

चेक लिस्ट - 23

रिक्लेमेंशन प्लान

Rupareha

नोडल ऑफिसर (पर्यावरण/वन)
Nodal Officer (Env./Forest)
SECTOR Area
एस.ई.सी.एरिया / कटघोरा क्षेत्र

१
पर्यावरण वन विभाग
कटघोरा वनमण्डल
कटघोरा वनमण्डल, कटघोरा
कटघोरा वनमण्डल, कटघोरा

वनमण्डलाधिकारी
कटघोरा वनमण्डल, कटघोरा

4	Surface industrial development, Rly. Siding, colony, approach road, coal stock, parking etc.,	936.099	83.030	515.434	42.691	261.859	1.586	1840.699
5	Land for homestead/family	0.000	127.427	0.000	0.000	0.000	0.000	127.427
6	Safety Zone	211.046	237.457	59.568	0.000	63.230	0.000	571.301
Total land		1912.290	2886.610	971.630	366.980	564.685	772.382	7474.577

Table-16.15 (b)
Post Mining Land Use (OB Departmental Coal Outsourcing Options)
Figures in Ha.

Sl. No.	Particulars	Quarry Area (After backfilling & reclamation)	Safety zone as green belt	Infrastructure, Colony, Explosive magazine etc.	R&R site	Grand Total
1	Afforested Area	1287.850	571.301	184.070	0.000	2043.221
2	For Future Mining	2299.800	0.000	0.000	0.000	2299.800
3	Water body	1347.500	0.000	0.000	0.000	1347.500
4	Built-Up Area	0.000	0.000	1656.629	127.427	1784.056
Total Land for the project		4935.150	571.301	1840.699	127.427	7474.577

16.4 Environment Management System

Monitoring Schedule

Environmental monitoring will be carried out following the monitoring schedule for Air, Water, and Noise levels as per Standards of MOEF (Vide GSR 742 (E) dated 25.9.2000)

Plantation Monitoring

The project authority at field level will continuously monitor the growth and survival/mortality rates of the plantations till the end of 3 years. Once trees attain desired growth, no further monitoring will be required.

Action Plan for Land Reclamation and Plantation

Total no. of plants estimated as 5110486 nos. in which about 1890861nos. of plants would be planted in safety zone, infrastructure, colony etc. and the rest 3219625 nos. of plants would be planted in 1287.85 Ha. of internal dump. An area of 1347.50 Ha would be left as final void/water body after mine closure. The dump surface would be maintained flat and top soil would be spread over it as a part of final reclamation. Year

wise programme of OB removal, dumping, & plantation has been given in table 16.16. Details of action plan proposed for systematic land reclamation and plantation on a regular time schedule is given in figure-16.2.

Table 16.16**PROGRAMME OF O.B. REMOVAL, DUMPING & PLANTATION:**

Year	Coal production (MTes)	OB removal (Mcum)	Dump plan (Mcum)		Dump area available for reclamation (Ha.)		No. of plantation @ 2500 Nos / Ha.		Total plantation @ 2500 Nos / Ha.
			External	Internal	External	Internal	External	Internal	
1	40	72.69	0	72.69	0	0	0	0	0
2	41	72.67	0	72.67	0	0	0	0	0
3	41	73.8	0	73.8	0	0	0	0	0
4	45	82.12	0	82.12	0	0	0	0	0
5	45	82.82	0	82.82	0	0	0	0	0
6	65	112.7	0	112.7	0	59.13	0	147825	147825
7	70	125.06	0	125.06	0	59.13	0	147825	147825
8	70	125.53	0	125.53	0	59.13	0	147825	147825
9	70	125.51	0	125.51	0	59.12	0	147800	147800
10	70	125.17	0	125.17	0	59.12	0	147800	147800
11	70	125.09	0	125.09	0	63.36	0	158400	158400
12	70	125.51	0	125.51	0	63.36	0	158400	158400
13	70	125.54	0	125.54	0	63.36	0	158400	158400
14	70	124.82	0	124.82	0	63.36	0	158400	158400
15	70	124.95	0	124.95	0	63.36	0	158400	158400
16	70	107.8	0	107.8	0	63.36	0	158400	158400
17	70	107.66	0	107.66	0	63.36	0	158400	158400
18	70	86.34	0	86.34	0	63.36	0	158400	158400
19	70	84.96	0	84.96	0	63.36	0	158400	158400
20	70	85.18	0	85.18	0	63.36	0	158400	158400
21	50	40.8	0	40.8	0	63.36	0	158400	158400
22	30.68	29.89	0	29.89	0	63.36	0	158400	158400
MC ₁	0	0	0	0	0	77.3	0	193250	193250
MC ₂	0	0	0	0	0	77.3	0	193250	193250
MC ₃	0	0	0	0	0	77.3	0	193250	193250
Total	1337.68	2166.61	0	2166.61	0	1287.85	0	3219625	3219625

d) Proposed Air Quality Management (if needed)

Following air pollution control measures will be practiced within the mining area and at coal handling plants and railway siding site.

1. Water spraying will be done regularly on approach roads within the mining area to minimise the dust generation.
2. Mist sprinkling arrangement will be provided at the transfer point of coal.
3. Intensive plantation of adequate width all along the haul road and other road will be raised to minimise transport generated pollutants.
4. CHP will be provided with dust extraction arrangements.
5. Minimising the transport of coal from the crusher house to silo loading system, belt conveyor has been provided.
6. Coal transportation to railway siding will be done in covered trucks.
7. Exposed overburden dumps will be covered through an appropriate plantation
8. Optimum blast-hole geometry will be followed to reduce the dust during blasting.
9. Regular monitoring of ambient air quality of project area.

18.4 Waste disposal :--

- a) **External OB dump & internal backfilling details (specify the reclaimed backfilled area, area of voids for water reservoir and also the OB dump area height and volume) prior to closure of mine or during progressive mine closure (as the case be).**

The total volume of OB has been estimated as 2166.61 Mcum. An external dump of 219.56 Mcum. and an internal dump of 220.97 Mcum. already exists. The total volume of OB of 2166.61 Mcum. will be dumped internally starting from the 1st year onwards.

Maximum height of internal dump will be upto 90 m (above ground level)

Slope of waste bench of internal dump - 37 degrees

Height of individual bench - 30 m

Width of berm. - 30 m

Present land use would be converted into internal dump, green belt, built up area, surface infrastructure, final void/water body & other surface water body etc. after the

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cessation of mining operation. Out of 2635.350 Ha. of quarry area, plantation would be done in 1287.85 Ha. The dump surface would be maintained flat and top soil would be sprayed over it as a part of final reclamation.

The no. of plantation for 1287.85 Ha is 3219625 in internal dump, 462608 Nos. in 185.043 Ha (for departmental option), 460175 Ha. for 184.070 Ha. (for outsourcing option) around the mine, infrastructure, etc.

Initially to the extent possible, top soil will be removed and stored separately. Subsequently this soil will be directly spread over the leveled graded backfilled spoil for reclamation of the quarried out land. Biological reclamation work will follow in next progressive year. Year wise proposed overburden removal, coal production and plantation is given in Table 18.8 below.

The no. of plantation for 1287.85 Ha is 3219625 in internal dump, 462608 Nos. in 185.043 Ha (for departmental option), 460175 Ha. for 184.070 Ha. (for outsourcing option) around the mine, infrastructure, etc. The no. of plantation is given as under.

For departmental option:

- | | |
|--------------------------------------|------------------------------|
| a. Mine, infrastructure, colony etc. | 462608 Nos, in 185.043 Ha. |
| b. Internal Dump after backfilling: | 3219625 No.s, in 1287.850 Ha |
| c. Safety zone* : | 1428253 No.s in 571.301 Ha |

Total Plantation =	5110486 Nos.
---------------------------	---------------------

For outsourcing option:

- | | |
|--------------------------------------|------------------------------|
| d. Mine, infrastructure, colony etc. | 460175 Nos, in 184.070 Ha. |
| e. Internal Dump after backfilling: | 3219625 No.s, in 1287.850 Ha |
| f. Safety zone* : | 1428253 No.s in 571.301 Ha |

Total Plantation =	5108053 Nos.
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The plantation of trees would be of fruit bearing type. The species which are indigenous to the area will be planted. The details of the species are selected based on the flora data of that area. Stage Dump plan are shown in figures -18.2 for 5th year, 18.3 for 10th year, 18.4 for 15th year. Final stage reclamation plan is shown in fig. 18.5. X-section of final stage reclamation is shown in figure 18.6.

b) Stabilization of external O.B. dumps and backfilled area (Technical Reclamation)

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Technical reclamation would involve breaking and levelling the top of OB dumps, filling of gulleys and terracing etc. The maximum depth of the project will be 340 m. The total volume of OB has been estimated as 2166.61 Mcum. An external dump of 219.56 Mcum. and an internal dump of 220.97 Mcum. already exists. The total volume of OB of 2166.61 Mcum. will be dumped internally starting from the 1st year onwards.

The height of each waste bench is restricted to only 30 m. The decoaled area after simultaneous backfilling will be levelled by means of dozers keeping a mild slope of about 1 in 200 for surface water drainage for plantation and other purposes.

Table 18.8
PROGRAMME OF O.B. REMOVAL, DUMPING & PLANTATION:

Year	Coal production (MTes)	OB removal (Mcum)	Dump plan (Mcum)		Dump area available for reclamation (Ha.)		No. of plantation @ 2500 Nos / Ha.		Total plantation @ 2500 Nos / Ha.
			External	Internal	External	Internal	External	Internal	
1	40	72.69	0	72.69	0	0	0	0	0
2	41	72.67	0	72.67	0	0	0	0	0
3	41	73.8	0	73.8	0	0	0	0	0
4	45	82.12	0	82.12	0	0	0	0	0
5	45	82.82	0	82.82	0	0	0	0	0
6	65	112.7	0	112.7	0	59.13	0	147825	147825
7	70	125.06	0	125.06	0	59.13	0	147825	147825
8	70	125.53	0	125.53	0	59.13	0	147825	147825
9	70	125.51	0	125.51	0	59.12	0	147800	147800
10	70	125.17	0	125.17	0	59.12	0	147800	147800
11	70	125.09	0	125.09	0	63.36	0	158400	158400
12	70	125.51	0	125.51	0	63.36	0	158400	158400
13	70	125.54	0	125.54	0	63.36	0	158400	158400
14	70	124.82	0	124.82	0	63.36	0	158400	158400
15	70	124.95	0	124.95	0	63.36	0	158400	158400
16	70	107.8	0	107.8	0	63.36	0	158400	158400
17	70	107.66	0	107.66	0	63.36	0	158400	158400
18	70	86.34	0	86.34	0	63.36	0	158400	158400
19	70	84.96	0	84.96	0	63.36	0	158400	158400
20	70	85.18	0	85.18	0	63.36	0	158400	158400
21	50	40.8	0	40.8	0	63.36	0	158400	158400
22	30.68	29.89	0	29.89	0	63.36	0	158400	158400
MC ₁	0	0	0	0	0	77.3	0	193250	193250
MC ₂	0	0	0	0	0	77.3	0	193250	193250
MC ₃	0	0	0	0	0	77.3	0	193250	193250
Total	1337.68	2166.61	0	2166.61	0	1287.85	0	3219625	3219625

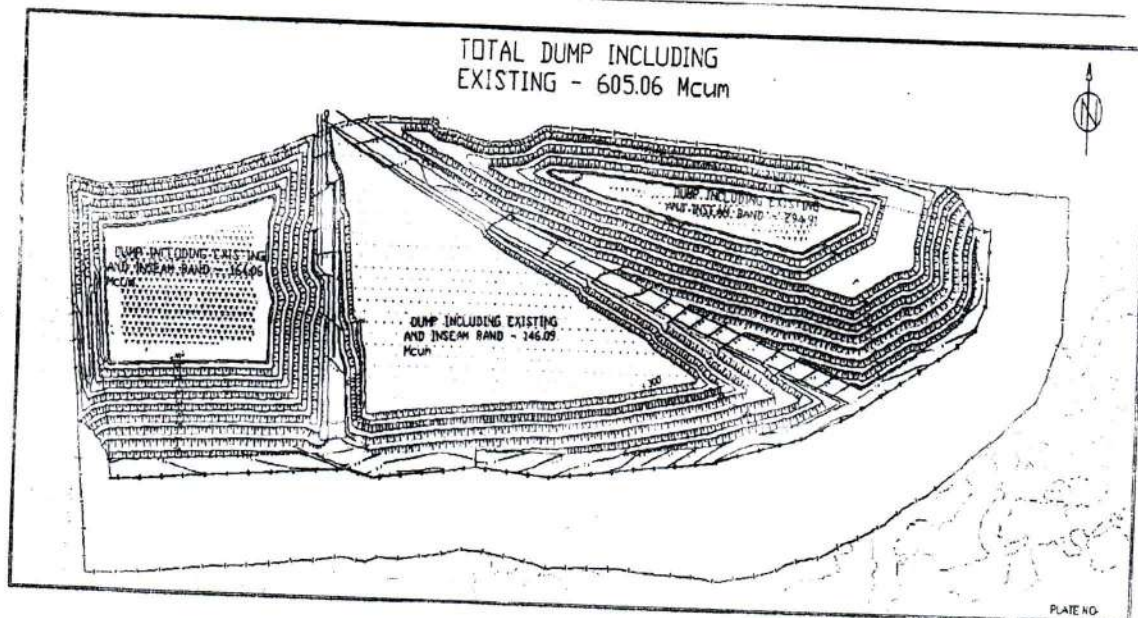


Figure: 18.2 5th year Dump Plan (1st stage)

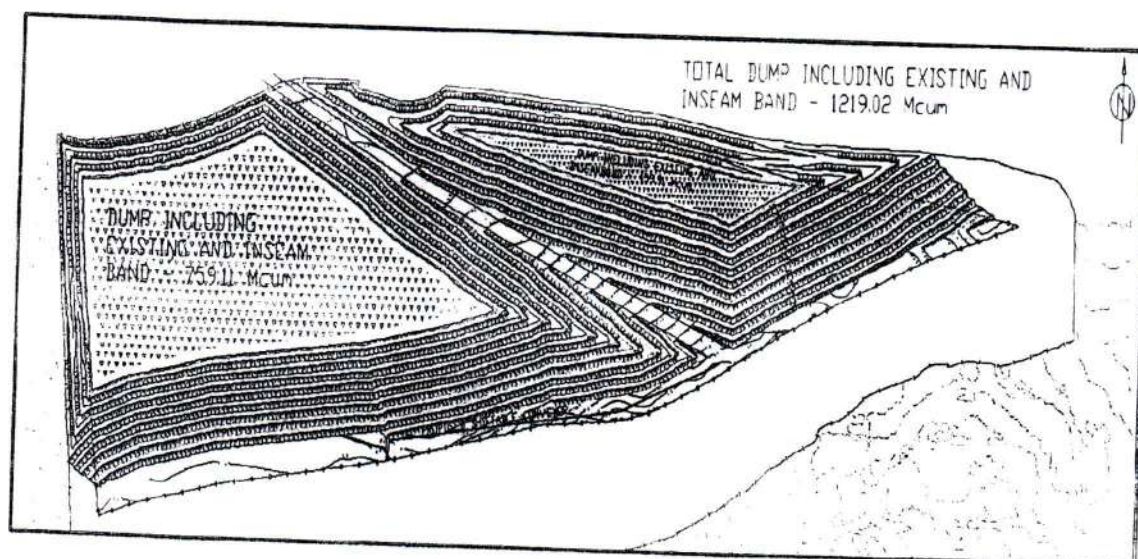


Figure: 18.3 10th year Dump Plan (2nd stage)

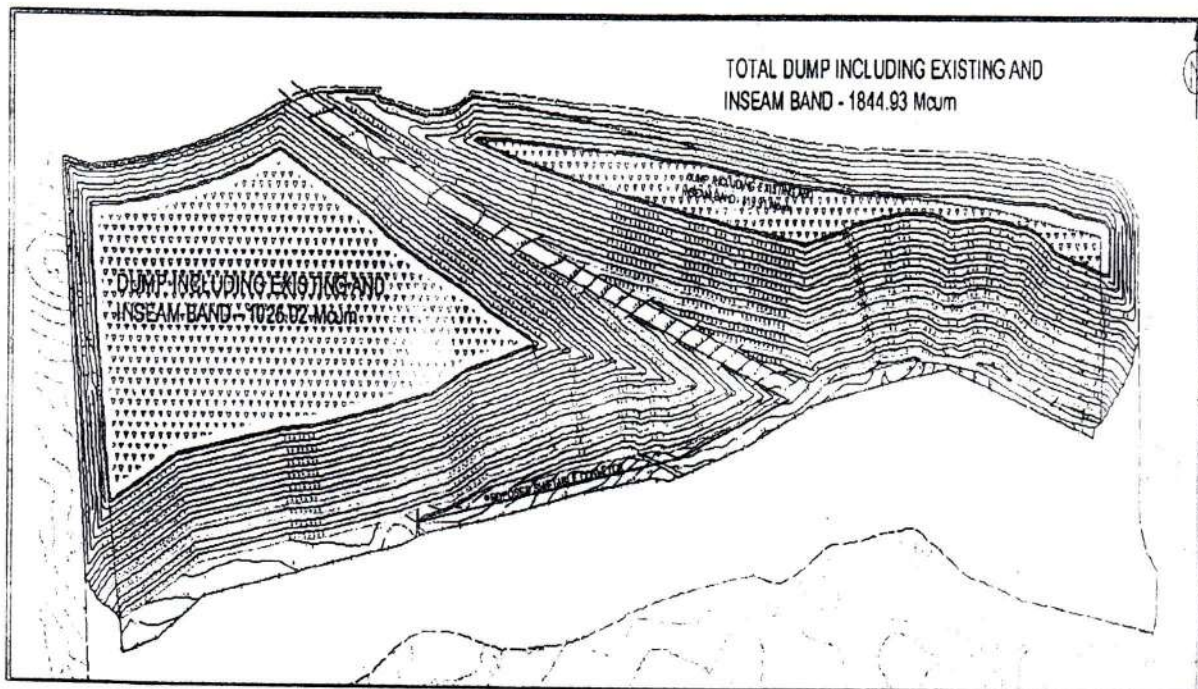


Figure: 18.4 15th year Dump Plan (3rd stage)

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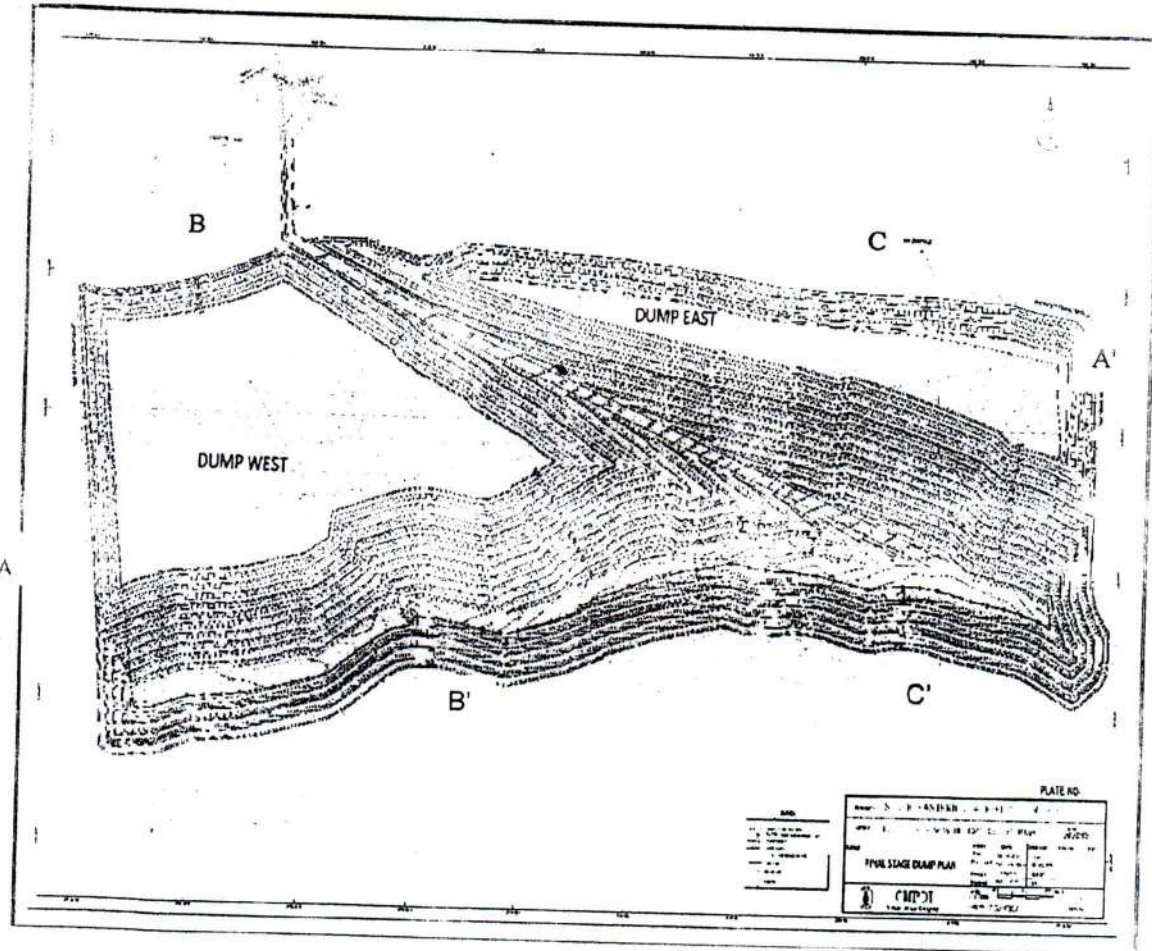


Figure: 18.5 Final stage Reclamation Plan

Prepared by

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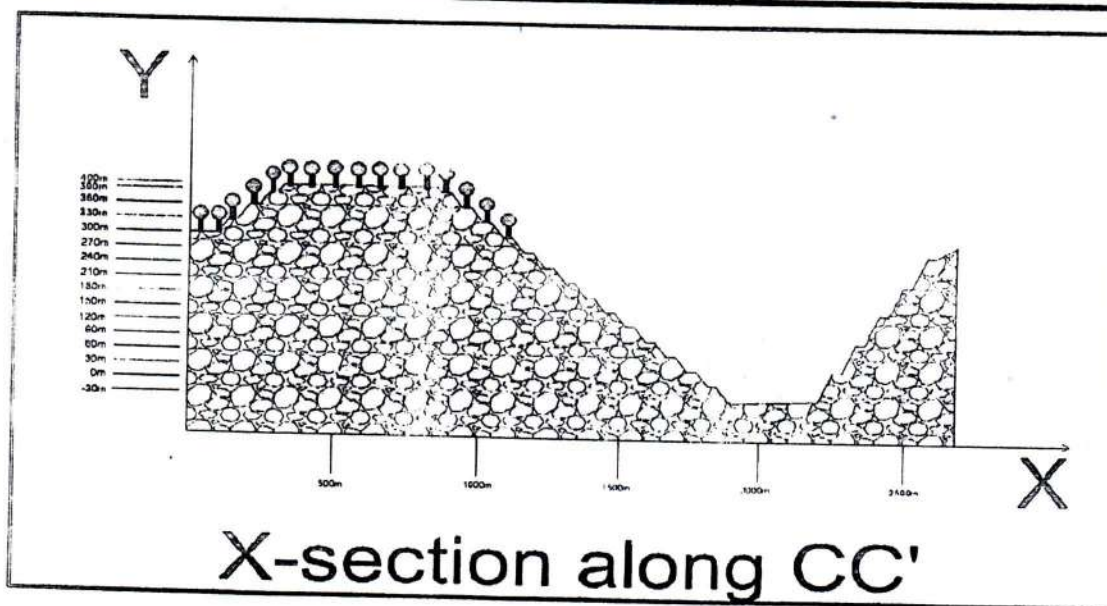
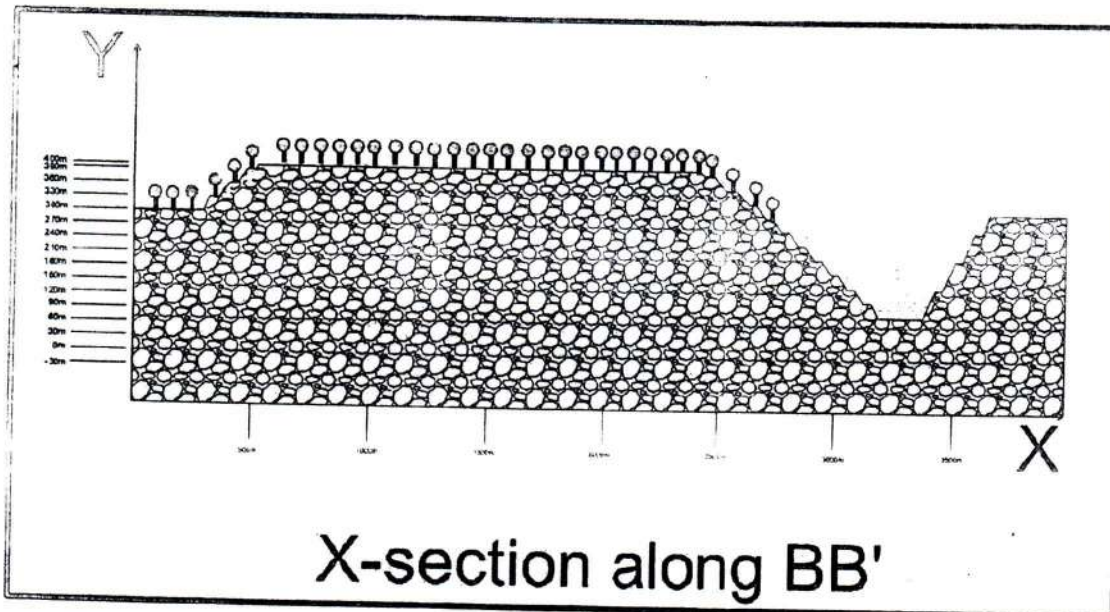
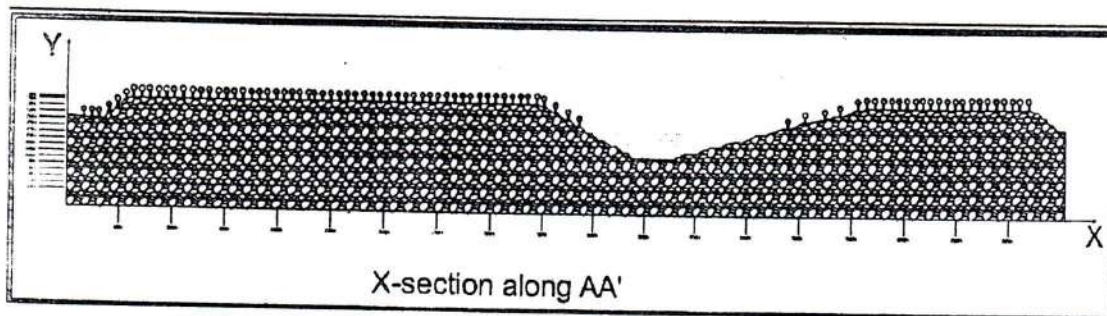


Figure: 18.6 X-Sectional View of Final Stage Reclamation Plan

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c) Top soil / soil amendment application

The stock piling of top soil will be as follows:

- i) Top soil and other materials removed shall be stock-piled only when it is impractical to promptly redistribute such materials on regarded areas.
- ii) Stock-piled materials shall be selectively placed on a stable area, not disturbed, and protected from wind and water erosion, unnecessary compaction, and contaminants which lessen the capability of the materials to support vegetation when redistributed.
- iii) After the final grading the topsoil would be redistributed in a manner that achieves an approximate uniform stable thickness consistent with the post mining land uses, contours, and surface water drainage system.

d) Plantation on external & backfilled area, avenue and block plantation with type of plantation i.e. local/native species. Name the local species for plantation.

Green belt on dumps:-

After technical reclamation of internal OB dumps and redistribution of top soil over it, the dumps will be biologically reclaimed followed by plantation as details given in table 18.8 above. About 3219625 nos, of plants would be planted over a part of internal dump (i.e. 1347.50.00Ha.) and plantation will be done during the mine life.

Green Belt around Mine: -

In the directions where natural forest does not exist, there is need for creating green belt of adequate width as an effective dust and sight curtain in the periphery of mining area. The trees planted in the green belt area shall act as buffers and shock absorber against dusts, noise and stone flying. The trees in the green belt will be tall, wind firm, broad leaved and evergreen. Plantation of 1428253 Nos, would be done in 571.301 Ha of safety zone around the mine.

CHAPTER-VIIB

DUMPING STRATEGY

7.5 Dump Management

Total volume of OB has been estimated as 2166.61 (including 60.66 m³ in seam band) (as on 01.04.2014).

The proposed sequence of mining is ideally suited for achieving the objective of placing maximum possible waste in the internal dumps. By adopting the proposed sequence of mining, as the quarry advances, the amount of external dump will be negligible and that of internal dump will increase as more space for the economic dumping is created.

Presently, internal backfilling is being done in the quarry and considerable volume of OB is also being dumped in the external dump. The total quantity of OB dumped till 01/04/2014 internally and externally is 220.97Mm³ and 219.56Mm³ (including External dump of Laxman OC) respectively. It is proposed in this PR that the total volume of OB will be internally backfilled in the decoaled void.

The proposed Internal dump, due to the position of haul road, has been divided into two parts i.e. Eastern dump and Western dump. A plan showing location and capacity of dumps has been given in Plate No. XXXII.

Additional Volume of OB to be dumped in different dumps is as follows.

Dump	Total Volume of OB (Mcum) to be accommodated in different dumps
A. External	Nil
B. Internal	
Eastern Dump	1060.40
Western Dump	1106.21
Total	2166.61
Grand Total (A+B)	2166.61

It is estimated that maximum RL of the surface is 328m. The maximum height of the proposed internal dumps has been designed up to 90m above the ground level. Hence internal dump is proposed to be dumped upto 400m RL.

The breakup of OB quantity to be accommodated in various dumps is as follows:-

Sl. No.	Particulars of working	Upto 5th Yr	Upto 10th Yr	Upto 15th Yr.	Upto Final Yr.
1	Coal mined (Mt)	212.00	557.00	907.00	1337.68
2	OB in(Mcum)	374.00	972.00	1582.00	2105.95
3	Inseam Band(Mcum)	10.09	26.05	41.96	60.66
4	Total Dump(OB+Inseam Band) (Mcum)	384.09	998.05	1623.96	2166.61
5	Stripping ratio (Mcum/t)	1.81	1.79	1.79	1.62
6	Excavated Quarry area (Ha)	1617.54	2159.18	2563.01	2635.36
7	External dump (Mcum)(EXISTING)	219.56	219.56	219.56	219.56
8	External dump (Mcum)(PROPOSED)	0.00	0.00	0.00	0.00
9	Internal dump (Mcum)EXISTING	220.97	220.97	220.97	220.97
10	Internal dump (Mcum)PROPOSED	384.09	998.05	1623.96	2166.61
11	Total Internal Dump (Mcum) Excluding Existing	384.09	998.05	1623.96	2166.61
12	Total Internal Dump (Mcum) Including Existing	605.06	1219.02	1844.93	2387.58

Initially the top soil will be removed and stored separately at the dip side of the quarry. Later on the top soil dumped on the dip side and the existing top soil will be directly spread and or stored over the levelled graded external dump when the dump reaches its maximum RL. Dumper/Tipper will transport soil/alluvium OB from the top OB bench and will dump the soil directly on the levelled OB.

OB dumps will be properly benched and the maximum height of the bench will be kept not more than 30m. Dump benches will have a mild gradient of 0.6% to facilitate the drainage.

Wherever possible, simultaneous land reclamation will be done along with the OB dumping. Once, the internal dumping start reaching its maximum R.L, the spoil will be graded and landscaped in harmony with surrounding topography and biological reclamation carried out in stages.

150m wide final void at the end of the mining operations will be left in the mine so that future expansion of the project will be planned accordingly. The total final void left at the end of the mining operations at surface RL (including the space for the main haul road and conveyor layout) will be 1347.50Ha.

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7.6 DUMPING ARRANGEMENTS

The following design criteria have been considered for waste dumps.

- I. OB in internal dumps will be stacked in 30 m high benches.
- II. Berm width of 30 m has been provided for transport etc.
- III. Dump slope for each bench to be at natural repose (37°).
- IV. Dozers to be deployed for shaping the dumps overall slope to 25° .
- V. Final reclamation will be achieved using the equipment provided for the purpose.

7.7 SLOPE STABILITY OF OB DUMP

As the maximum depth of the proposed quarry is going to be about 340m and property is encountered with various faults, it is envisaged to undertake scientific study for stability of dumping. Adequate precautions should be taken while working near fault planes.

As the maximum dump height above the surface level is 90m it is also envisaged to undertake scientific study for the stability of internal dumps. Financial provisions for the same have been made accordingly.

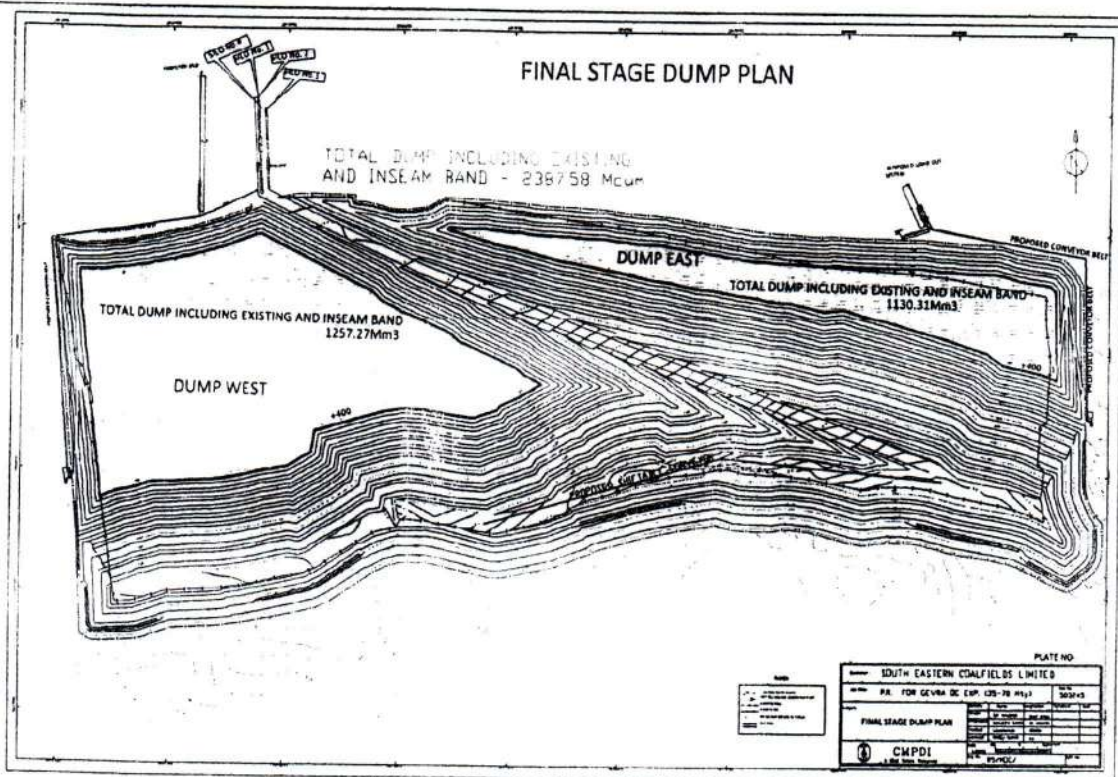
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P.R for Gevra OC Exp (35.0-70.0Mty)

CMPDI



JOB No.503245

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CHAPTER-VIIC

TOP SOIL MANAGEMENT

7.7 Introduction

The topsoil at proposed Gevra OC Expansion (35.0-70.0Mty) comprises of rich humus with minerals and nutrients. Proper handling and management is necessary for future vegetation growth in the mine reclaimed area. The thickness of the top soil varies between 25 cm to 35 cm.

7.8 Objectives of the Soil Stripping management plan

The objectives of Top Soil Management are to:

- Maintain a topsoil balance that achieves rehabilitation objectives during the life of Mine.
- Ensure effective topsoil removal techniques are employed to maximise volumes of suitable topsoil removed and minimise wastage.
- Maintain topsoil viability during stripping, spreading, and stockpiling, through best practice technique and effective stockpile design and treatment.

In accordance with the objective of providing sufficient stable soil material for rehabilitation and to optimise soil recovery, the following strategies will be adopted during the mining operation at Mahan opencast mines.

7.9 Stripping

Prior to the commencement of stripping, areas will be cleared of vegetation. Soil stripping will be undertaken by dozers and hydraulic backhoe excavators to maximise the preservation of the quality of the soil. The HEMM operators and supervisors should be trained and made aware for the same. This will ensure that all suitable topdressing material resources are salvaged and that the quality of the stripped top dressing material is not reduced through contamination with unsuitable soils. Care will be taken during stripping, stockpiling, and re-spreading to ensure that structural degradation of the soil is avoided and that excessive compaction does not occur during stockpiling.

7.10 Stock piling

- Where possible, topdressing material will be re-spread directly from stripped areas onto areas being rehabilitated. Where this is not possible, topdressing material will be stored in stockpiles.

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मोडल ऑफिस (Forest)
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- Stock piles will be dumped at places where they would not be disturbed by future mining. Sediment fences or other barriers can be used where necessary to retain sediment.
- The overall topography for the graded surface should be designed to minimize the uncontrolled flow of runoff.
- Dispersed sheet flow should be broken up by terraces or benches along the slope that also follow topographic contours.
- On a fine scale the ground surface can be roughened by the tracks of a bulldozer perpendicular to the slope. Construction of stockpiles with a "rough" surface condition will reduce erosion hazard, improve drainage and promote revegetation.

7.11 Stockpile preservation

Stockpiling topsoil may result in disruption & loss of beneficial soil microorganisms and nutritional values, hence needs the following amendments during preservation:-

1) Re-vegetation of the stockpile will be done as scheduled below to protect the soil from erosion, discourage weeds and maintain active populations of beneficial soil microbes.

- Temporary Seeding- To protect topsoil stockpiles by temporarily seeding as soon as possible, within 30 days after the formation of the stockpile.
- Permanent Vegetation- If stockpiles will not be used within 12 months they will be stabilized with permanent vegetation to control erosion and weeds. Likely grass species for revegetating top soil stock piles are green panic, Japanese millet (spring sowing), Oats (winter sowing), Dryland Lucerne, Seaton park sub-clover.

Topsoil can be mixed with organic material or manufactured soil amendments to improve the growing capability.

2) To the extent practicable, above ground vegetation, including tree litter should be mixed or otherwise incorporated into the topsoil.

3) Soil amendments: Soil amendments should be applied before seeding or planting. Common soil amendments used are biosolids, compost, manure, lime and coal combustion byproducts.

Rampur

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(Signature)

Prior to the placement, the top 0.30 cm of stockpile material should be mixed with the remainder of stockpile to ensure that living organisms are distributed throughout the topsoil material at the time of final placement. In case, the material has been stockpiled for over nine month period, use of microorganisms inoculates may be necessary to re-establish microorganisms in the topsoil material. The quantity should be 200 ml for one Hectare area in case of Azatobactor and Rhizobium.

7.12 Site Preparation

- Before spreading topsoil, establish erosion and sedimentation control structures such as diversions, berms, dikes, waterways and sediment basins.
- Adjust grades and elevations for receipt of topsoil.
- Roughening - Immediately prior to spreading the topsoil, loosen the subgrade to ensure bonding of the topsoil and subsoil.
- Soil horizons will be replaced in the same order that they were removed.
- Top soil will be uniformly distributed to pre-mining thickness. Topsoil will not be spread while it is frozen or muddy.
- The topsoil will be compacted to ensure good contact with the underlying soil, but excessive compaction will be avoided, as it increases runoff and inhibits seed germination. Light compaction with roller will be done where turf is to be established.

On slopes and areas that will not be mowed, the surface will be left rough after spreading topsoil.

7.13 Monitoring

Specific team / manpower is to be deployed for this most important step of topsoil management. The team will monitor the area and quantum of top soil management with the authorities of mine on quarterly basis and regularly monitor the given points of significant importance:

- Monitoring Erosion Control: This step is necessary during stock piling as well as reclamation stage of topsoil management. Take corrective measure in areas showing evidence of erosion, sedimentation or slope failure. This is a serious problem, because erosion causes fertile farmland to lose nutrients and water retention ability.

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नॉडल ऑफिस, कटघोरा/वन
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वनमण्डलाधिकारी
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- Regular monitoring of top soil management should be done until vegetation is demonstrated to be successfully established.
- Reseeding: Take appropriate measures to address evidence of invasive species or poorly established vegetation. Reseeding should be done, if germination is not uniform or poor.

Kapreze

Job No 503245

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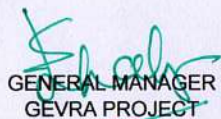
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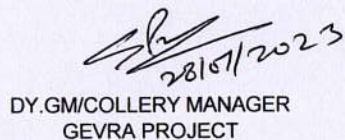
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SOUTH EASTERN COALFIELDS LIMITED
GEVRA AREA
STATUS OF TECHNICAL & BIOLOGICAL LAND RECLAMATION DETAILS OF GEVRA PROJECT AS ON 01.07.2023

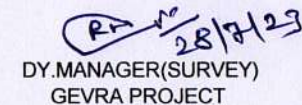
Name of Area	Name of unit	Approved EC Capacity (MTY)	TECHNICAL & BIOLOGICAL RECLAMATION													Total Reclaimed area	
			INTERNAL DUMP / BACKFILLED AREA DETAILS (In Hact.)								EXTERNAL OB DUMPS DETAILS (In Hact.)						
			Total Quammable area of the project as per approved EMP(70MTY) (Hac.)	Void be left at the closure of the project as per approved EMP(70MTY) (Hac.)	Total Area excavated as on 01.07.2023 (Ha.)	Prorata area not required to be Backfilled (Ha.)	Total area technically reclaimed /backfilled as on 01.07.2023 (Hac.) (Int/Dump)	Balance area to be Technically reclaimed/ backfilled at as on 01.07.2023 (Hect)	Area already biological reclaimed as on 01.07.2023 (Hact.)	Balance area to be Biologically reclaimed as on 01.07.2023 (Hect)	Total area of External OB dump as on 01.07.2023 (Hect.)	Area of Ext. OB dump technically reclaimed QE - as on 01.07.2023	Balance area ext.OB dump to be technically reclaimed as on 01.07.2023	Area already Biologi- cally reclaimed as on 01.07.2023	Balance area to be biolog-ically reclaimed as on 01.07.2023	Total Technically reclaimed as on 01.07.2023	Total Biologically reclaimed as on 01.07.2023
A	B	C	D	E	F	G=(E*F)/D	H	I=F-G-H	J	K=F-G-J	L	M	N=L-M	O	P=L-O	H+M	J+O
Gevra area	Gevra OCP	52.50 MTY	2037.250	659.250	1798.216	581.899	945.267	271.050	137.600	1078.717	374.331	374.331	0.000	367.200	7.131	1319.598	504.800

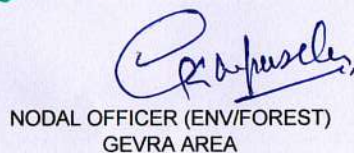
NOTE: F= 1776.553+21.663 = 1798.216
H= 936.362 + 8.905 = 945.267
J= 122.600+15.00= 137.600

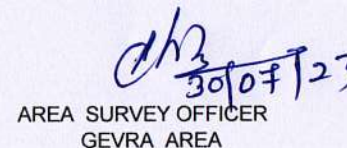

GENERAL MANAGER
GEVRA PROJECT

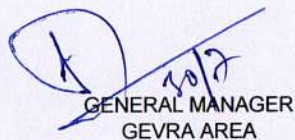

DY.GM/COLLERY MANAGER
GEVRA PROJECT


ENVIRONMENT OFFICER
GEVRA PROJECT


DY.MANAGER(SURVEY)
GEVRA PROJECT


NODAL OFFICER (ENV/FOREST)
GEVRA AREA


AREA SURVEY OFFICER
GEVRA AREA


GENERAL MANAGER
GEVRA AREA