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# **Application in Form-I**

**For**

## **Kalidaspur UG & OC Project**

(Capacity: - 0.96 MTY & ML Area: - 655.00 Ha)

## **Satgram Area Eastern Coalfields Limited**

**(September, 2018)**

**Prepared at**

**Regional Institute – I**

**Central Mine Planning & Design Institute Ltd.**

**(A Subsidiary of Coal India Ltd.)**

**G. T. Road (West End)**

**Asansol - 713 304**



**CMPDI**

ISO 9001:2015 Company

**Form-I as per EIA Notification, 2006**  
**for**  
**Kalidaspur UG & OC Project**  
**(Capacity: 0.96 MTY & ML Area : 655.00 Ha),**  
**Satgram Area, Eastern Coalfields Limited**

**(I) Basic Information**

|    |   |  |                          |                     |              |
|----|---|--|--------------------------|---------------------|--------------|
| 1  | Name of the project   | Kalidaspur UG & OC   |                          |                     |              |
| 2  | S. No. in the schedule  | 1 (a)  |                          |                     |              |
| 3  | Proposed capacity / area / length / tonnage to be handled / command area / lease area / number of wells to be drilled           | Production Capacity – 0.96 MTY (Peak)<br>Project Area – 655.00 Ha  |                          |                     |              |
|    |   | Name of Workings   | Normative Capacity (MTY) | Peak Capacity (MTY) | Life (Years) |
|    |   | UG   | 0.135                    | 0.26                | > 30         |
|    |   | OC   | 0.50                     | 0.70                | 10           |
|    |   | Combined   | 0.635                    | 0.96                |              |
| 4  | New / Expansion / Modernization   | Expansion in Project Area with Change in Mining Technology from underground to mixed type of mining (UG + OC)  |                          |                     |              |
| 5  | Existing Capacity/Area etc  | Existing Capacity: <b>0.96 MTY</b> (Underground Mining)<br>Project Area: <b>600 Ha</b><br>Grant of EC: vide <b>MoEF Letter No. J-11015/20/85 – IA dated 20.02.1986</b>                                     |                          |                     |              |
| 6  | Category of Project. i.e. 'A' or 'B'  | A  |                          |                     |              |
| 7  | Does it attract the general condition?<br>If yes, Please specify  | No   |                          |                     |              |
| 8  | Does it attract the specific condition?<br>If yes, Please specify   | No   |                          |                     |              |
| 9  | Location  | Location Map enclosed as Plate - I   |                          |                     |              |
|    | Villages  | Sahebdanga, Bhara, Kalidaspur, Kalikapur & Banskunri   |                          |                     |              |
|    | Tehsil  | Mejhia & Saltora   |                          |                     |              |
|    | District  | Bankura  |                          |                     |              |
|    | State   | West Bengal  |                          |                     |              |
| 10 | Nearest railway station / airport along with distance in kms.   | The mine is at a distance of about 10 km due south of Raniganj station of Eastern Railway main line (Howrah – New Delhi - Howrah) Nearest airport is at Andal near Durgapur at a distance of about 26 kms. |                          |                     |              |
| 11 | Nearest Town, city, District Headquarters along with distance in kms.   | Raniganj Township: 10 kms<br>Asansol Township (District HQ of Paschim Bardhaman): 28 kms<br>Bankura Township (District HQ of Bankura District): 50 kms   |                          |                     |              |
| 12 | Village Panchayats Zilla Parishad Municipal Corporation, Local body (complete postal Addresses with telephone nos. to be given) | Village Panchayats of Ardhagram & Salma<br>1. Gram Panchayat : Ardhagram<br>Block / Tehsil : Mejhia<br>District : Bankura<br>State : West Bengal<br>Pincode : 722143                                       |                          |                     |              |

|    |   |   |
|----|---|---|
|    |   | 2. Gram Panchayat : Salma<br>Block / Tehsil : Saltora<br>District : Bankura<br>State : West Bengal<br>Pincode : 722158  |
| 13 | Name of the applicant   | Shailendra Kumar<br>Ch. Mgr. (Min) / Agent<br>Kalidaspur Project, Satgram Area<br>Eastern Coalfields Limited  |
| 14 | Registered Address  | Ch. Mgr. (Min) / Agent<br>Kalidaspur Project, Satgram Area<br>Eastern Coalfields Limited<br>Village: Kalidaspur<br>PS: Mejia<br>PO – Bhara Kalibari,<br>Dist : Bankura, West Bengal, PIN: 722143<br>Phone- 9434797009<br><b>Company Headquarters:</b><br>Eastern Coalfields Ltd.<br>PO- Sanctoria,<br>Dist : Paschim Bardhaman, West Bengal |
| 15 | Address for correspondence:   |   |
|    | Name  | Shailendra Kumar  |
|    | Designation (Owner / Partner / CEO  | Ch. Mgr. (Min) / Agent<br>Kalidaspur Project, Satgram Area<br>Eastern Coalfields Limited.   |
|    | Address   | Village: Kalidaspur<br>PS: Mejia<br>PO – Bhara Kalibari,<br>Dist : Bankura, West Bengal, PIN: 722143  |
|    | Pin Code  | 722143  |
|    | E-mail  | <a href="mailto:agentkdp@gmail.com">agentkdp@gmail.com</a> ; <a href="mailto:eclenv1@gmail.com">eclenv1@gmail.com</a>   |
|    | Telephone No.   | 9434797009  |
|    | Fax No.   | -   |
| 16 | Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet | Village- District-State (Not Applicable)<br>1.<br>2.<br>3.  |
| 17 | Interlinked Projects  | None  |
| 18 | Whether separate application of interlinked Project has been submitted                                | Not Applicable  |
| 19 | If yes, date of submission  | Not Applicable  |
| 20 | If no, reason   | Not Applicable  |
| 21 | Whether proposal involves approval / clearance under  |   |

|    |  |                |
|----|--|----------------|
|    | 1. The Forest (Conservation) Act, 1980<br>2. The Wildlife (Protection) Act, 1972<br>3. The CRZ Notification, 1991  | No<br>No<br>No |
| 22 | Whether there is any Government Order/ Policy relevant/relating to the site  | No             |
| 23 | Forest land involved (hectares)  | NIL            |
| 24 | Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up?<br>(a) Name of the Court<br>(b) Case No.<br>(c) Orders / directions of the Court, if any, and its relevance with the proposed project | No             |

## (II) Activity

### 1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

| S.No. | Information/Checklist confirmation  | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data   |
|-------|---|--------|---|
| 1.1   | Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan) | Yes    | Since mining will be carried out by underground and opencast method, changes of land – use and topography of permanent nature will occur. The nature of changes during mining and after mining is tabulated below – |

| Sl No. | Present Land-use type                  | Area (Ha) | Land use Type (proposed during mining) | Area (Ha) | Final Land use Type   | Area (Ha) |
|--------|--|-----------|--|-----------|---|-----------|
| 1      | Excavated area including safety zone   | 0.00      | Excavated area including safety zone   | 49.15     | Excavated area back-filled up to surface level and brought under green cover. | 49.15     |
| 2      | External OB Dump including safety zone | 0.00      | External OB Dump including safety zone | 35.41     | External OB Dump to be rehandled and total area brought under green cover.    | 35.41     |
| 3      | Safety Zone                            | 0.00      | Safety Zone                            | 7.55      | To be brought under plantation  | 7.55      |
| 4      | Old quarry (water logged)              | 7.60      | Old quarry (water logged)              | 7.60      | Old quarry (water logged)   | 7.60      |

| S.No. | Information/Checklist confirmation  |               |   | Yes/No        | Details thereof (with approximate quantities /rates, wherever possible) with source of information data  |               |  |
|-------|---|---------------|---|---------------|--|---------------|--|
| 5     | Barren OB dump (from old mining activity)   | 26.70         | Barren OB dump (from old mining activity) | 26.70         | Barren OB dump (from old mining activity)  | 26.70         |  |
| 6     | Mine Infrastructure & Roads   | 2.00          | Mine Infrastructure & Roads               | 7.19          | Demolished & the area to be brought under plantation   | 7.19          |  |
| 7     | Villages  | 18.90         | Villages                                  | 18.90         | Villages   | 18.90         |  |
| 8     | Cultivable  | 360.40        | Cultivable                                | 322.20        | Cultivable   | 322.20        |  |
| 9     | Scrubby vegetation  | 178.40        | Scrubby vegetation                        | 122.05        | Scrubby vegetation   | 122.05        |  |
| 10    | Waste land  | 14.70         | Waste land                                | 10.75         | Waste land   | 10.75         |  |
| 11    | Water body/Tank   | 10.70         | Water body/Tank                           | 11.90         | Water body/Tank  | 11.90         |  |
| 12    | Social Forestry / Plantation  | 35.60         | Social Forestry / Plantation              | 35.60         | Social Forestry / Plantation   | 35.60         |  |
|       | <b>Total</b>  | <b>655.00</b> | <b>Total</b>                              | <b>655.00</b> | <b>Total</b>   | <b>655.00</b> |  |
| 1.2   | Clearance of existing land, vegetation and buildings?   |               |   | Yes           | Clearance of 100 Ha of uninhabited land with natural vegetation would be needed for starting the OC patch.   |               |  |
| 1.3   | Creation of new land uses?  |               |   | Yes           | New land-uses will be created as shown at sl 1.1 above.  |               |  |
| 1.4   | Pre-construction investigations e.g. bore houses, soil testing?   |               |   | No            | Detailed exploration has already been carried out for the Kalidaspur - Kalikapur geological block and no further exploration is presently required.  |               |  |
| 1.5   | Construction works?   |               |   | Yes           | Mine infrastructure already exists for Kalidaspur UG. However, few construction works like Mine site office, Excavation & E&M workshop & stores and statutory buildings will be carried out for the upcoming OC Patch. |               |  |
| 1.6   | Demolition works?   |               |   | Yes           | Infrastructure not required for public use will be demolished as part of final mine closure activities.  |               |  |
| 1.7   | Temporary sites used for construction works or housing of construction workers?                           |               |   | Yes           | Some temporary sites along-with existing accommodation in the project will be utilized during construction activities mentioned at Sl. No. 1.5   |               |  |
| 1.8   | Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations |               |   | Yes           | For above ground buildings refer sl. 1.5 above.<br>About 49.15 Ha of land will be quarried out.<br>(Source- Mining Plan for Kalidaspur UG & OC)  |               |  |
| 1.9   | Underground works including mining or tunneling?  |               |   | Yes           | Underground mining will be done by Bord and Pillar method of mining  |               |  |
| 1.10  | Reclamation works?  |               |   | Yes           | Quarry area of 49.15 Ha will be completely backfilled at the end of mining and plantation will be carried out on area  |               |  |

| S.No. | Information/Checklist confirmation                                       | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data   |
|-------|--|--------|---|
|       |  |        | of 56.70 Ha including safety zone.<br>External OB Dump of 35.42 Ha will be re-handled and brought under green cover.<br>Please also refer sl. 1.1<br>Sand stowing will be done for stabilization of surface during depillaring process in the underground mine.<br>(Source- Mining Plan for Kalidaspur UG & OC)   |
| 1.11  | Dredging?  | No     | Not applicable.   |
| 1.12  | Offshore structures?   | No     | Not applicable.   |
| 1.13  | Production and manufacturing processes?                                  | Yes    | Production of coal @ 0.96 MTY (Peak Capacity) with a mine life of > 30 years for UG workings & 10 years for OC workings.<br>(Source- Mining Plan for Kalidaspur UG & OC)  |
| 1.14  | Facilities for storage of goods or materials?                            | Yes    | Facilities exist for storage of goods and materials. However, the same will be augmented to cater to the proposed OC workings.<br>(Source- Mining Plan for Kalidaspur UG & OC)  |
| 1.15  | Facilities for treatment or disposal of solid waste or liquid effluents? | Yes    | <u>Solid Waste from OC workings</u><br>Solid waste will be produced in the form of overburden material which is generally composed of shale and sandstone. This solid waste does not require any treatment and will be initially dumped externally at earmarked site and later backfilled into the quarry void both concurrently and at mine closure (re-handling of external dump)<br><u>Mine Discharges from UG &amp; OC workings</u><br>UG & OC workings will be kept dry for mining by continuously pumping out water accumulating in the workings Part of this mine water will be utilized for dust suppression, vehicle washing, watering of plantations, etc. A portion of mine water will also be used for domestic purposes like bathing, washing, etc. after settling. Treatment facility will be provided for effluents discharged from vehicle washing in the workshop. |
| 1.16  | Facilities for long term housing of operational workers?                 | Yes    | Sufficient no. of quarters exist for housing of departmental personnel. Rest rooms and shelters will be constructed for workmen engaged by the contractor since   |

| S.No. | Information/Checklist confirmation  | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data  |
|-------|---|--------|--|
|       |   |        | the OC portion of the workings will be outsourced.   |
| 1.17  | New road, rail or sea traffic during construction or operation?   | Yes    | An approach road will be constructed for the proposed OC patch workings  |
| 1.18  | New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc? | No     |  |
| 1.19  | Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?                        | Yes    | Two kuttcha roads passing through the area proposed for quarrying will be closed and alternative arrangement made  |
| 1.20  | New or diverted transmission lines or pipelines?  | No     |  |
| 1.21  | Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?                        | Yes    | <p><u>Impact on watercourses</u><br/>A seasonal nallah passing through the area earmarked for OB dumping will need to be diverted through a separate water channel for which adequate funds have been kept.<br/>(Source- Mining Plan for Kalidaspur UG &amp; OC)</p> <p><u>Impact on Aquifers</u><br/>a. Due to Underground workings<br/>Since underground workings will be below overlying aquifers, these aquifers might drain into the workings. However, the seepage will be limited since the mine adopts the stowing method during depillaring which prevents caving and consequent damage to overlying aquifers.<br/>b. Due to OC workings<br/>The aquifers, both confined and un-confined, present within the area proposed for quarrying will be completely excavated depending on their depth of occurrence up to a maximum depth of 61m. Consequently, aquifers exposed along the edge will be the major source of inflow into the opencast patch. This will lead to depression of the water table around the quarry. The radius of mine influence and the consequent drawdown of water table along with other impacts on hydrology and hydrogeology will be quantified in the Hydrogeological Studies which are being conducted.</p> |

| S.No. | Information/Checklist confirmation   | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data   |
|-------|--|--------|---|
|       |  |        | After mine closure the backfilled quarry will retain lot of rain water and help in recharging of the adjoining aquifers. Thus, the drawdown will be a temporary phenomenon.   |
| 1.22  | Stream crossings?  | No     | Not applicable.   |
| 1.23  | Abstraction or transfers of water from ground or surface waters?           | Yes    | <p>Water accumulating in the mine workings needs to be pumped out regularly to maintain dry working conditions. About 1000 m<sup>3</sup> / day remains in recirculation for stowing purpose. Presently, about 775 m<sup>3</sup> / day excess water from underground workings is discharged outside which is utilized for industrial purposes like dust suppression while the remaining water is supplied for domestic purposes after settling.</p> <p>The amount of water which would accumulate in the proposed OC workings from precipitation as well as draining of adjoining aquifers into can be quantified by a hydrogeological study which is underway for the project. The amount of mine water required to be pumped out would vary during the year as there will be very little water accumulation in the quarry during the dry months while it is anticipated that about 20000 m<sup>3</sup> / day may be required to be pumped out during heavy rains. The pumping capacity would be decided accordingly.</p> |
| 1.24  | Changes in water bodies or the land surface affecting drainage or run-off? | Yes    | <p><u>Impact due to underground workings</u><br/>Surface hydrology will not be disturbed due to underground mining since the method of mining is Bord &amp; Pillar in conjunction with sand stowing at the time of depillaring and surface topography will remain undisturbed.</p> <p><u>Impact due to OC workings</u><br/>The formation of quarry and dumps will alter the local pattern of surface run-off. One seasonal nallah will be diverted to create space for dumping OB externally. A few ponds will be excavated.</p>  |



| S.No. | Information/Checklist confirmation   | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data  |
|-------|--|--------|--|
| 1.25  | Transport of personnel or materials for construction, operation or decommissioning?    | Yes    | <p><u>Transport of Personnel</u><br/>There will be movement of mining workers and other personnel between colony and the mine by different modes of road transport.</p> <p><u>Coal &amp; OB transport</u><br/>From the production plan it is seen that the coal production will start from 1st year of mine operation and 0.50 Mty capacity will be reached in 2nd year. As there is no railway siding situated nearby, Area authority proposed to dispatch crushed coal to Satgram Railway Siding, which is about 22-23 km from proposed patch by road in 15 te tippers. However, coal will be crushed to -100 mm size at pit top near the main access trench before transport.</p> <p>OB will be dumped externally during the initial period and internal dumping will begin from the 3<sup>rd</sup> year of mine operation. The transport will be made by tipper dumpers.</p> |
| 1.26  | Long-term dismantling or decommissioning or restoration works?                         | Yes    | The quarried area after backfilling will be biologically reclaimed with plantation. The intention is to bring this land into productive after-use in liaison with State Govt. This process will be started after excavation of the coal. After the excavation of the coal, landscaping, afforestation and other civil work will be done in accordance with the advice obtained from State Govt and as per the approved Mine Closure Plan.  |
| 1.27  | Ongoing activity during decommissioning which could have an impact on the environment? | No     | Solid waste generated during demolition of service and residential buildings after cessation of mining activity will be used as landfill.  |
| 1.28  | Influx of people to an area -- either temporarily or permanently?                      | Yes    | Influx of people will take place due to direct and indirect employment opportunities. This will continue throughout the life of the mine.  |
| 1.29  | Introduction of alien species?   | No     | Not applicable.  |
| 1.30  | Loss of native species or genetic diversity?   | No     | Not applicable.  |
| 1.31  | Any other actions?   | No     | Not applicable.  |

**2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):**

| S.No.  | Information/checklist confirmation                    | Yes/No                                | Details thereof (with approximate quantities /rates, wherever possible) with source of information data   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
|--------|---|---------------------------------------|---|--------|-----------------------|-----------|---|---------------------|------|---|--|-------|---|--|------|---|---------------------------|------|---|--|-------|---|------------|--------|---|--------------------|--------|---|------------|-------|---|-----------------|-------|----|------------------------------|-------|--|--------------|---------------|-------|-------------|---------------------------------------|---|--------|-------|---|-------------|------|---|----------------|------|---|------|------|---|------|------|---|-------------------|-------|--|-------|--------|
| 2.1    | Land especially undeveloped or agricultural land (ha) | Yes                                   | <p>The total land required for Kalidaspur UG &amp; OC Project is 655.00 Ha. Kalidaspur UG has already 600. 00 Ha of land out of 655.00 Ha. The breakup of this land for mining purpose is shown below –</p> <table><tr><th>SI No.</th><th>Present Land-use type</th><th>Area (Ha)</th></tr><tr><td>1</td><td>Present Quarry Area</td><td>0.00</td></tr><tr><td>2</td><td>Barren OB dump (from very old mining activity)</td><td>26.70</td></tr><tr><td>3</td><td>External OB Dump including safety zone</td><td>0.00</td></tr><tr><td>4</td><td>Old quarry (water logged)</td><td>7.60</td></tr><tr><td>5</td><td>Villages, Existing Mine Infrastructure &amp; Roads</td><td>20.90</td></tr><tr><td>6</td><td>Cultivable</td><td>360.40</td></tr><tr><td>7</td><td>Scrubby vegetation</td><td>178.40</td></tr><tr><td>8</td><td>Waste land</td><td>14.70</td></tr><tr><td>9</td><td>Water body/Tank</td><td>10.70</td></tr><tr><td>10</td><td>Social Forestry / Plantation</td><td>35.60</td></tr><tr><td></td><td><b>Total</b></td><td><b>655.00</b></td></tr></table> <p>Land required for the OC Patch is shown as under –</p> <table><tr><th>SI No</th><th>Particulars</th><th>Land to be acquired for OC Patch (Ha)</th></tr><tr><td>1</td><td>Quarry</td><td>49.15</td></tr><tr><td>2</td><td>Safety zone</td><td>7.55</td></tr><tr><td>3</td><td>Infrastructure</td><td>4.19</td></tr><tr><td>4</td><td>Nala</td><td>2.70</td></tr><tr><td>5</td><td>Road</td><td>1.00</td></tr><tr><td>6</td><td>Dump &amp; Embankment</td><td>35.42</td></tr><tr><td></td><td>Total</td><td>100.00</td></tr></table> <p>(Source- Mining Plan for Kalidaspur UG &amp; OC)</p> | SI No. | Present Land-use type | Area (Ha) | 1 | Present Quarry Area | 0.00 | 2 | Barren OB dump (from very old mining activity) | 26.70 | 3 | External OB Dump including safety zone | 0.00 | 4 | Old quarry (water logged) | 7.60 | 5 | Villages, Existing Mine Infrastructure & Roads | 20.90 | 6 | Cultivable | 360.40 | 7 | Scrubby vegetation | 178.40 | 8 | Waste land | 14.70 | 9 | Water body/Tank | 10.70 | 10 | Social Forestry / Plantation | 35.60 |  | <b>Total</b> | <b>655.00</b> | SI No | Particulars | Land to be acquired for OC Patch (Ha) | 1 | Quarry | 49.15 | 2 | Safety zone | 7.55 | 3 | Infrastructure | 4.19 | 4 | Nala | 2.70 | 5 | Road | 1.00 | 6 | Dump & Embankment | 35.42 |  | Total | 100.00 |
| SI No. | Present Land-use type                                 | Area (Ha)                             |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 1      | Present Quarry Area                                   | 0.00                                  |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 2      | Barren OB dump (from very old mining activity)        | 26.70                                 |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 3      | External OB Dump including safety zone                | 0.00                                  |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 4      | Old quarry (water logged)                             | 7.60                                  |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 5      | Villages, Existing Mine Infrastructure & Roads        | 20.90                                 |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 6      | Cultivable  | 360.40                                |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 7      | Scrubby vegetation                                    | 178.40                                |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 8      | Waste land  | 14.70                                 |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 9      | Water body/Tank                                       | 10.70                                 |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 10     | Social Forestry / Plantation                          | 35.60                                 |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
|        | <b>Total</b>  | <b>655.00</b>                         |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| SI No  | Particulars   | Land to be acquired for OC Patch (Ha) |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 1      | Quarry  | 49.15                                 |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 2      | Safety zone   | 7.55                                  |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 3      | Infrastructure  | 4.19                                  |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 4      | Nala  | 2.70                                  |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 5      | Road  | 1.00                                  |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 6      | Dump & Embankment                                     | 35.42                                 |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
|        | Total   | 100.00                                |   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |
| 2.2    | Water (expected source & competing users) unit: KLD   | Yes                                   | <p>Water accumulating in the mine workings needs to be pumped out regularly to maintain dry working conditions. About 1000 m<sup>3</sup> / day remains in recirculation for stowing purpose. Presently, about 775 m<sup>3</sup> / day excess water from underground workings is discharged outside which is utilized for industrial purposes like dust suppression while the remaining water is supplied for domestic purposes after settling.</p> <p>The amount of water which would accumulate in the proposed OC workings from precipitation as well as draining of adjoining aquifers into can be quantified by a</p>   |        |                       |           |   |                     |      |   |  |       |   |  |      |   |                           |      |   |  |       |   |            |        |   |                    |        |   |            |       |   |                 |       |    |                              |       |  |              |               |       |             |                                       |   |        |       |   |             |      |   |                |      |   |      |      |   |      |      |   |                   |       |  |       |        |

| S.No. | Information/checklist confirmation  | Yes/No | Details thereof (with approximate quantities /rates, wherever possible) with source of information data  |
|-------|---|--------|--|
|       |   |        | hydrogeological study which is underway for the project. The amount of mine water required to be pumped out would vary during the year as there will be very little water accumulation in the quarry during the dry months while it is anticipated that about 20000 m <sup>3</sup> / day may be required to be pumped out during heavy rains. The pumping capacity would be decided accordingly. There are no competing users of this water outside the mine.  |
| 2.3   | Minerals (MT)   | No     | No minerals are needed for mining process  |
| 2.4   | Construction material , stone, aggregates and soil (expected source – MT)                     | Yes    | Construction material like cement, stone, bricks, sand etc. will be required for civil constructions as and when required.   |
| 2.5   | Forests and timber (source – MT)  | Yes    | There is no forest land within the proposed mine area Some amount of timber is required for use as props, supports and sleepers in the UG mine.  |
| 2.6   | Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW) | Yes    | Kalidaspur OCP will receive power at 11 KV from Ardhamgram Sub-station of WBSEB. Presently that existing 1 MVA substation is lying underutilized as no production is coming from Sova Ispat. Two transformers (11kv/440v) were installed there. However, those were shifted by Sova Ispat itself. Thus one 11 kv line shall have to be drawn (1.5) km for supplying power to the Proposed Main Sub-station of Kalidaspur OC Patch. Another HT overhead line has passed beside the property, which need not be diverted for this project. 11 KV circuit breaker (one), 1.0 MVA 11/3.3 KV Transformer, neutral grounding resistors etc. will be installed in the outdoor switchyard. The main pumps and crusher may be supplied power at 3.3 KV in case higher capacity is installed. All other places will be illuminated by qualified bidder. However, power cost for crushing coal will be borne departmentally. Approximately, 5 KLD of diesel will be consumed for the mine operations as well as transportation of coal to railway siding. |
| 2.7   | Any other natural resources (use appropriate standard units)                                  | No     | Not Applicable   |

**3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.**

| S.No. | Information/Checklist confirmation   | Yes /No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|-------|--|---------|--|
| 3.1   | Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies) | No      | Not Applicable   |
| 3.2   | Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)   | No      | Not Applicable   |
| 3.3   | Affect the welfare of people e.g. by changing living conditions?   | No      | Not Applicable   |
| 3.4   | Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,                           | No      | Not Applicable   |
| 3.5   | Any other causes   | No      | Not Applicable   |

**4. Production of solid wastes during construction or operation or decommissioning (MT/month):**

| S.No. | Information/Checklist confirmation                         | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data  |
|-------|--|--------|---|
| 4.1   | Spoil, overburden or mine wastes                           | Yes    | A total quantity of 175.36 lakh m <sup>3</sup> solid waste will be generated during the mine life of the OC patch. The OB generated will be initially dumped externally at earmarked site and later backfilled into the quarry void both concurrently and at mine closure (re-handling of externally dumped OB).<br>(Source-Mining Plan for Kalidaspur UG & OC) |
| 4.2   | Municipal waste (domestic and or commercial wastes)        | Yes    | Small quantity of domestic waste will be generated from the colony which will be regularly disposed-off.  |
| 4.3   | Hazardous wastes (as per Hazardous Waste Management Rules) | Yes    | Replaced Automobile and HEMM batteries will be sent back to recycler on company level. Burnt oil produced from HEMM will be stored in barrels and sent to authorized recyclers or used in nearby underground mines for tub lubrication purposes.  |
| 4.4   | Other industrial process wastes                            | No     | Not applicable  |
| 4.5   | Surplus product  | No     | Not applicable  |

| <b>S.No.</b> | <b>Information/Checklist confirmation</b>             | <b>Yes/No</b> | <b>Details thereof (with approximate quantities/rates, wherever possible) with source of information data</b>   |
|--------------|---|---------------|---|
| 4.6          | Sewage sludge or other sludge from effluent treatment | Yes           | Very small quantity of clayey sludge from effluent settling may be produced which will be disposed off as landfill.   |
| 4.7          | Construction or demolition wastes                     | Yes           | Solid waste will be generated from demolition of service buildings and infrastructure during mine closure. The waste so generated will be used for filling low lying areas or disposed off in appropriate manner. |
| 4.8          | Redundant machinery or equipment                      | Yes           | Equipment and machinery which will become redundant during mine-life will be surveyed off and sold as scrap.  |
| 4.9          | Contaminated soils or other materials                 | No            | Not applicable  |
| 4.10         | Agricultural wastes                                   | No            | Not applicable  |
| 4.11         | Other solid wastes                                    | No            | Not applicable  |

**5. Release of pollutants or any hazardous, toxic or noxious substances to air (kg/hr)**

| <b>S.No.</b> | <b>Information/Checklist confirmation</b>                                   | <b>Yes/No</b> | <b>Details thereof (with approximate quantities/rates, wherever possible) with source of information data</b>   |
|--------------|---|---------------|---|
| 5.1          | Emissions from combustion of fossil fuels from stationary or mobile sources | Yes           | Diesel will be burnt by the dumpers during transport of coal and OB. This will lead to release of SO <sub>2</sub> & NO <sub>x</sub> in the atmosphere. (This will be quantified in the process of impact prediction).   |
| 5.2          | Emissions from production processes   | Yes           | Dust emission from drilling, blasting, loading and transportation of coal from the quarry is likely to have a significant impact on ambient air quality. There will also be emission of noxious gases during movement of HEMM and coal transportation trucks. However, most of the dust produced, being composed of coarser particles will settle down within the mine-pit itself. Due mitigation measures will be adopted.<br>(This will be quantified in the process of impact prediction). |
| 5.3          | Emissions from materials handling including storage or transport            | Yes           | Dust will be generated during coal handling and transportation to railway. However, it has been planned to limit emission by sprinkling water and creating green belt along the periphery of the mine and avenue plantation along the coal transport road. The dumpers transporting coal will be covered with tarpaulin to prevent coal spillage during transportation.<br>(This will be quantified in the process of impact prediction).   |

| S.No. | Information/Checklist confirmation  | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data |
|-------|---|--------|--|
| 5.4   | Emissions from construction activities including plant and equipment                        | No     | No significant emissions are anticipated from civil construction works.                                |
| 5.5   | Dust or odors from handling of materials including construction materials, sewage and waste | No     | Not applicable   |
| 5.6   | Emissions from incineration of waste  | No     | Not applicable   |
| 5.7   | Emissions from burning of waste in open air (e.g. slash materials, construction debris)     | No     | Not applicable   |
| 5.8   | Emissions from any other sources  | No     | Not applicable   |

#### 6. Generation of Noise and Vibration, and Emissions of Light and Heat:

| S.No. | Information/Checklist confirmation                                    | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data with source of information data  |
|-------|---|--------|---|
| 6.1   | From operation of equipment e.g. engines, ventilation plant, crushers | Yes    | Noise will be generated during drilling, blasting, movement of HEMM inside the mine and from movement of coal-loaded trucks along the coal-transport road. Workers exposed to high noise levels will be provided protective equipment. Maintenance of HEMM and trucks and creation of green-belts will help reduce the ambient noise level outside the activity area such that it does not exceed the permissible limits of 55 dB (A) during day-time and 45 dB (A) during night-time. No transportation activity will be done during night-time and there will be fixed time for blasting. As mine is having environmental clearance for capacity 0.96 MTY, regular environmental monitoring is carried out. Noise level for last 3 quarters was found well within prescribed limits.<br>(Source: Routine Monitoring Report) |
| 6.2   | From industrial or similar processes                                  | Yes    | Please refer to Sl. 6.1   |

| <b>S.No.</b> | <b>Information/Checklist confirmation</b> | <b>Yes/No</b> | <b>Details thereof (with approximate quantities/rates, wherever possible) with source of information data with source of information data</b>   |
|--------------|---|---------------|---|
| 6.3          | From construction or demolition           | Yes           | The noise level is likely to be well within specified limit.  |
| 6.4          | From blasting or piling                   | Yes           | There will be vibration during blasting in quarries but is likely to be within permissible limits. Regular blasting studies are carried out to reduce PPV by designing proper geometry of blast.          |
| 6.5          | From construction or operational traffic  | Yes           | Noise will be generated from coal and OB transportation. The level is measured through regular monitoring and is found well within permissible limits.<br>(Source: Routine Environment Monitoring Report) |
| 6.6          | From lighting or cooling systems          | No            | Not applicable  |
| 6.7          | From any other sources                    | No            | Not applicable  |

**7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:**

| <b>S.No.</b> | <b>Information/Checklist confirmation</b>   | <b>Yes/No</b> | <b>Details thereof (with approximate quantities/rates, wherever possible) with source of information data</b>  |
|--------------|---|---------------|--|
| 7.1          | From handling, storage, use or spillage of hazardous materials  | No            | Not applicable   |
| 7.2          | From discharge of sewage or other effluents to water or the land (expected mode and place of discharge) | No            | No contamination expected as effluent will be properly treated before discharge into local drainage channel.   |
| 7.3          | By deposition of pollutants emitted to air into the land or into water                                  | No            | Control measures at all dust generating points will be adopted. In view of this, fugitive dust emission into air is unlikely to cause contamination of land or water. The present ambient air quality is found well within the specified standards.<br>(Source: Routine Environment Monitoring Report) |
| 7.4          | From any other sources  | No            | Not applicable   |
| 7.5          | Is there a risk of long term build up of pollutants in the environment from these sources?              | No            | Not applicable   |

**8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment:**

| S.No. | Information/Checklist confirmation  | Yes/No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data   |
|-------|---|--------|--|
| 8.1   | From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances                                 | Yes    | Storage, transportation & handling of explosive and POL may lead to explosions, spillages, fires etc. Safety measures stipulated by DGMS will be followed.   |
| 8.2   | From any other causes   | Yes    | 1) Mine inundation<br>2) Fire<br>3) Blasting<br>4) Explosion<br>5) Slope failure in OB dump and mine pit<br>6) Roof fall<br>Safety measures stipulated by DGMS will be followed.   |
| 8.3   | Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)? | Yes    | The project is not falling under seismically active zone or land slide prone area. Chances of flood cannot be ruled out. Apart from safety measures suggested in the PR, the mine will be well equipped to deal with eventuality as enumerated in CMR 1957 and related DGMS circulars. |

**9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality:**

| S. No. | Information/Checklist confirmation   | Yes /No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data   |
|--------|--|---------|--|
| 9.1    | Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.:<br>• Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.)<br>• housing development<br>• extractive industries<br>• supply industries<br>• other | Yes     | The project is likely to spur growth of ancillary units mostly catering to repair of dumpers and trucks. |
| 9.2    | Lead to after-use of the site, which could have an impact on   | No      | Not applicable   |



| S. No. | Information/Checklist confirmation  | Yes /No | Details thereof (with approximate quantities/rates, wherever possible) with source of information data   |
|--------|---|---------|--|
|        | the environment   |         |  |
| 9.3    | Set a precedent for later developments  | No      | Not applicable   |
| 9.4    | Have cumulative effects due to proximity to other existing or planned projects with similar effects | Yes     | The proposed mining area is surrounded by other coal mines of Raniganj Coalfield. As such, cumulative effect will certainly be there. However, proper control measures are proposed. |

### (III) Environmental Sensitivity

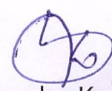
| S. No. | Areas  | Name/ Identity | Aerial distance (within 15 km.) Proposed project location boundary  |
|--------|--|----------------|---|
| 1      | Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value            | None           | Not applicable  |
| 2      | Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests | Yes            | Damodar River is flowing adjacent to northern boundary of the project.  |
| 3      | Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration              | None           | Not applicable  |
| 4      | Inland, coastal, marine or underground waters  | None           | Not applicable  |
| 5      | State, National boundaries   | None           | Not applicable  |
| 6      | Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas   | None           | Not applicable  |
| 7      | Defense installations  | None           | Not applicable  |
| 8      | Densely populated or built-up area   | Yes            | There are five numbers of small villages situated in the UG project boundary while there is no built up area in the proposed OC Patch.  |
| 9      | Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)   | Yes            | Small dispensary, schools, places of worship & community facilities catering to the needs of local population exist within 15 kms of the proposed Project Boundary but they are not likely to be affected by the mining activities. |

| S. No. | Areas  | Name/ Identity | Aerial distance (within 15 km.) Proposed project location boundary   |
|--------|--|----------------|--|
| 10     | Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)  | Yes            | The area abounds in rich coal deposits.  |
| 11     | Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)  | No             | The project is situated in Raniganj Coalfield and is close to Asansol which was declared as critically polluted in 2009. However, Asansol has now been removed from the said list of critically polluted areas of the country. |
| 12     | Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) | None           |  |

#### Declaration

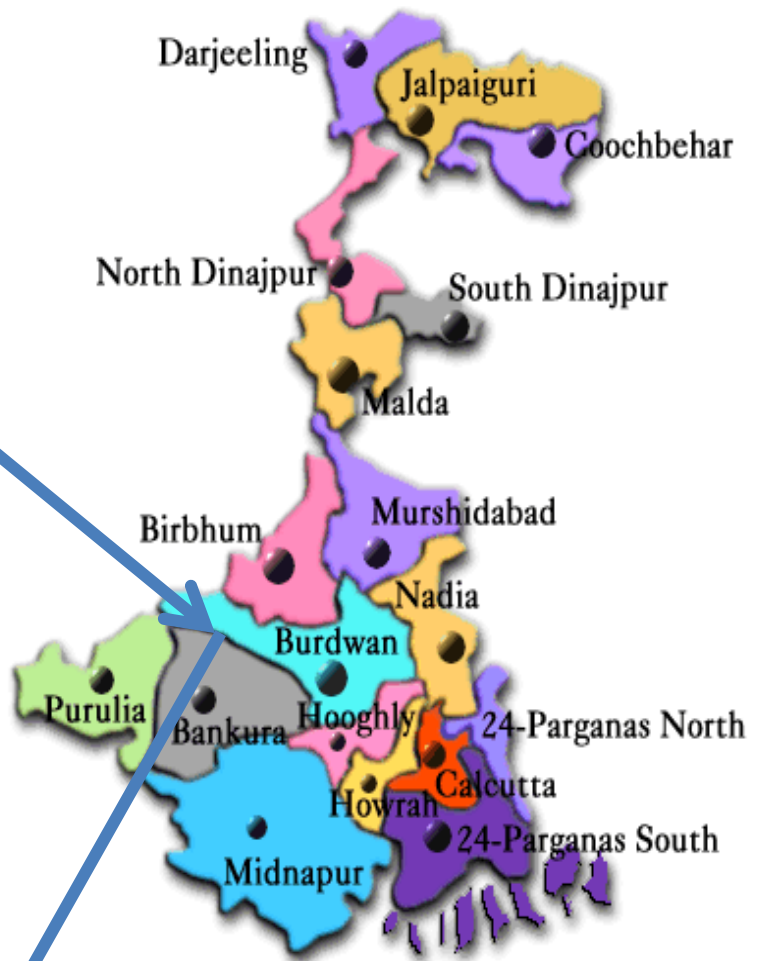
I hereby give the undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance given, if any, to the project will be revoked at our risk and cost.

Dated:

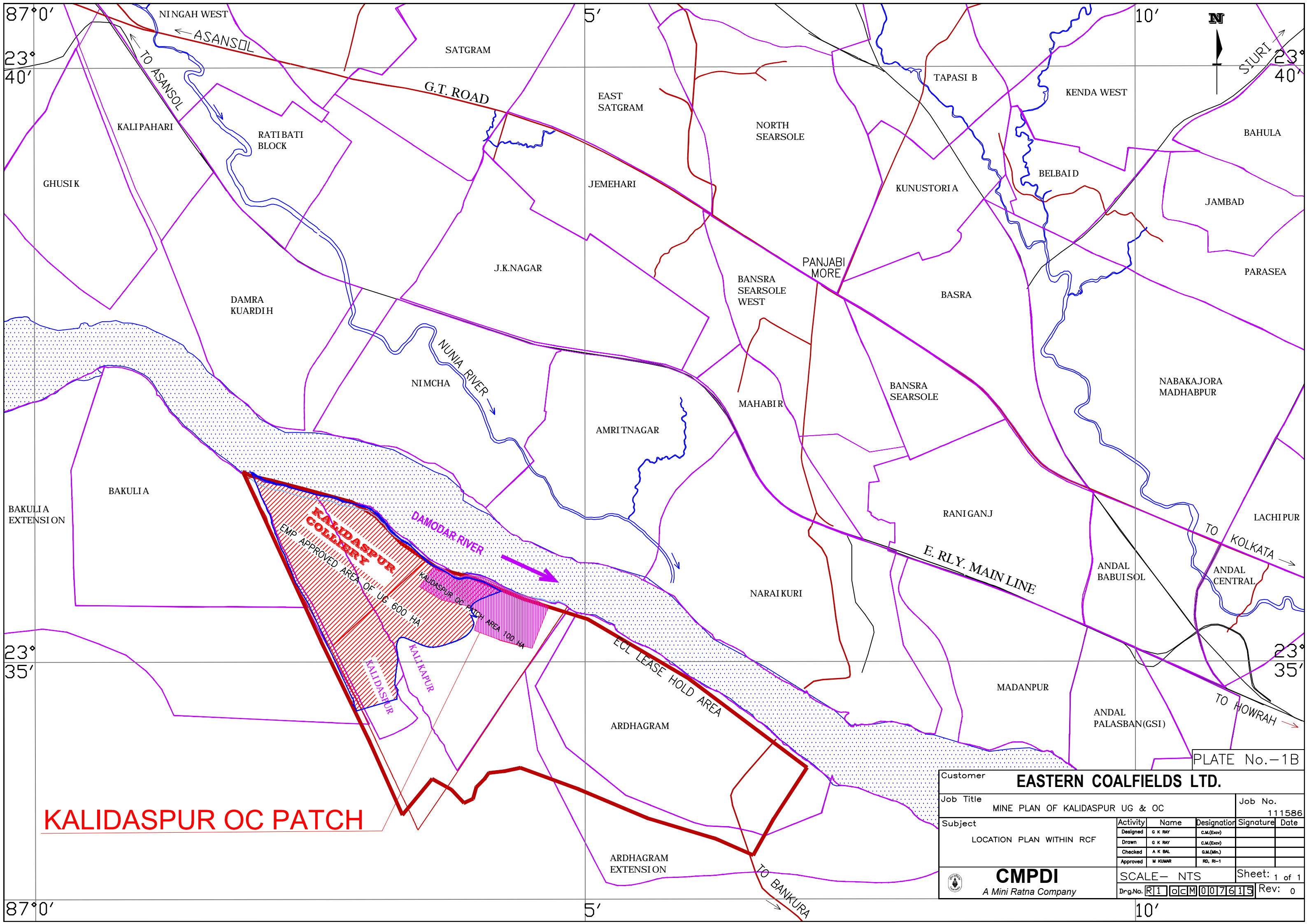
  
 18.09.18  
 Shailendra Kumar  
 Ch. Mgr. (Min) / Agent  
 Kalidaspur Project, Satgram Area  
 Eastern Coalfields Limited  
 Village: Kalidaspur  
 PS: Mejia  
 PO - Bhara Kalibari,  
 Dist : Bankura, West Bengal, PIN: 722143  
 Phone- 9434797009  
 Chief Manager (Mining) / Agent  
 Kalidaspur Project  
 E.C.L.



## West Bengal







**KALIDASPUR OC PATCH**

|           |  |  |                                 |  |  |                                |  |  |               |  |  |
|-----------|--|--|---------------------------------|--|--|--------------------------------|--|--|---------------|--|--|
| Customer  |  |  |                                 |  |  | <b>EASTERN COALFIELDS LTD.</b> |  |  |               |  |  |
| Job Title |  |  | MINE PLAN OF KALIDASPUR UG & OC |  |  | Job No.                        |  |  | 111586        |  |  |
| Subject   |  |  | LOCATION PLAN WITHIN RCF        |  |  | Activity                       |  |  | Name          |  |  |
|           |  |  |                                 |  |  | Designation                    |  |  | Signature     |  |  |
|           |  |  |                                 |  |  | Date                           |  |  |               |  |  |
|           |  |  |                                 |  |  | Designed                       |  |  | G K RAY       |  |  |
|           |  |  |                                 |  |  | Drawn                          |  |  | G K RAY       |  |  |
|           |  |  |                                 |  |  | Checked                        |  |  | A K BAL       |  |  |
|           |  |  |                                 |  |  | Approved                       |  |  | M KUMAR       |  |  |
|           |  |  |                                 |  |  | RD, R-1                        |  |  |               |  |  |
|           |  |  |                                 |  |  | SCALE - NTS                    |  |  | Sheet: 1 of 1 |  |  |
|           |  |  |                                 |  |  | Drq.No. R1                     |  |  | Rev: 0        |  |  |

**CMPDI**  
A Mini Ratna Company