{2.5}$ (Particulate Matter size less than  $2.5\ \mu m$ ) -  $60\ \mu g/m^3$ ;  $SO_2$  -  $80\ \mu g/m^3$ ;  $NO_x$  -  $80\ \mu g/m^3$ , outside the factory premises at the periphery of the industry.

Standards for other parameters as mentioned in the National Ambient Air Quality Standards CPCB Notification No.B-29016/20/90/PCI-I, dated 18.11.2009

**Noise Levels:** Day time - (6 AM to 10 PM) - 75 dB (A)  
Night time - (10 PM to 6 AM) - 70 dB (A).

6. The industry shall pay balance consent fee annually as per rates notified in G.O.Ms.No.22. The payment of annual consent fee shall be made at the concerned RO for every financial year (i.e., April to March) within the stipulated time period i.e., 1st quarter of every financial year (April to June) is mandatory for the industry / project, failing which, the validity of the Consent Order automatically stands cancelled and operation industry / project without valid consent attracts penal action under the provision of Water Act, Air Act & Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.
7. The industry either paying annual fee or total fee for Consented period, shall pay the balance fee as per the revised rates as applicable from time to time.
8. The mine shall maintain separate water meters for recording water consumption for various purposes and also maintain daily records.
9. The mine shall maintain the water spraying system properly by adopting preventive maintenance schedule to avoid fugitive dust emissions.
10. The mine shall carryout water spraying on haul roads to avoid fugitive dust emissions due to vehicular movement. The industry shall provide permanent water sprinkling system along the haul roads.
11. The mine shall fully cover the coal transport vehicles with tarpaulin sheets to avoid fugitive dust emissions.
12. The mine shall maintain 5 fixed AAQM stations and install one CAAQMS station in core area for monitoring of ambient air and connect the CAAQM data to TSPCB server.
13. The mine shall develop greenbelt with tall growing trees along the boundary and maintain greenbelt as per norms.
14. The mine shall take effective measures such as covering coal transport vehicles with tarpaulins, mechanical sweeping of roads, etc to avoid fugitive emissions.
15. The mine shall operate ETP for treating the workshop effluents.
16. The mine shall adopt control measures to control dust emission.
17. The mine shall use atleast 25% of fly ash on volume to volume basis of the total materials used for external dump of overburden and same percentage in upper benches of back filling of open cast mines, as per Fly Ash Notification.
18. The mine shall comply with MOE&F Notification No.GSR.02 (E), dt. 02.01.2014 for supply of coal with Ash content not exceeding 34% to coal based Thermal Power plants.
19. The mine shall comply with standards applicable to coal mining for core zone as per GSR 742 (E) dated 25<sup>th</sup> September 2000 issued by MOEF&CC and also comply with National Ambient Air Quality Standards (NAAQS) in the buffer zone.
20. The personnel working in dusty areas should wear protective / respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
21. Blasting should be sequential in such a manner as to achieve minimum vibration.



22. The mine should comply with the following for controlling air pollution.

- To avoid the dust generation from the drilling operations, wet-drilling should be done.
  - Use of appropriate explosives for controlled blasting and avoid overcharging the blast holes.
  - The volume of dust rising from dumps by the action of wind should be controlled significantly by planting grasses on slopes and plants on dumps soon after their formation.
  - To overcome the problems of dust generation from mine haul roads, the following steps should be adopted.
    - Black topping of permanent roads like routes to coal handling plant, permanent internal roads etc.
    - Water spraying on haul roads and permanent transport routes at required frequencies. Provision should be made for procurement of six water sprinklers for this purpose.
    - Avenue plantation along roads should be adopted.
  - Effective dust suppression measures to be taken up at pit head coal handling plant (CHP). The crusher house should be enclosed to the extent possible and dust suppression arrangement should be provided at suitable locations in the CHP. All the conveyors, screens, crusher etc., should be provided with covers to avoid fugitive dust during operation. Some of the measures proposed to be adopted at CHP in order to control dust emission include:
    - Height of fall to be minimized at all coal transfer points.
    - Internal lining of chutes and bins should be done to take care of abrasion & dust.
23. Dumping of overburden, if done, should use the retreating pyramid bench formation with concurrent, physical and biological reclamation. Dumps should be contoured and provided with relief control and stabilized. Dump tops should be compacted, leveled and be properly drained.
24. Soil binding and nitrogen fixing plants should plant in the Mining Lease Area. Biological reclamation should be done in two phase the first phase should be plant appropriate quick growing grass and shrubs and the second phase should grow slower native shrubs and trees.
25. Ground water table levels should be monitored every season. Any lowering of the ground water table in comparison to the previous season should be reported to the Board immediately. Discarded pits should be allowed to fill with water.
26. Vehicles should be well maintained and engine idling should be minimized. Vehicle cabs should be made dust-proof.
27. The mine shall comply with the directions issued by the Board from time to time.
28. The applicant should submit Environment statement in Form V before 30<sup>th</sup> September of every year as per Rule No. 14 of E(P) Rules, 1986 & amendments thereof.
29. All the rules & regulations notified by Ministry of Law and Justice, Government of India regarding Public Liability Insurance Act, 1991, should be followed.
30. The conditions stipulated in this order are without any prejudice to rights and contentions of this Board in any Hon'ble court of Law.

Sd/-  
MEMBER SECRETARY

To  
M/s. Singareni Collieries Co. Ltd.,  
Indaram Kharil OCP, Sreerampur Area,  
Indaram (V), Jaipur (M), Mancharial District.

///T.C.F.B.O///

*H. Prasad* 29/9/2023

SENIOR ENVIRONMENTAL ENGINEER  
(CFO - UNIT-III)

*a*

|   |  |
|---|--|
| पॉलिसी अनुसूची/ Policy Schedule-Public Liability Insurance Act  |  |
| पॉलिसी संख्या / <b>Policy Number:</b><br><b>55020049241000034</b>   | व्यवसाय स्रोत/ <i>Business Source:</i> 550200  |
| जारीकर्ता कार्यालय/ <b>Issuing Office</b><br>कार्यालय कोड/ <i>Office Code:</i> 550200<br>कार्यालय पता/ <i>Office Address:</i> HYDERABAD<br><b>BUSINESS OFFICE II CSR Plaza,D No. 6-3-347/9/4,,2nd Floor,Dwarakapuri Colony,Punjagutta, - 500082.</b><br>राज्य कोड/ <b>State Code:</b> 36 , Telangana<br>जीएसटीएन/ <b>GSTIN:</b> 36AAACN9967E6ZZ<br>संपर्क संख्या/ <i>Contact Number:</i> 40 23401398<br>मोबाइल संख्या / <i>Mobile Number:</i> 0 | विक्रय चैनल विवरण/<br><b>Sales Channel Details</b><br>कोड/ <i>Code:</i> 550200<br>नाम/ <i>Name:</i> Hyderabad Division II<br>संपर्क संख्या/ <i>Contact Number:</i><br>सह दलाल कोड / <i>Co Broker Code:</i> |
|   | <b>Customer Care Toll Free Number:</b><br><b>1800 345 0330</b><br><b>email:customer.support@nic.co.in</b>  |



|   |   |   |
|---|---|---|
| ग्राहक का नाम/ <i>Customer Name:</i> MS THE SINGARENI COLLIERIES CO LTD   | ग्राहक आईडी/ <i>Customer ID:</i> 9510115064 | पैन/ <i>PAN:</i> AAAC8873F                  |
| पता/ <i>Address:</i> CORPORATE FINANCE & ACCOUNTS DEPARTMENT, PO. KOTHAGUDEM COLLIERIES, BHADRACHALAM ROAD RLY STN(S C RLY), BHADRADRI KOTHAGUDEM DISTRICT, TELANGANA, शहर/ <i>City:</i> KOTHAGUDEM, जिला/ <i>District:</i> KHAMMAM, राज्य/ <i>State:</i> TELANGANA, पिन/ <i>PIN:</i> 507101.<br>सेल/ <i>Cell:</i> 1111111111 | फोन/ <i>Phone:</i> 1111111111               | ई-मेल/ <i>E-Mail:</i> fad_crp@scclmines.com |

|  |               |  |  |
|--|---------------|--|--|
| पॉलिसी प्रभावी समय घंटे को <b>Policy Effective from 00:00 hours, on 30/04/2024</b> की मध्य रात्रि तक प्रभावी/ <b>to midnight of 29/04/2025 .</b> |               |  |  |
| प्रीमियम / <i>Premium</i>  | ₹ 65,610.42   | कवर नोट संख्या तथा तिथि/ <i>Cover Note Number and Date</i>                             | NA   |
| सीजीएसटी/ <i>CGST</i>  | ₹ 5,905.00    | प्रस्ताव संख्या और तिथि / <i>Proposal Number and Date</i>                              | 8800240506182484 दिनांक/ <i>Dt.</i> 06/05/2024   |
| एसजीएसटी/यूटीजीएसटी<br>SGST/UTGST  | ₹ 5,905.00    |  |  |
| आईजीएसटी/ <i>IGST</i>  | ₹ 0.00        |  |  |
| कम: जीएसटी टीडीएस /<br>Less: <i>GST_TDS</i>  | ₹ 0.00        |  |  |
| वसूली योग्य स्टाम्प शुल्क /<br><i>Recoverable Stamp Duty</i>   | ₹ 0.00        | रसीद संख्या और तिथि/<br><i>Receipt Number and Date</i>                                 | 550200812410000167 दिनांक/ <i>Dt.</i> 23/04/2024 |
| कुल राशि/ <b>Total Amount*</b>   | ₹ 1,43,035.00 | पिछली पॉलिसी संख्या तथा समाप्ति तिथि/<br><i>Previous Policy Number and Expiry Date</i> | NA   |
| (रूपए / <i>Rupees One Lakh Forty Three Thousand Thirty Five केवल/Only.</i> )   |               |  |  |
| * पर्यावरण राहत कोष<br>/ <i>*Environment Relief Fund:</i> ₹ 65,609.58  |               |  |  |

#### Insurance Details:

|   |                  |
|---|------------------|
| <b>Policy Effective from 00:00 hours, on 30/04/2024 to midnight of 29/04/2025</b> |                  |
| PLI act Premium   | 29,126.37        |
| Service tax   | 0.00             |
| Recoverable stamp duty  | 0.00             |
| ERF premium   | 29,126.37        |
| <b>Total amount</b>   | <b>58,252.74</b> |

|  |   |
|--|---|
| Retroactive date:                            | 30/04/2023  |
| Description of risk                          | PLI ACT POLICY -HAZAROUDS SUBSTANCES HANDLED & GROUP SUCH AS EXPLOSIVES, OIL, LUBRICANTS, GASES, TIMBER AND OTHER HAZARDOUS MATERIAL. |
| Paid up capital/Market Value of Asset/stock: | 1,00,00,000.00  |
| Liability:Any one accident(AOA):             | 5,00,00,000.00  |
| Any one year(AOY):                           | 15,00,00,000.00   |

|   |  |
|---|--|
| पॉलिसी अनुसूची/ Policy Schedule-Public Liability Insurance Act  |  |
| पॉलिसी संख्या / <b>Policy Number:</b><br><b>55020049241000034</b>   | व्यवसाय स्रोत/ <i>Business Source:</i> 550200  |
| जारीकर्ता कार्यालय/ <b>Issuing Office</b><br>कार्यालय कोड/ <i>Office Code:</i> 550200<br>कार्यालय पता/ <i>Office Address:</i> HYDERABAD<br><b>BUSINESS OFFICE II CSR Plaza,D No. 6-3-347/9/4,,2nd Floor,Dwarakapuri Colony,Punjagutta, - 500082.</b><br>राज्य कोड/ <b>State Code:</b> 36 , Telangana<br>जीएसटीएन/ <b>GSTIN:</b> 36AAACN9967E6ZZ<br>संपर्क संख्या/ <i>Contact Number:</i> 40 23401398<br>मोबाइल संख्या / <i>Mobile Number:</i> 0 | विक्रय चैनल विवरण/<br><b>Sales Channel Details</b><br>कोड/ <i>Code:</i> 550200<br>नाम/ <i>Name:</i> Hyderabad Division II<br>संपर्क संख्या/ <i>Contact Number:</i><br>सह दलाल कोड / <i>Co Broker Code:</i> |
|   | <b>Customer Care Toll Free Number:</b><br><b>1800 345 0330</b><br><b>email:customer.support@nic.co.in</b>  |
| Ratio of AOA:AOY:   | 1:3  |
| Sum Insured:  | 5,00,00,000.00   |
| Annual turn over:   | 3,46,35,72,00,000.00   |



| Clauses  | As per Annexure.I |
|--|-------------------|
| टिप्पणियां/ <b>Remarks:</b> PUBLIC LIABILITY INSURANCE ( ACT) POLICY   |                   |
| VARIOUS TRANSPORT & STORAGE LOCATIONS OF SCCL ( ALL AREAS ) LIKE : KOTHAGUDEM, YELLANDU, MANUGURU, RAMAGUNDAM -I, RG-II, RG-III, BHOOPALPALLI, BELLAMPALLI, MANDAMARRI, SRIRAMPUR & CORPORATE , TELANGANA STATE. |                   |
| NUMBER OF WORKMEN EMPLOYEES :43672   |                   |
| ESTIMATED ANNUAL TURNOVER PROPOSED : RS.346357200000/-   |                   |
| AOA: 5 CRORES<br>AOY : 15 CRORES ( 1:3)<br>PAID UP CAPITAL >RS.1733.20 CRORES  |                   |

जिसकी गवाही में दिन/ माह /वर्ष को उपरोक्त उल्लिखित कार्यालय पते पर अधोहस्ताक्षरी को विधिवत अधिकृत किया जा रहा है उसके हाथ निर्धारित किए जाएं। यह अनुसूची, संलग्न पॉलिसी, खण्ड, पृष्ठांकन और पॉलिसी शब्दों, जो कंपनी वेबसाइट <https://nationalinsurance.nic.co.in> पर उपलब्ध है, को एक अनुबंध के रूप में एक साथ पढ़ा जाए तथा कोई भी शब्द या अभिव्यक्ति जिसके लिए यह विशिष्ट अर्थ पॉलिसी या अनुसूची के किसी भी हिस्से में संलग्न किया गया हो, एक ही अर्थ वहन करेगा चाहे जहाँ भी उल्लिखित हो। यह आश्वासन दिया जाता है कि प्रीमियम चेक की अस्वीकृति के मामले में, यह दस्तावेज स्वतः आरंभ से ही निरस्त मानी जाएगी । **IN WITNESS WHEREOF, the undersigned being duly authorized hereunto set his/ her hand at the office address mentioned above, this 06/May/2024.** This schedule, the attached policy, the clauses, the endorsements and policy wordings as available in the website <https://nationalinsurance.nic.co.in> shall be read together as one contract and any word or expression to which the specific meaning has been attached in any part of this policy or of the schedule shall bear the same meaning wherever it may appear. It is warranted that **IN CASE OF DISHONOUR OF THE PREMIUM CHEQUE, THIS DOCUMENT STANDS AUTOMATICALLY CANCELLED 'AB-INITIO'**

इंश्योरेन्सईडियालिमिटेड ओम्बड्समैन का विवरण/Ombudsman Details: Office of the Insurance Ombudsman,6-2-46, 1st floor, ""Moin Court"", Lane Opp. Saleem Function Palace, A. C. Guard s, Lakdi-Ka-Pool, Hyderabad - 500 004. Tel.: 040 - 23312122  
Email: bimalokpal.hvderabad @cioins.co.in

स्टॉप ड्यूटी  
**Stamp  
Duty:**  
(₹ 0.50)

कृते नेशनल इंश्योरेन्स कंपनी लिमिटेड/  
**For and on behalf of National  
Insurance Company Limited**  
अधिकृत हस्ताक्षरकर्ता/ **Authorized Signatory**

## टैक्स इनवॉयस/TAX INVOICE

इनवॉयस क्र.सं./Invoice Serial No: 30602L4PE0000034

इनवॉयस तिथि/Invoice Date: 06/05/2024

## आपूर्तिकर्ता का विवरण/Details of Supplier:

नेशनल इन्श्योरेंस कंपनी लिमिटेड/National Insurance Company Limited.,  
HYDERABAD BUSINESS OFFICE II CSR Plaza,D No. 6-3-347/9/4,,2nd Floor,Dwarakapuri Colony,Punjagutta, - 500082  
राज्य/State : 36 , Telangana  
जीएसटीआएन नंबर/  
GSTIN No : 36AAACN9967E6ZZ

## प्राप्तकर्ता का विवरण/Details Of Receiver : MS THE SINGARENI COLLIERIES CO LTD

पता/Address : CORPORATE FINANCE & ACCOUNTS DEPARTMENT, PO. KOTHAGUEM COLLIERIES, BHADRACHALAM ROAD RLY STN(S C RLY),  
BHADRADRI KOTHAGUEM DISTRICT, TELANGANA  
शहर/City : KOTHAGUEM,  
ज़िला/District: KHAMMAM,  
राज्य/State: TELANGANA,  
पिन/PIN: 507101.

आपूर्ति का स्थान/Place Of  
Supply State : Telangana  
राज्य कोड/State Code : 36  
जीएसटीआईएन नंबर/GSTIN No : 36AAACT8873F1Z1

| सैक कोड/SAC Code | सेवा का विवरण/<br>Description of Service                           | कुल/Total(₹)  | ड्यूटी/<br>Disco<br>unt | टैक्स योग्य/<br>मूल्य/<br>Taxable<br>Value(₹) | सीजीएसटी की राशि/<br>CGST |                | एसजीएसटी/यूटीजीएसटी<br>/SGST/UTGST |                    | आईजीएसटी/IGST |                    | Kerala<br>Flood<br>Cess |
|------------------|--|---------------|-------------------------|---|---------------------------|----------------|------------------------------------|--------------------|---------------|--------------------|-------------------------|
|                  |  |               |                         |   | दर/<br>Rate               | राशि/Amount(₹) | दर/<br>Rate                        | राशि/<br>Amount(₹) | दर/<br>Rate   | राशि/<br>Amount(₹) | राशि/<br>Amount(₹)      |
| 997139           | Other non-life insurance services (excluding reinsurance services) | 65,610        | 0%                      | 65,610  | 9%                        | 5,905          | 9%                                 | 5,905              | 0%            | 0                  | 0                       |
| <b>TOTAL</b>     |  | <b>65,610</b> |                         | <b>65,610</b>                                 |                           | <b>5,905</b>   |                                    | <b>5,905</b>       |               | <b>0</b>           | <b>0</b>                |

कुल इनवॉयस मूल्य (अंकों में )Total Invoice Value (In figures) : ₹ 1,43,035

कुल इनवॉयस मूल्य (शब्दों में)Total Invoice Value (In words) : रूपए/Rupees One Lakh Forty Three Thousand Thirty Five केवल/Only.

रिवर्स चार्ज के अधीन टैक्स की राशि/ Amount of Tax Subject to Reverse Charge : No

## E.&amp;.O.E

कृते नेशनल इन्श्योरेंस कंपनी लिमिटेड/  
For and on behalf of National Insurance Company  
Limited

अधिकृत हस्ताक्षरकर्ता/ Authorized Signatory

