

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

**ORIGINAL APPLICATION No. 174 of 2020 (SZ) and O.A. No.
20 of 2021(SZ)**

**REPORT OF THE JOINT COMMITTEE CONSTITUTED IN THE
O.A. No. 174 OF 2020 IN THE MATTER OF BANOTHU NANDU
NAYAK VERSUS SINGARENI COLLERIES COMPANY LTD. &
OTHERS**

AND

**O.A. No. 20 OF 2021 IN THE MATTER OF OGGU SRINIVASA
REDDY VERSUS UNION OF INDIA & Ors. BEFORE THE
HON'BLE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE,
CHENNAI.**



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ORIGINAL APPLICATION No. 174 of 2020 (SZ) and O.A. No.
20 of 2021(SZ)

IN THE MATTERS OF:

1. Banothu Nandu Nayak Applicant(s)
 Versus

Singareni Collieries Company Ltd. & Ors. Respondent(s)

2. Oggu Srinivasa Reddy Applicant(s)
 Versus

Union of India & Ors. Respondent(s)

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Place: Chennai
 Date:09/06/2021

Report of the Joint Committee constituted in the O.A. No. 174 of 2020(SZ) in the matter of Banothu Nandu Nayak Vs Singareni Collieries Company Ltd. & Ors.

and

O.A. No. 20 of 2021(SZ) in the matter of Oggu Srinivas Reddy Vs Union of India & Ors before the Hon'ble National Green Tribunal, (SZ), Chennai.

1. Introduction:

The Hon'ble National Green Tribunal (NGT), Southern Zone (SZ), Chennai passed an Order dated 08.09.2020 in the O.A. No. 174 of 2020(SZ) in the matter of Banothu Nandu Nayak Vs Singareni Collieries Company Ltd. & Ors., wherein appointed a Joint Committee with the direction to inspect the area in question and submit factual report on the terms of reference (TOR) referred therein the Order. In the above matter, Hon'ble NGT appointed Ministry of Environment Forest and Climate Change, Regional Office, Chennai as nodal agency for co-ordination and for providing all necessary logistics for this purpose. In compliance with the directions of the Hon'ble NGT, nodal agency vide O.M. No. EP/12.7/NGT(SZ)/058/2020/ dated 11.11.2020 constituted a Joint Committee based on the Officers deputed / nominated from the Authorities concerned. The first meeting of the Joint Committee was convened through video conference on 02.12.2020 and based on the deliberations held an interim report of the Joint Committee was filed before the Hon'ble Tribunal with the prayer to (i). appoint additional members from the Directorate General of Mines Safety and Roads & Buildings Department, Govt. of Telangana as a member to the Joint Committee (ii). pass appropriate Orders for conducting requirement of repeated study on Ambient Air Quality, soil quality and also monitor the noise level in that area and arriving environmental compensation and (iii) grant additional time of 3 months to enable the Committee to submit the final report. Hon'ble Tribunal, after examining the matter accepted the request of the Committee and vide Order dated 21.01.2021 permitted to add additional members.

Meanwhile, based on the institution of a connected matter by another Applicant, an Order was passed by the Hon'ble NGT on 27/01/2021 in the O.A. No. 20 of 2021(SZ) in the matter of Oggu Srinivas Reddy Vs Union of India & Ors., wherein Hon'ble Tribunal directed to look into the issues as well and submit a consolidated report by the same Committee appointed in O.A. No.174/2020.

2. Reconstitution of the Joint Committee:

In compliance with the directions of the Hon'ble NGT, as a nodal agency Regional Office of MoEF&CC at Chennai vide O.M. No. EP/12.7/NGT(SZ)/058/2020/065 dated 18.02.2021 re-constituted the Joint Committee comprising of the following members based on the Officers deputed / nominated from the Authorities concerned:

- (i). Shri. N. Madhusudan, I.A.S, Additional Collector, Khammam District, Telangana.
- (ii). Shri. D. Krupanand, Joint Chief Environmental Engineer, Zonal Office, Telangana State Pollution Control Board, Hyderabad.
- (iii). Shri. P. Madhusudan Reddy, Dy. Director of Mines & Geology, Warangal, Department of Mines & Geology, Govt. of Telangana.
- (iv). Shri. N. Balasubrahmanyam, Deputy Director of Mines Safety, Hyderabad Region No.1.
- (v). Smt. M.B. Hemalatha, District (R&B) Officer, Sathupally Executive Engineer (R&B), Khammam District, Telangana.
- (vi). Dr. M.T. Karuppiah, Scientist – E, MoEF&CC, Regional Office, Chennai – (Nodal Officer for the Joint Committee).

The above Committee constitution O.M. is placed as **Annexure-I**.

3. Terms of reference (TOR) to the Joint Committee:

Hon'ble Tribunal vide Order dated 08/09/2020 and 27/01/2021 has directed the Joint Committee to look into the Terms of the References (ToR) furnished as under:

- (i). whether the safety as well as pollution control mechanisms provided are sufficient to meet the sound, air pollution that is likely to be caused on account of the operation of the 1st respondent unit, the impact of such pollution on the residents of that locality,
- (ii). Whether there was any violation committed by the 1st respondent in implementing the terms and conditions imposed in the environmental clearance granted and also the consent granted by the authorities,
- (iii). Whether the mine closure plan has been properly implemented by the 1st respondent when the mining activity in one of the mines is closed or exhausted.

- (iv). Whether any excess mining has been done and if so, what is the quantity of the excess mining done.
- (v). To assess the environmental compensation regarding the damage caused to the environment apart from assessing environmental compensation for excess mining that is said to have been committed by them.
- (vi). Whether any soil degradation has been caused on account of the activities of the 1st respondent and its impact on agricultural activities in that area.
- (vii). To conduct the Ambient Air Quality and soil quality test and also test the sound level in that area, and if there is any violation found then, suggest as to what are all the remedial measures to be taken by the 1st respondent to mitigate the same apart from payment of environmental compensation for the damage caused to the environment.
- (viii). Whether necessary green belt has been provided for the purpose of mitigating the air pollution and sound pollution by the first respondent unit.
- (ix). The vibration that is being caused while using explosives if any, while undertaking the mining operations and its impact on the residential area as well.
- (x). Alleged non-compliance of the para 2(iv) of the Forestry clearance accorded vide proceedings No.8-56/204-FC dated 30.05.2017 under Forest Conservation Act, 1980.
- (xi). Transport of coal through road by violating the condition stipulated in the Environmental Clearance (EC).
- (xii). Alleged use of explosive substance for blasting without adopting scientific methods to avoid air and Noise pollution.
- (xiii). Alleged damage caused to the nearby water body on account of large scale of dumping of coal.

4. Background of the Project:

(i). Jalagam Vengal Rao Opencast-I Coal Mine (JVR -OC-I):

Ministry of Environment, Forest & Climate Change vide letter No.J-11015/240/2003-IA.II(M) dated 16/9/2004 granted environmental clearance for Sathupally Opencast Project-I of M/s Singareni Collieries Company Ltd. for production of coal at a rated capacity of 0.7 MTPA in ML area of 410.58 Ha. Subsequently the project was renamed as Jalagam Vengal Rao Opencast-I Coal Mining project. MoEF&CC vide letter No. J-11015/301/2007-IA.II(M) dated 17/7/2007 granted environmental clearance for the Jalagam Vengal Rao Opencast-I Coal Mine project (expansion in rated capacity from 0.70 MTPA to 2.0 MTPA with a peak production of 2.50 MTPA and increase in lease area from 410.58 ha to 547.08 ha) of M/s Singareni Collieries Company Ltd., located in Village Ayyagaripeta, Mandal Sathupalli, District Khammam, Andhra Pradesh (Presently in the State of Telangana), subject to the implementation of environmental conditions and safeguards contained therein. Total land requirement for the project is 547.08 Ha., out of this 380.52 Ha is forest land. Requisite Clearances have been obtained for diversion of Forest land having an extent of 244.02 Ha. and 135.05 Ha. vide Letter Nos. 8-129/2003-FC dated 02/02/2005 and Letter No. 8-56/2008-FC dated 03/07/2012 of MoEF&CC. According to the EC, R&R involves within the blasting zone comprising one village (Vengal Rao Nagar) with 335 PAFs. However, project authority informed that by using NONELs blasting technology, blasting operations were performed safely and the village was not evacuated. NOC has been obtained in the ground water angle from the State Ground Water Department vide letter No. 13019/Hg.II (1)/06 dated 06/07/2007. PA obtained CFE from the State PCB vide Order No. 35/PCB/CFE/RO-KGM/HO/2007 dated 27/09/2007. CFO has been obtained from the State PCB and renewed regularly. Mining plan renewal has been obtained from the MoC vide letter dated 21.05.2007. Reportedly commenced the project activity of JVR-OC-I on 03.06.2005 and JVR OC-I Expansion Project in the year 2007 after obtaining the requisite statutory clearances. The mining activities of JVR-OC-I Project was reportedly completed on 31.08.2020, since the coal reserves are exhausted.

(ii). Jalagam Vengal Rao Opencast-II Coal Mine (JVR-OC-II Project):

Ministry of Environment, Forest & Climate Change vide letter No. J-11015/268/2007-IA.II(M) dated 28/03/2010 granted environmental clearance for Jalagam Vengal Rao Opencast Project -II (4 MTPA Normative and 5 MTPA peak) in a project area of 1409.81 Ha.) of M/s Singareni Collieries Company Ltd., located in Village Kommepalli, Mandal Sathupalli, District Khammam,

Andhra Pradesh (Presently in the State of Telangana), subject to the implementation of environmental conditions and safeguards contained therein. As per project authority, the life of the Mine is 53 years (2020-2021). As informed by the Project Authority, total forest land requirement for the project is 788.22 Ha. Requisite approval has been obtained from MoEF&CC vide letter dated 31/5/2017 for diversion of 776.20 ha of Forest land. Further 12.02 ha of FC land pertains to the JVR OC-I also included in this project. Project involves R&R and implementation of R&R plan has been initiated and is in progress. Reportedly, R&R Package of one village i.e., Kommepalli village was implemented. Accordingly, 229 PAFs have been relocated in the R&R colony identified at Ayygaripeta Village, Sathupalli Tehsil, Khammam District. NOC has been obtained in the ground water angle from the State Ground Water Department vide Memo No.4693/Hg.II(2)/2008 dated 01/11/2008. PA obtained CFE from the State PCB vide Order No. 5/PCB/CFE/RO-KGM/HO/2015/570 dated 26/6/2015. CFO has been obtained from the State PCB vide Order No.170421033095 dated 03/01/2018 which is valid till 31/10/2022. Initially, Mining plan renewal was obtained from the Ministry of Coal vide letter dated 16/3/2010. Subsequently, an approval of Mining Plan including mine closure plan of JVR OC-I was obtained from Ministry of Coal on 17.11.2014. Reportedly, commenced the project activity of JVR OC-II on 01/09/2017 after obtaining requisite statutory clearances. It has been mentioned in the approved mining closure plan that the voids of JVR OC-I Expansion will be filled with OB from JVR OC-II Expansion. The mining operation of this project is in progress during the visit.

(iii). Jalagam Vengal Rao Opencast - I Expansion Project:

The project authority has exceeded the production capacity since 2007-2008 in the existing JVR-OC-I expansion project beyond the capacity sanctioned (i.e. 2.0 MTPA (2.5 MTPA Peak)) in the EC letter dated 27.07.2007 and thus violated the EIA Notification. Considering the violations committed by the project authority, in pursuant to the Notification dated 14th March, 2017 of MoEF&CC, New Delhi relating to violation of the EIA Notification, 2006, M/s SCCL submitted application for the EC for proposed expansion of the project from 2.50 MTPA to 5.00 MTPA in an area of 544.81 Ha. with the same name under violation category. Reportedly the proposal was deliberated in the meeting of EAC for the violation of EIA Notification, 2006, held on 13th -14th June, 2018 for issue of ToR. Accordingly, MoEF&CC issued Terms of Reference vide letter No. 23-77/2018-IA (III) dated 08.08.2019 for the proposed expansion of JalagamVengal Rao Opencast-I Expansion Project. Subsequently, Public hearing was conducted on 14th February, 2020. The EAC after detailed deliberation on

the information submitted by the project proponent and as presented, initially deferred the project for want of information. Based on the additional information submitted by the project proponent as sought by the EAC, the proposal was considered in the 36th EAC meeting held on 22.09.2020 and after detailed deliberation, the EAC recommended the proposal for grant of Environmental Clearance. Accordingly, MoEF&CC vide letter No. 23-77/2018-IA(III) dated 01.02.2021 granted environmental clearance for JVR OC-I Expansion project for enhanced coal production from 2.5 MTPA to 5 MTPA under violation category. A copy of the said EC letter dated 01.02.2021 is enclosed as **Annexure-II**.

(iv). Proposal for the amalgamation of JVR-OC-I expansion & JVR-OC-II mines:

Project authority vide their application dated 28.09.2020 submitted their proposal to MoEF&CC for seeking environmental clearance for amalgamation of JVR-OC-I expansion & JVR-OC-II mines (Proposal no: IA/TG/CMIN/96178/2019) in the name of "Jalagam Vengala Rao Openacast Mine (I&II Expansion)". It appears that the proposal yet to be appraised by the MoEF&CC.

5. Meeting of the Joint Committee and site inspection:

In continuation to the first meeting of the Joint Committee, second meeting of the Committee was held on 25/03/2021 at Project Office of Jalagam Vengala Rao Opencast Mine, Sathupalli Mandal, Khammam District, Telangana. As directed by the Hon'ble NGT, prior Notice was given by the nodal agency vide letter No.EP/12.7/NGT(SZ)/058/2020 dated 18/03/2021 to the Counsel appearing for the applicants informing the schedule of inspection to enable them be present and assist the committee on the alleged environmental issues. The applicants along with their nominated Counsel (Shri. Narasimha Rao & Satyasadhan appeared and took part in the Joint Committee meeting and site inspection held on 25.03.2021. As consented by all the members of the Committee an opportunity was also given to the Respondent No.1. M/s The Singareni Collieries Company Ltd. (SCCL) to present their submissions to the Joint Committee during the first and second meetings of the Committee. Accordingly, Shri. Narasimha Rao, General Manager of SCCL has attended the meeting and made submissions on behalf of M/s The Singareni Collieries Company Ltd. During the meeting, all the members of the Joint Committee were present.

6. Submissions of the Applicant to the O.A. No. 174 of 2020 and other residents before the Joint Committee:

- (i). The Applicant claimed that the damage of the houses are caused due to the unregulated blasting operations undertaken by the Project authority for their mining operation and thus demanded for compensation of the damaged houses in the NTR Nagar. Further, he informed that the cracks on the buildings were developed around 6 years back when the vibration was higher. He also informed that presently, the vibration level is comparatively less. He has submitted the photographs of the damaged houses. He has also produced copy of various representations submitted to the District revenue authorities and project authority in the past ten years.
- (ii). He demanded free medical treatment for the residents nearby the mining area in the SCCL hospital.
- (iii). Demanded drinking water supply to the village people by installing RO plants, since there is water scarcity.
- (iv). Demanded the employment opportunity in the SCCL for the poor local residents nearby the Mining area.
- (v). Another person Mr. Baskara Reddy from the Rejarla village requested for the lift irrigation system linking the New NTR Cannal to Jeropalli tank to resolve the water scarcity in the area.
- (vi). During the visit some of the residents from the Vengal Rao Nagar also reported that the houses in their village also damaged due to mining operations and demanded to visit their residences. The Committee informed them that their grievance will be informed to the Hon'ble Tribunal. The Committee has not visited other nearby villages restricting the TOR issued by the Tribunal and also the anticipated law and Order problems associated in that area.



7. Submissions of the Applicant & the Counsel to the O.A. No. 20 of 2021 before the Joint Committee:

- (i). The applicant and the nominated Counsel were present and informed that Project authority violated the specific condition no. 2(A).(viii) of the environment clearance letter dated 28.03.2010 and continuing the transport of coal through road instead of conveyor belt and railway siding without complying the condition of the Environmental Clearance (EC) and thus in accordance with para 4 of the EC letter the said EC is liable to be cancelled as the said Clearance has clearly stated failure to comply with any of the conditions will result in withdrawal of clearance.
- (ii). It was informed that the Forestry clearance was accorded vide proceedings No.8-56/204-FC dated 30.05.2017 under Forest Conservation Act, 1980 for this OC-II project, wherein the para 2(iv), it was stated that project Authority has to obtain Environmental Clearance before commencing the mining. No such Environmental Clearance is obtained by Project Authority and only on the basis of 30.05.2017 proceedings required under Forest Conservation Act and as such the said Forest Clearance is also liable to be cancelled.
- (iii). Also alleged that the JVR-OC project activity is causing severe air, water pollution and unbearable vibrations apart from the above allegations.

8. Submissions of M/s the Singareni Collieries Company Ltd. to the Joint Committee:

As consented by all the members of the Joint Committee an opportunity was given to the Respondent project authority (M/s The Singareni Collieries Company Ltd. (SCCL)) to present their submissions to the Joint Committee during the meeting held. Accordingly, Shri. Narasimha Rao, General Manager of SCCL has attended the meeting and made submissions on behalf of M/s The Singareni Collieries Company Ltd. During the deliberation M/s SCCL completely denied the averments referred therein the O.A. except the excess production achieved in the said coal mine.

- (i). The respondent project authority (M/s SCCL) informed that they are regularly undertaking post project monitoring in respect of air quality, water quality and Noise level monitored through approved Govt. third

party agency (M/s EPTRI, Hyderabad) and project authority claim that the monitored data show that the values are well within the limit.

- (ii). It was also informed that project authority has already installed online continuous Ambient Air Quality Monitoring Station on their project area, which is connected to the servers of the Telangana Pollution Control Board as well as Central Pollution Control Board and the real time monitored data is available in public domain.
- (iii). Regarding excess production of Coal, Project authority admitted that they achieved excess production, since there was a direction from the Telangana State Government to supply more Coal to Thermal Power Plants to meet the power requirement.
- (iv). In pursuant to the Notification dated 14th March, 2017 of MoEF&CC, New Delhi relating to violation of the EIA Notification, 2006, M/s The Singareni Collieries Company Limited (Respondent project authority) submitted their proposal of Jalagam Vengal Rao Opencast - I Expansion Project for annual production from 2.50 to 5 MTPA in an area of 544.81 Ha. to MoEF&CC for Environmental Clearance. The Expert Appraisal Committee in its meeting held on 13-14 June, 2018 appraised the proposal. After deliberations, the Expert Appraisal Committee, confirmed this case to be of violation of the EIA Notification, 2006 and issued Terms of Reference (ToR) vide letter No.23-77/2018-IA.(III) dated 8th August, 2019 of MoEF&CC with the recommendations referred therein.
- (v). In this regard, reportedly credible legal action has already been initiated by the Telangana State Pollution Control Board against the Singareni Collieries Company Ltd. before the Hon'ble Court of Judicial First Class Magistrate, Sathupalli, Telangana through C.C. No. 1075 of 2020 and the matter is still pending before the Hon'ble Court (**Annexure-III**).
- (vi). Further, in accordance with one of the recommendations in the TOR letter No.23-77/2018-IA.(III) dated 8th August, 2019, the project proponent needs to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the State PCB prior to the grant of EC. The bank guarantee shall be released after successful implementation of the Environmental Management Plan (EMP). The said TOR, also recommended for Assessment of ecological damage with respect to air, water, land and

other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment. The Accredited Consultant M/s.EPTRI made a detailed presentation on salient features of the project before the Expert Appraisal Committee for the proposal involving violation of EIA Notification, 2006 held on 21st -22nd September, 2020. Based on the recommendation of the EAC, MoEF&CC vide letter No. 23-77/2018-IA(III) dated 01.02.2021 accorded environmental clearance for JVR OC-I Expansion project for enhanced coal production from 2.5 MTPA to 5 MTPA under violation category. In this regard, an amount of Rs. 26,67,00,000/- (rupees twenty six crores and sixty seven lakhs) has been deposited to the TSPCB as bank guarantee towards implementation of remediation plan and natural and community resource augmentation plan based on the study undertaken and approved by the MoEF&CC. Copy of the acknowledgement issued in this regard by the TSPCB vide letter dated 08.08.2019 is enclosed as an **Annexure-IV**.

- (vii). During the deliberations, project authority informed that they are undertaking controlled blasting using nonel technique by following the guidelines issued by the Directorate General of Mine Safety (DGMS) and the ground level vibrations are being regularly monitored and the value are reportedly within the limit.
- (viii). Project authority informed that necessary green belt has already been developed.
- (ix). Further, project authority made a written submission along with photographs to the Committee that one of the applicants Shri. Banoth Nandu Nayak in association with Shri. Balusupati Dhaneswar Rao alias Karuna Theja of Rejarla Village instigating the residents of BC Colony, Rejarla Village, Sathupalli Mandal to stop work by squatting on the haul road and erecting tents to organize Dharnas from 20.03.2021 onwards with the demand of shifting of their houses and provide alternate site for families though they are not eligible for any compensation under land acquisition or any R&R packages as per the Land Acquisition, Rehabilitation and Resettlement Act. As the Mining operation are stopped due to the illegal Dharna by the residents of BC Colony, Rejarla Village,

the same was brought to the notice of police authorities by the SCCL for necessary intervention to solve the problem and for eviction in order to continue mining operation as there is loss of production. The supporting evidence of the photographs made available by the project authority is placed as **Annexure-V**.

9. Observation of the Joint Committee:

Based on the deliberations held during the first and second meeting of the Joint Committee and the site inspection of the area under question, the observations of the Joint Committee on the TORs are furnished under:

(i). whether the safety as well as pollution control mechanisms provided are sufficient to meet the noise, air pollution that is likely to be caused on account of the operation of the 1st respondent unit, the impact of such pollution on the residents of that locality:

- (a). The applicants to the O.As. have not produced any substantive evidence / documents / data in support of the alleged air, water and noise pollution except the photographs for the cracks on the houses. First Respondent project authority denying those allegations based on their monitored data / documents.
- (b). During the visit it has been observed that the Project authority is following safety protocols. Personal protective equipments have been provided to the workmen and are in use. Controlled blasting is being carried out in day time by using shock tube (NoNEL) technology designed to control the ground vibration and to arrest the fly rocks and boulders. The vibrations are being monitored as per DGMS guidelines.
- (c). As stipulated wet drill operation is in practice in order to control the air pollution. Water spraying arrangement on haul roads, wagon loading and dump track (loading & unloading) points have been provided. As informed regular tuning of vehicles is in practice and vehicular emissions are being monitored. The vehicles, where the exhaust emissions have exceeded the stipulated norms are subjected to further maintenance. Coal transport lorries are optimally loaded and covered with tarpaulin. Greenbelt development has also been made.
- (d). Further, seven ambient air quality monitoring stations (core zone 3 nos. and 4 nos. in buffer zone) were established and monitoring is being

carried out once in every fortnight through MoEF&CC approved third party laboratory (M/s EPTRI) for the parameters of PM₁₀, PM_{2.5}, SO₂ and NO_x. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr is being done once in six months through MoEF&CC approved third party laboratory. Monitored data by the third party as well as State PCB is placed as **Annexure – VI**. One continuous online AAQ monitoring Station has been installed in this project area and the same is linked to the server of the TSPCB. The monitored data show that the values are within the limit. In order to ascertain the allegations, Telangana State PCB monitored the Ambient Air Quality & noise level and also carried out water & soil analysis in the project area during the month of December, 2020 and the monitored data show that the values are within the limit and thus the Joint Committee found that the said allegations regarding noise & air pollution and its impact on the residents of that locality is devoid of merits.

(ii). Whether there was any violation committed by the 1st respondent in implementing the terms and conditions imposed in the environmental clearance granted and also the consent granted by the authorities:

- (a). Though the Respondent project authority complied with most of the EC and Consent conditions, undisputedly the Respondent Project authority (SCCL) has exceeded the production capacity of Coal than the sanctioned capacity and thus violated the EC and Consent conditions in respect of JVR OC-I project. Calendar plan including excavation, quantum of coal has not been complied with as stipulated. In respect of excess production, credible legal action has already been initiated by the Telangana State PCB through legal proceedings before the Hon'ble Court of Judicial First Class Magistrate, Sathupalli, Telangana through C.C. No. 1075 of 2020 and the matter is under sub-judice. Project Authority has already applied for Environmental Clearance for the enhanced capacity from the MoEF&CC under violation category and EC was obtained vide letter No. 23-77/2018-IA(III) dated 01.02.2021. Further, as approved by the MoEF&CC, the project authority, has also executed a bank guaranty of an amount of Rs. 26,67,00,000/- (rupees twenty six crores and sixty seven lakhs) to the TSPCB towards implementation of remediation plan and natural and community resource augmentation plan, which needs to be implemented within 3 years.

(b). Applicant in the O.A. No. 20 of 2021 alleged that the project authority is not complied with the specific condition No. 2.A.(viii) of EC letter dated 28.03.2010 and the Coal transportation is being carried by Road instead of conveyor belt and railway siding. SCCL vide letter No. CRP/ENV/A/405/568 dated 16/8/2013 requested the MoEF&CC to modify the condition of Coal transport through rail and permit to transport coal by road to the linked customers till the railway line is completed. The said proposal was considered by the EAC held in the meeting held on 14.08.2014 and recommended for amendment that "the railway line should come into operation within a period of three years and until that time the coal may be transported by road with mechanically covered trucks". However, no letter has been issued by the MoEF&CC in this regard except minutes of the meeting.

(c). Considering the delay in completion of the railway line, project authority again vide letter No. CRP/ENV/A/405/665 dated 19.12.2018 sought amendment in the specific condition No. 2.A.(viii) of EC letter dated 28.03.2010. Accordingly, MoEF&CC vide letter No.J-11015/268/2007-IA.II(M) dated 19/04/2021 amended the specific condition in the EC and permission has been accorded to transport the coal by road with covered tarpaulin only up to 31.12.2021(**Annexure-VII**). Presently the Coal transportation is being carried out through road. As of now the project authority has obtained permission for transport of the coal by road till 31.12.2021.

(iii). Whether the mine closure plan has been properly implemented by the 1st respondent when the mining activity in one of the mines is closed or exhausted:

(a). It is submitted that for Coal mining projects, Mining plan and Mine Closure Plan is being appraised and accorded by the Ministry of Coal. Mining plan renewal has been obtained from the MoC vide letter dated 21.05.2007. MoEF&CC vide letter No. J-11015/301/2007-IA.II(M) dated 17/7/2007 granted environmental clearance for the Jalagam Vengal Rao Opencast-I Coal Mine project (expansion in rated capacity from 0.70 MTPA to 2.0 MTPA with a peak production of 2.50 MTPA and increase in lease area from 410.58 ha to 547.08 ha). Reportedly commenced the project activity of JVR-OC-I on 03.06.2005 and JVR OC-I Expansion Project in the year 2007. The mining activities for the JVR-OC-I expansion Project was reportedly completed on 31.08.2020, since the

coal reserves are exhausted. On completion of the mining activity, the project authority should have implemented the final mine closure plan as approved. However, meanwhile the mining plan (1st Revision) including Mine Closure Plan of Jalagam Vengal Rao Opencast (I&II) Expansion was approved by Ministry of Coal, vide letter No. PCA-38011/12/2017-PCA dated 29.03.2019. The project authority should have got an amendment in the EC from the MoEF&CC in respect of final mine closure plan to the JVR OC I Expansion Project, since the approved Mining Plan for JVR-OC-II envisaged to utilize the voids of JVR OC I Expansion Project for dumping of overburden from JVR OC II Project in order to conserve the land.

- (b). It is submitted that 165.085 M.CuM of over burden removed till 2020-21. Out of which 38.485 M.CuM of OB dumped in external dump yard within the leased area of JVR OC-I Expansion Project spread over an area of 130.39 ha, and 126.60 M.CUM was dumped in the internal dump spread over an area of 182.38 ha, in the leased area to a height of 90 meters and 60 meters respectively from the surface RL with approved gradient and 3 decks each having a height of 30 m.
- (c). Internal dumping in de-coaled area has been started since 2010 and presently spread over an area of 182.38 ha, out of which 24.0 ha is biologically stabilized. The backfilling is systematically progressing from northwest to south east direction of the ML area. On external dump plantation was done in 30 m, 60 m & 90 m decks slope and on the top of dump and being maintained properly. Plantation has been carried out around 322.90 ha as per the approved mining plan and mining closure plan, which comprises on the external dumps and in the vacant areas inside the lease area. The view of plantation carried out on the external dumps and the toe wall constructed is shown below.





- (d). The Committee observed that Respondent project authority is implemented the progressive mine closure activities and reclamation of mined area as per the approved Mining Plan. Project authority has deposited Rs. 41.9107 Crores in the ESCROW Account in connection with the JVR OC-I mine closure activities. The amount should have been claimed on implementation of the said mine closure activities. **However, project authority so far has not claimed the said amount deposited in the ESCROW Account, after completing the third-party audit.** The said amount shall not be transferred to the amalgamated project of JVR-OC-I and JVR-OC-II in order to ensure effective implementation.
- (e). It is pertinent to mention here that Ministry of Coal vide letter No. PCA-38011/12/2017-PCA dated 29.03.2019 approved the Mining plan including Mine Closure Plan of Jalagam Vengal Rao Opencast (I&II)

Expansion projects in an integrated manner and MoEF&CC vide letter No.23-77/2018-IA(III) dated 01.02.2021 granted environmental clearance for JVR OC-I Expansion project for enhanced coal production from 2.5 MTPA to 5 MTPA under violation category. **Considering the above facts, the Joint Committee observed that the implementation of final Mine Closure plan does not arise now to JVR-OC-I Expansion project.** Further, if the Hon'ble Tribunal desired to get more clarification on the issues of implementation of final mine closure plan, the details may be obtained from the Ministry of Coal by impleading as Respondent in the above O.As.

(iv). Whether any excess mining has been done and if so, what is the quantity of the excess mining done.

The Respondent project authority undisputedly has exceeded the production capacity in the JVR OC-I Expansion than the rated capacity stipulated in the EC and Consent. Calendar plan including excavation, quantum of coal has not been complied with as stipulated, The details of the excess production achieved are furnished below:

Year	Coal (MTPA)		OB (M.Cu.M)	
	EC Capacity	Actual	As per EMP/MP	Actual
2007-2008	2.50	1.917	6.940	5.408
2008-2009	2.50	2.679	14.510	12.183
2009-2010	2.50	3.573	7.450	13.143
2010-2011	2.50	3.529	3.550	9.638
2011-2012	2.50	4.135	5.870	8.947
2012-2013	2.50	3.963	9.920	5.222
2013-2014	2.50	4.898	8.610	12.288
2014-2015	2.50	4.500	8.500	10.224
2015-2016	2.50	4.545	10.750	22.768
2016-2017	2.50	5.219	10.800	18.921
2017-2018	2.50	4.955	10.900	14.380
2018-2019	2.50	4.710	10.950	13.934
2019-2020	2.50	3.815	11.180	7.845

(v). To assess the environmental compensation regarding the damage caused to the environment apart from assessing environmental compensation for excess mining that is said to have been committed by them.

(a). Hon'ble NGT has directed the Committee to conduct the study on Ambient Air Quality, soil quality and also monitor the noise level in that area, and if there is any violation found then, suggest as to what are all the remedial measures to be taken by the 1st respondent to mitigate the same apart from payment of environmental compensation for the damage caused to the environment. Hon'ble Tribunal, also directed to assess the environmental compensation regarding the damage caused to the environment apart from assessing environmental compensation for excess mining that is said to have been committed by them.

(b). In this regard, Environment Management Plan (EMP) for JVR OC-I Expansion Project has already been prepared and submitted to the MoEF&CC, based on the identification of overall impact due to mining activity during operation phase inter-alia including air, water, noise, soil, land environment and other relevant data. A copy of the relevant Chapter of Environment Management Plan made available by the project authority is enclosed as **Annexure-VIII**. Accordingly, EMP comprising of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to the violation committed has been submitted to the MoEF&CC.

(c). Based on the study / assessment, Expert Appraisal Committee arrived an amount of Rs. 26,67,00,000/- (rupees twenty six Crores and sixty seven lakhs) towards implementation of remediation plan and natural and community resource augmentation plan and the same has already been deposited as bank guaranty. So the Joint Committee felt that undertaking the study of Ambient Air Quality and soil quality and also noise level monitoring again in that area will be duplication of the work. However, Telangana State PCB has carried out the sampling and analysis of Ambient Air Quality, soil quality and also noise level monitoring in the month of December, 2020. Monitored data show that the values are found to be within the limit. Also, the Joint Committee felt that arriving environmental compensation again for the same violation would lead to double jeopardy and thus the same was submitted before the Hon'ble NGT through the

interim report filed. In the said interim report, it was also prayed for further directions from the Hon'ble Tribunal regarding the requirement of arriving environmental compensation again. The Committee has not arrived environmental compensation considering the above facts and also as there is no any further directions for arriving environmental compensation in the subsequent Order dated 21.01.2021 of the Hon'ble Tribunal.

(vi). Whether any soil degradation has been caused on account of the activities of the 1st respondent and its impact on agricultural activities in that area.

Perusal of the analytical data of the soil samples analysed by the third party laboratory and also the TSPCB does not show any soil degradation and thus there may not be any impact on the agricultural activities in that area.

(vii). To conduct the Ambient Air Quality and soil quality test and also test the Noise level in that area, and if there is any violation found then, suggest as to what are all the remedial measures to be taken by the 1st respondent to mitigate the same apart from payment of environmental compensation for the damage caused to the environment.

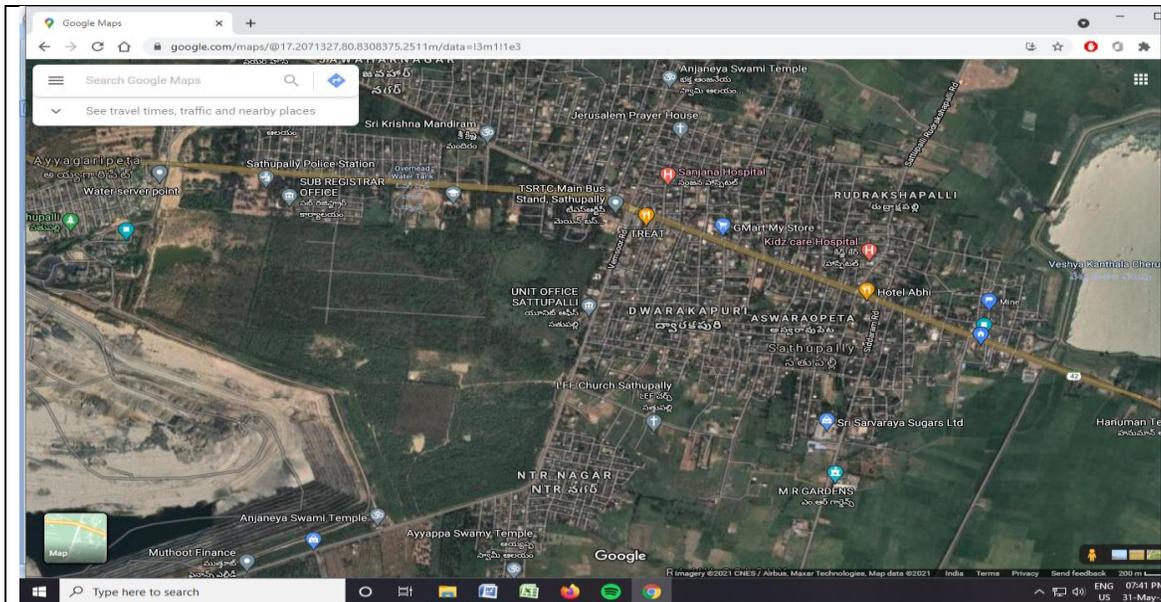
Environment Management Plan (EMP) for JVR OC-I Expansion Project has already been prepared based on the identification of overall impact due to mining activity during operation phase inter-alia including air, water, noise, soil, land environment, which comprising of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to the violation committed and the same was submitted to the MoEF&CC. Based on the study / assessment, Expert Appraisal Committee arrived an amount of Rs. 26,67,00,000/- (rupees twenty six Crores and sixty seven lakhs) towards implementation of remediation plan and natural and community resource augmentation plan and the same has already been deposited as bank guaranty to the TSPCB.

(viii). Whether necessary green belt has been provided for the purpose of mitigating the air pollution and sound pollution by the first respondent unit.

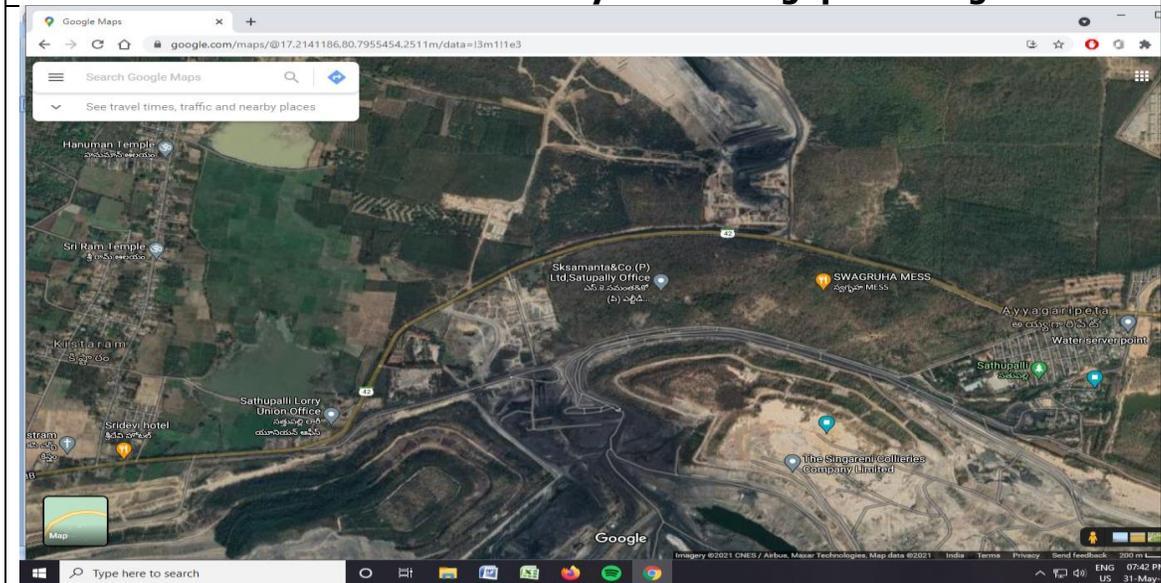
Plantation with native species is being carried out by the Forestry wing of SCCL. Reportedly the density of tree is being followed as 2500 plants per Ha. As informed the area where the plantation activities undertaken are furnished as under:

Description	Area in Ha.
External Dump Yard	115.00
Internal Dump Yard	31.00
Vacant Land within Mining Lease Area	35.50
Avenue Plantation	9.40
Gap plantation between Mine Boundary and Road.	80.00
Safety Zone Area	52.00
Total:	322.90

Reportedly incurred around Rs. 1.0 crore towards green belt development. In general plantation activities undertaken and its survival rate is good.



Google image showing the afforestation carried out at the eastern side of the mine includes NTR colony and Jeenugupalli Village.



Google image showing the afforestation carried out near Sathupalli – Khammam PWD road.

(ix). The vibration that is being caused while using explosives if any, while undertaking the mining operations and its impact on the residential area as well.

- (a). Regarding alleged violation of vibration that is being caused while using explosives during the blasting operations during the mining operations and its impact on the residential area has been discussed by the Committee. The applicant claims that the houses of the residents of NTR Colony is damaged due to the blasting operations of the 1st Respondent project. But, the first respondent Company denied the allegation rather relied upon the fact that they are practicing controlled blasting technique using nonel technique as approved by the Directorate General of Mine Safety and ground level vibrations are being monitored regularly and the monitored data is reportedly well within the limit. First Respondent Company also claims that NTR Colony is 670 m away from the disputed opencast coal Mine and in between these there are other residential Colonies and roads exist. No such complaint was received from those residents. However, during the site inspection other residents from the villages Jalagam Vengal Rao Nagar also made the allegation regarding the damage of their houses.
- (b). Based on the records made available, it has been observed that initially statutory permission was obtained from the DGMS vide letter No. H1/Sattupalli OCP-I//perm/2005/1830 dated 29.09.2005 to work mechanized opencast coal mine using heavy earth moving machinery and adopting deep hole blasting under Regulations 98(1) & 98(3) of the Coal Mines Regulations, 1957. Further, permission under Regulations 170(1A) & (1B) of the Coal Mines Regulations, 1957 was granted by the Directorate General of Mines Safety vide letter No.H1/JVR OCP-I/Perm/2006/1543 dated 21.08.2006 for carrying out controlled blasting operations within 300m and upto 125m of the Jalagam Vengala Rao Nagar and Market Yard. Also, permission was granted to conduct controlled deep hole blasting within 500m and upto 100m of Junugupalli Village, Hanuman Temple, Tomb, Vijayawada PWD Road etc. vide letter No.H1/1191131339/JVR OC/Perm107(1B)/2015/2445 dated 15.09.2015 of Directorate General of Mines Safety.
- (c). Blast induced vibrations were monitored in presence of the Committee members, project authority, applicants & their nominated counsels and other nearby residents. Accordingly, on the day of site inspection

(25.03.2021) one deep hole blasting was conducted at 859.9 RL OB bench of the mine at about 16.38Hrs. The blast hole parameters were as follows:

Blast Hole Parameters
Burden: 5m
Sapacing: 6m
Average depth of holes: 6.0m
Total no. of holes: 55
Avg. length Stemming column: 4m
Maximum Charge per Delay: 45Kg
Total Charge : 2500Kg.

(d). The blasting effects in terms of blast induced vibrations, PPV(in mm/s) and Air-over pressure (in dBL) are monitored by following the protocols and deploying Seismographs–Minimate. The details are furnished under:

Parameter	Minimate Locations	
	Monitoring Station	Monitoring Station
	Government School, NTR Nagar Colony	300 from Blast face
Distance from structures to minimate (m)	10	2465
Distance from Blast site to structures (m)	2765	2765
Maximum PPV (mm/s) permitted	5	5
PPV observed (mm/sec)	Not Triggered	5.751
Noise level (dBL)	Not Triggered	111.2

The monitoring of blasting produced no vibration at the NTR Nagar, which was situated beyond 500m of the blasting site of the mine.

(e). The Regulation 196 of the coal Mines Regulations, 2017, mandates to obtain permission from the Directorate General of Mines Safety to conduct deep hole blasting operations within 500m of the surface structures not belonging to the Owner. From the verification of records and study of plans revealed that the minimum distance from NTR Nagar to the mine workings was 2970m in the year 2005. In the year 2016 it reached upto 649m. In this case the NTR Nagar is situated beyond 500m at any point of time and thus not attracted the above statutory restrictions of the Coal Mines Regulations, 2017. Previous monitored data show that most of the monitoring of blast induced vibrations was carried out at Hanuman Temple which is located in different direction from the NTR Nagar. Further, no blast induced vibrations were monitored in any of the houses of NTR Nagar. Part of the blasting records for the years 2016 and 2017 is not available with

the project authority and thus it could not be ascertained the effect of blast induced vibrations on the dwellings of the NTR Nagar during that period.



(f). After the aforementioned monitoring of blast induced vibrations, the Committee along with the applicants and other residents randomly inspected 13 houses of the NTR Nagar Colony comprising of different streets to ascertain the alleged damage of the houses. The details and the observations are furnished as under:

Sl. No.	Name of the resident & House No. as informed	Year of construction as informed	Observations
1	Smt Rajya Lakshmi H.No.12-97	1984	Spalling of concrete is observed.
2	Sri Shaik Pasha H.No, 12-80	1985	No damages observed.

3	Sri SK. Kajavali H.No, 13-139	1985	Crack observed in between building wall and extension portion shed. Basement with masonry of compound wall damaged due to uneven settlements.
4	Sri Yesu	Multi storeyed building - cracks on Plastering observed.
5	Sri Banoth Nandu Naik H.No.13-181	1986	Spalling of slab concrete. Sagging of slab due to insufficient reinforcement.
6	Sri Bathula Ragaavulu H.No.14-63	1986	Spalling of slab concrete and exposure of reinforcement.
7	Sri Bandi Anjaiah H.No.14-140	1985	Spalling of slab concrete.
8	Smt Veera Venkata Lakshmi H.No.14-147	1986	No cracks in slab observed due to POP ceiling.
9	Sri Naram NageswerRao H.No.14-144	1985	Nil
10	Smt. Marampudi Seetha Maha Lakshmi H.No.14-209	1985	Construction in 1985. No significant damage observed.
11	Sri Chillagulla Venkateswar Rao H.No.14-233/3	2011	New construction. Double storeyed Building. No damage observed.
12	Smt Parmpudi Samrajyamri H.No.14-218	1985	Spalling of slab concrete
13	Sri Nerella Raghavulu H.No.14-220	1985	Spalling of slab concrete
14	Smt Dosa Chandra Kala H.No.13-85	1985	Spalling of slab concrete

(g). During the site inspection it is learnt that most of the houses in the NTR Nagar Colony were reportedly constructed with slab laid on load bearing walls by the State Government in the year 1985-1986 under housing scheme and allotted to the residents. It has been observed that the thickness of concrete slabs provided to the houses are insufficient than the standard specifications. Most of the houses inspected have similar kind of damage noticed in the civil structure i.e., spalling of slab concrete due to inadequate cover to slab and exposure of reinforcement & rusting. As informed by the residents the cracks / damages were initially developed in the year 2017. When the Committee asked for the delay, one of the applicants explained that this matter was pursued with the local authorities concerned and brought before the Hon'ble Tribunal after exhausting the possible remedy. Though the present blast induced vibration study carried out by the Committee has not established any significant impact / vibration at the NTR Nagar, it is not possible to conclude with the same for the period 2016 and 2017 due to want of monitored data. In such circumstances, the Joint Committee felt that the alleged damage of the houses might have attributed due to combined effect of insufficient slab thicknesses & slab reinforcement, ageing of houses constructed on load bearing walls, lack of proper maintenance to houses and the nearby blasting operations undertaken.

In either of the case, the residents are not responsible for the said damage and thus on humanitarian ground the Committee recommends for the suitable relief to the damaged house of the applicant as well as other such damaged houses in the three villages namely NTR Nagar, Jalagam Vengala Rao Nagar and Rejarla village. by meeting the fund requirement either from the District Mineral Fund (DMF) or by the project authority as direct by the Hon'ble NGT. During the concluding meeting after site inspection, the Committee explored the possible means of meeting the fund requirement for the relief of the damaged houses either from the DMF or from the fund allocated to the remediation plan and natural and community resource augmentation plan. In this regard, Additional Collector & member of the Committee opined that fund from DMF may not be used for the purpose of repair / renovation of individual houses. Further, the project authority informed that if there is any deviation in the implementation of the fund committed by them for the remediation plan and natural and community resource augmentation plan, the amount deposited as bank guaranty with TSPCB cannot be claimed. In such circumstances, Hon'ble Tribunal may take appropriate view in accordance with the law.









- (h). **District Mineral Foundation (Trust):** The mining industry is regulated under the Mines and Minerals (Development and Regulation) (MMDR) Amendment Act, 2015. Section 9B of MMDR Act mandates the State Governments to establish District Mineral Foundation (DMF) in each district affected by mining related operations. District Mineral Foundation (DMF) is a trust set up as a non-profit body in those districts affected by the mining works. The object shall be to work for the interest and benefit of persons, and areas affected by mining related operations. According to the MMDR Rules 2015, "every holder of a mining lease or a prospecting licence-cum-mining lease shall, in addition to the royalty, pay to the DMF of the district in which mining operations are carried on. From the total collections accrued under DMF, the mechanism provided envisages spending the same in the ratio of 60:40, 60% being for projects classified as high priority areas which include health care, education, sanitation, drinking water supply, women and child care, environment conservation, etc. while the balance 40% being for projects classified as other priority areas which include construction of roads, railways, bridges etc.
- (i). Accordingly, Telangana State government vide G.O.MS. No. 3 dated 20/01/2016 notified the Telangana State District Mineral Foundation (Trust) Rules, 2015. Subsequently the rule was amended vide G.O.MS. No. 38 dated 31/05/2018 and notified Telangana State District Mineral Foundation (Trust) Amendment Rules, 2018. The object of the trust is to work for the interests, benefits and sustainable development of areas affected by mining or mining related operations in the district in such ways as may be prescribed by these Rules, in an effective, transparent and accountable manner. Project Authority informed that they contributed so far Rs. 161.40 Crores to DMFT fund exclusively from JVR-OC mines. **However, it is not known the developmental and welfare activities taken up under the DMF in**

respect of the JVR-OC project area. Proviso 10.5 of the Telangana State District Mineral Foundation (Trust) Rules, 2015 mandates compliance of transparency inter-alia including online status of ongoing works – implementation status/progress of all the projects/programs being undertaken should be made available on the website, including description of work, details of beneficiaries, estimated cost, name of implementing agencies, expected date of commencement and completion of work, financial and physical progress upto last quarter etc.

(x). Alleged non-compliance of the para 2(iv) of the Forestry clearance accorded vide proceedings No.8-56/204-FC dated 30.05.2017 under Forest Conservation Act, 1980.

(a). Ministry of Environment, Forest & Climate Change vide letter No. J-11015/268/2007-IA.II(M) dated 28/03/2010 granted environmental clearance for Jalagam Vengal Rao Opencast Project -II (4 MTPA Normative and 5 MTPA peak) having a project area of 1409.81 ha. of M/s Singareni Collieries Company Ltd., located in Village Kommepalli, Mandal Sathupalli, District Khammam, Andhra Pradesh (Presently in the State of Telangana), subject to the implementation of environmental conditions and safeguards contained therein. Requisite approval for diversion of Forest land has been obtained as under:

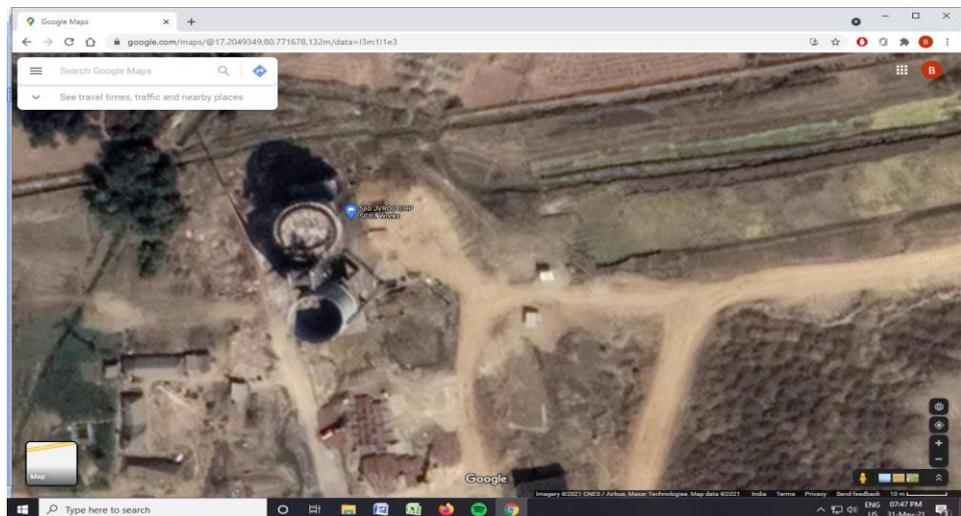
(i) Stage -2 approval for diversion of 776.20 ha has been obtained vide letter No. 8-56/2014 dated 30/31 May, 2017.

(ii) 12.02 Ha obtained vide letter No 8-129/2003FC dated 02/02/2005 of JVR OC-I Project is also being used for JVR OC II.

(b). Reportedly project activity was commenced on 01/09/2017, that is after obtaining the approval for the diversion of Forest land and EC. It is pertinent to mention here that the applications for the environmental clearances and Forestry clearances are being processed in separate Divisions and appraised by the separate Committee and clearances also issued separately. Accordingly, to ensure the commencement of the project activity after obtaining the EC a condition was stipulated in the FC letter that “the user agency shall obtain EC as per the provisions of Environment (Protection) Act, 1986, before work for the project is initiated”. This fact was explained to the applicant and his Counsel represented during the site inspection. It was also confirmed that there is no any allegation / substantial evidence that the mining activity was carried-out in the forest land without obtaining Forestry and environmental clearance. In view of the above, the allegation of the applicant is devoid of merits.

(xi). Transport of coal through road by violating the condition stipulated in the Environmental Clearance (EC).

Considering the facts mentioned at above para (ii).(b) &(c) and in accordance with the amendment on the specific condition of the EC obtained from the MoEF&CC vide letter No.J-11015/268/2007-IA.II(M) dated 19/04/2021, no violation has been observed as alleged, since the permission has been accorded to transport the coal by road with covered tarpaulin up to 31.12.2021. Presently the Coal is being transported from mine to Coal Handling Plant (CHP), Kothagudem through tarpaulin covered trucks by road. A modern CHP with built-in environmental safeguards of 10 MTPA capacity is under construction reportedly at a cost of Rs. 398 Crores. A railway line of 54.1 km. length is being constructed through railways from Sathupalli to Bhadrachalam Road (Kothagudem) at a total cost of Rs. 927.94 Crores of which SCCL share is Rs. 618.55 Crores. A railway siding of 3.5 km. and conveyor belt is also under construction for transport of coal from Coal Handling Plant (CHP) by rail mode. Project Authority informed that the coal transportation will be switched over to rail mode immediately after completion of railway line.



Google Map showing the ongoing erection work of railway loading and construction of Silo loading.



View of Railway line to JVR OC-I & II.

(xii). Alleged use of explosive substance for blasting without adopting scientific methods to avoid air and sound pollution.

Perusal of records show that project authority has obtained requisite permission / NOC from the Petroleum & Explosives Safety Organisation (PESO) for possession and use of Explosives from magazine situated at Kothagudam District, Khammam, Telangana vide licence Nos. E/HQ/TG/22/17(E1247), E/HQ/TG/22/305(E2213) and E/HQ/TG/22/783(E54813) granted in Form LE-3 of Explosives Rules, 2008. The said permissions are valid till 31.03.2022. Further, Project Authority has also obtained requisite statutory blasting permissions from the DGMS as mentioned at above para (IX).(b) and practicing controlled blasting technique using nonel technique as approved by the Directorate General of Mine Safety. The blast induced vibrations are being monitored for each blast and records are being maintained and thus this allegation of the applicant is devoid of merits.

(xiii). Alleged damage caused to the nearby water body on account of large scale of dumping of coal.

Previously, mine discharge water was discharged into Jeenugupally water tank after passing through settling tanks (i.e. after treatment). However, on completion of mining operation in the Jalagam Vengal Rao OC-I, the discharge of excess mine water into Jeenugupally water tank has been discontinued. During the visit, it has been observed that the mine discharge water is very less and is being channeled through settling tanks for removal of suspended solids and only treated water is being discharged into nearby agriculture tank like Kistaram tank after meeting the desired standards.



No large-scale dumping of Coal is noticed during the visit. Applicants also not made any substantive evidence / documents in this regard. From the analytical data of water samples, no damage to the water body near the project area has been observed. This fact was also clarified to the applicant during the visit.

10. Conclusion and Recommendations:

- (i). Though there is no blast induced vibrations are detected at the NTR Nagar on the day of present site inspection, it appears that the alleged damage of the houses might have been attributed due to combined effect of the inadequate civil structure of the houses and the nearby blasting operations in the past. In either of the case, the residents are not responsible for the said damages and thus on humanitarian ground the Committee recommends for the grant of suitable relief to the damaged house of the applicant as well as other such damaged houses in the three villages namely NTR Nagar, Jalgam Vengal Rao Nagar and Rejarla village by meeting the fund requirement either from the District Mineral Fund (DMF) or the project authority or any other means as direct by the Hon'ble NGT.
- (ii). Though the project authority has already contributed Rs.161.40 Crores towards DMFT fund from JVR-OC project, it has to be more effectively utilized as mandated in the nearby villages. Further, DMFT shall implement the same and the plan of action shall be shared to the project authority in order to avoid overlapping in the implementation of various community development programmes by them in the vicinity of project area. DMFT shall upload the activities implemented on public domain as mandated under the Proviso 10.5 of the Telangana State District Mineral Foundation (Trust) Rules, 2015.
- (iii). Respondent Project authority (SCCL) undisputedly exceeded the production capacity than the sanctioned capacity by not complying with the stipulated calendar plan including excavation & quantum of coal and thus violated the EC and Consent accorded. In this regard credible legal action has already been initiated by the Telangana State PCB and the matter is under sub-judice. Further, as approved by the MoEF&CC, the project authority, has also executed a bank guaranty of an amount of Rs. 26,67,00,000/- (rupees twenty-six crores and sixty seven lakhs) to the TSPCB towards implementation of remediation plan and natural and

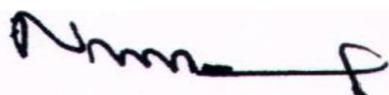
community resource augmentation plan. The project authority shall implement the same within 3 years as stipulated by the MoEF&CC.

- (iv). The Committee has not arrived an environmental compensation again, considering the facts that there is no any further direction in this regard from the Hon'ble Tribunal in its subsequent Order dated 21.01.2021 and also again arriving environmental compensation for the same violation would lead to double jeopardy.
- (v). The project authority has implemented the progressive mine closure activity and reclamation of mined out area as per the approved Mining Plan. Considering the facts mentioned above under para (II)(a)-(e), the Joint Committee observed that the implementation of final Mine Closure plan does not arise now to JVR-OC-I Expansion project. Project authority so far has not claimed the amount of Rs. 41.9107 Crores deposited in the ESCROW Account, after completing the third-party audit. The said amount shall not be transferred to the amalgamated project of JVR-OC-I and JVR-OC-II in order to ensure effective implementation. if Hon'ble Tribunal desires to get more clarification on the issues of implementation of final mine closure plan, the details may be obtained from the regulatory authority impleading Ministry of Coal as a Respondent in the above O.As.
- (vi). Presently no violation has been observed in the mode of coal transport. Project authority shall expedite and complete the erection of railway siding and conveyer belt well in advance. No coal transport shall be made by road beyond 31.12.2021.
- (vii). Project authority shall provide potable drinking water to the nearby villages inter-alia to the NTR Nagar by installing RO plants immediately and shall be maintained by the project authority for 3 years as stipulated by the MoEF&CC.
- (viii). Though the mobile medical camps are regularly conducted, Project authority shall make a uniform schedule for the visit of doctors / mobile medical camp in nearby villages in a fixed day and time in each village in order to avail the facility by the residents.
- (ix). Safety as well as pollution control mechanisms provided appears to be sufficient. Monitored analytical data show that there is no any Air, Water,

noise and soil pollution as alleged. Necessary green belt has also been developed.

(x). No violation has been observed on the alleged Forestry clearance accorded.

(xi). Project authority shall ensure regular calibration of Seismographs – Minimate used for monitoring the vibrations.



**N. Madhusudan, I.A.S,
Additional Collector,
Khammam District, Telangana.**



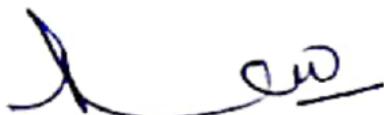
**D. Krupanand,
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**N. Balasubrahmanyam,
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**Dr. M.T. Karuppiyah,
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(Nodal Officer for the Joint Committee)**



भारतसरकार

GOVERNMENT OF INDIA

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय

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COURT MATTER / BY E-Mail

F. No. EP/12.7/NGT(SZ)/058/2020/065

Date: 18/02/2021.

OFFICE MEMORANDUM

Subject: Order dated 21/01/2021 of Hon'ble NGT, (SZ), Chennai in the O.A. No. 174 of 2020(SZ) in the matter of Banothu Nandu Nayak Vs Singareni Collieries Company Ltd. & Ors. and Order dated 27/01/2021 in the O.A. No. 20 of 2021 in the matter of Oggu Srinivasa Reddy Vs UOI & Ors. – Reconstitution of Joint Committee regarding.

- Ref:** (1). Order dated 08/09/2020 and 21/01/2021 of Hon'ble NGT,(SZ), Chennai in the O.A. No. 174 of 2020.
- (2). Order dated 27/01/2021 of Hon'ble NGT, (SZ), Chennai in the O.A. No. 20 of 2021(SZ).
- (3). Letter No. EP/12.7/NGT(SZ)/058/2020/015 dated 07/10/2020 and E-mail communications dated 07/10/2020 and 05/11/2020 of Regional Office of MoEF&CC at Chennai.
- (4). E-mail communication dated 19/9/2020 and letter No. 11/NGT-Chennai/TSPCB/Legal/2020-329 dated 19/9/2020 of Telangana State PCB.
- (5). Letter No. C1-202-2019 dated 24/09/2020, 10/10/2020, 02/11/2020 and 06/11/2020 of Office of Collector and District Magistrate, Khammam, Telangana.
- (6). Letter No.5651/P/2014/ dated 05/11/2020 of Department of Mines & Geology, Hyderabad, Govt. of Telangana addressed to the Collector and District Magistrate, Khammam.
- (7). O.M. No. EP/12.7/NGT(SZ)/058/2020/ dated 11/11/2020 of Regional Office of MoEF&CC at Chennai.
- (8). Letter dated 11/02/2021 of DGMS, Secunderabad and letter dated 11/02/2021 of Roads and Buildings Department, Govt. of Telangana.

In partial modification to the O.M. of even No. dated 11/11/2020 of this Office on the above subject and in compliance with the Order dated 21/01/2021 of Hon'ble NGT, (SZ), Chennai in the O.A. No. 174 of 2020 and based on the subsequent nominations received from the authorities concerned vide reference (8), a Joint Committee has been re-constituted comprising of the following representatives:

- (i). Shri. N. Madhusudan, I.A.S, Additional Collector, Khammam District, Telangana.
- (ii). Shri. D. Krupanand, Joint Chief Environmental Engineer, Zonal Office, Telangana State Pollution Control Board, Hyderabad.
- (iii). Shri. P. Madhusudan Reddy, Dy. Director of Mines & Geology, Warangal, Department of Mines & Geology, Govt. of Telangana.
- (iv). Shri. N. Balasubrahmanyam, Deputy Director of Mines Safety, Hyderabad Region No.1.
- (v). Smt. H.B. Hemalatha, District (R&B) Officer, Sathupally Executive Engineer (R&B), Khammam District, Telangana
- (vi). Dr. M.T. Karuppiah, Scientist – E, MoEF&CC, Regional Office, Chennai – (Nodal Officer for the Joint Committee).

Further, in another connected matter (O.A. No. 20 of 2021(SZ)), Hon'ble NGT vide Order dated 27/01/2021 has directed to look into the issues by the same Committee constituted in the O.A. No. 174 of 2020. It is informed that the schedule of the Committee meeting / inspection will be informed to the members in due course of time from this Office. A copy of the Order dated 21/01/2021 and 27/01/2021 of Hon'ble NGT and the relevant Original Application with annexures are enclosed herewith for kind perusal of the committee members.


(R. Hemanth Kumar)
Dy. Director General of Forests (Central)

To

1. Shri. N. Madhusudan, I.A.S., Additional Collector, Office of the Collector & District Magistrate, Khammam District, Telangana State, (Mobile.:+91-9440333222, E-mail: jc_kmm@telangana.gov.in ; ccjckmm@gmail.com).
2. Shri. D. Krupanand, Joint Chief Environmental Engineer, Zonal Office, Telangana State Pollution Control Board, Hyderabad - (Mobile.7337380029; E-mail: jcee-zhd-tspcb@telangana.gov.in).
3. Shri. P. Madhusudan Reddy, Dy. Director of Mines & Geology, Warangal, Department of Mines & Geology, Govt. of Telangana, (Mobile.:+91-9849679826, E-mail: ddmg_wgl@yahoo.com).
4. Shri. N. Balasubrahmanyam, Dy. Director of Mines Safety, Directorate General of Mines Safety, Room No. 701, 7th Floor, CGO Tower, Old Praga Tools Premises, KavadiGuda, Secunderabad, Telangana - 500 080, (Mobile: +91-9182028206; E-mail: nasinabalasubrahmanyam@gmail.com).
5. Smt. H.B. Hemalatha, District (R&B) Officer, Sathupally Executive Engineer (R&B), Khammam District, Telangana - (Mobile: +91-9440818087; E-mail: eerbspl@gmail.com).
6. Dr. M.T. Karupiah, Scientist- E, Ministry of Environment, Forest and Climate Change, Regional Office, No. 34, Cathedral Garden Road, Nungambakkam, Chennai - 600 034, (Mobile. 9840390069; E-mail: mtkarupiah@gmail.com).


(R. Hemanth Kumar)
Dy. Director General of Forests (Central)

Copy to:

1. The Collector & District Magistrate, Office of the Collector & District Magistrate, Khammam District, Telangana State, (E-mail: collector_kmm@telangana.gov.in).
2. The Member Secretary, Telangana State Pollution Control Board, Paryavaran Bhavan, A-3, Industrial Estate, Sanathnagar, Hyderabad - 500 018, (E-mail: tspcbseeunit2@gmail.com).
3. The Director, Department of Mines & Geology, Govt. of Telangana, My Home Sarover Plaza, Flat No.: 203 & 204, 2nd Floor, House No : 5-922, Shapurwadi, Adarshnagar, Secretariat Road, Hyderabad, Telangana-500063; (Email: directorminests@gmail.com).
4. Dy. Director General, South Central Zone, Room No. 704, 7th Floor, CGO Tower, Old Praga Tools Premises, KavadiGuda, Secunderabad, Telangana - 500 080. (E-mail: ddgscz@gmail.com).
5. The Chief Engineer, Designs & Planning, LWE and RSW, O/o The Engineer-in-Chief (R&B), 2nd Floor, Errummanzil, Hyderabad - 500 082, (E-mail: celwetelangana@gmail.com).


(R. Hemanth Kumar)
Dy. Director General of Forests (Central)



F.No. 23-77/2018-IA (III)

Government of India

Ministry of Environment, Forest & Climate Change
Impact Assessment Division

Indira Paryavaran Bhawan,

Jorbagh Road, N Delhi – 3

Email: lk.bokolia@nic.in Tel: 01124695301

Dated: 1st February, 2021

To,

The Director (Planning & Projects)
M/s The Singareni Collieries Company Ltd (SCCL),
Kothagudam Collieries (PO)
Bhadradi- 507101 (Telangana)
Email: gm_env@scclmines.com, env_crp@scclmines.com

Sub: Jalagam Vengal Rao Opencast - I Expansion Project of annual production of 2.50 MTPA to 5.00 MTPA in an ML area 544.81 ha. of M/s The Singareni Collieries Company Limited, located at Village Ayyagaripeta, Mandal Sathupalli, District Khammam (Telangana) - For Environment Clearance - reg.

Sir,

This has reference to your online proposal No IA/TG/CMIN/152625/2017 dated 7th July, 2020 for grant Environment Clearance in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 for Jalagam Vengal Rao Opencast - I Expansion Project of annual production of 2.50 MTPA to 5.00 MTPA in an ML area 544.81 ha. of M/s The Singareni Collieries Company Limited, located at Village Ayyagaripeta, Mandal Sathupalli, District Khammam (Telangana).

The project/activity is covered under category 'A' of item 1 (a) 'Mining of Minerals' the Schedule to the EIA Notification, 2006

2. The proposal was considered by the Expert Appraisal Committee (EAC) in the Ministry involving violation of EIA Notification, 2006 for Thermal & Coal Mining Sector in its 35th meeting held on 6-7 August, 2020 and in 36th meeting held on 21-22 September, 2020. The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

- (i) Latitude and Longitude of the project: - Latitudes: 17°11'28.4" to 17°12'42.87" (North)
Longitudes: 80°46'44.99" to 80°49'26.53" (East) Survey of India Topo sheet: 65 C/16
- (ii) The Project is not located in the Critically Polluted Area (CPA) as per CEPI Index of CPCB
- (iii) Cost of the project: Rs. 106.76 Crores
- (iv) Employment generated / to be generated: 816 (Permanent - 416 and temporary - 400)
- (v) Benefits of the project :- To meet the coal requirements of thermal power plants of Telangana State.

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- (vi) The project is of Expansion of capacity from 2.50 MTPA to 5.00 MTPA
- (vii) Certified Compliance Report of Regional office of the MoEF has been submitted vide its Letter No. EP/12.1/583/AP/1778, dated 11th Nov, 2019.
- (viii) The ToR letter was issued vide letter No.23-77/2018-IA(III) Dt. 08th August, 2019 under violation category.
- (ix) Date of approval of mine plans and mine closure plan, Status & date : 17.11.2014 , Mine Plan & Mine Closure Plan approved by MoC, GoI Vide Lr.No. 13016/2/2006-CA-II.
- (x) Date of Board's approval: 10th July, 2013. Approved vide minute No. 513:5.20
- (xi) Date of Ground Water Clearance and surface water approval: 06th July, 2007 vide Letter No.13019/Hg.II(1)/06. Ground Water Clearance for JVR OC Mine (I&II Expansion) of 10 Mt was applied vide Lr. No. KGM /ENV /405 /2019 /149, dated 7th November, 2019.
- (xii) Existing Ground water level in (M) Pre-Monsoon : From 3.48 To 11.85 (Depth from surface) Post Monsoon : From 2.62 To 10.15 (Depth from surface).
- (xiii) There is no river / Nallaha flowing near or adjacent to the proposed mine.
- (xiv) Details of Mine Lease : JVR OCP-I Mining Lease for 383.05 ha: Date of entering into original lease deed: 23rd Mar, 2005' Date of expiry of original lease deed: 22nd Mar, 2025. JVR OCP-I Expansion Mining Lease for 136.50 ha: Date of entering into original lease deed: 10th Nov, 2008; Date of expiry of original lease deed : 9th Nov,2028
- (xv) Technical Details
 - a. Geological Reserve: Total Geological Reserves: 57.83 million tonnes; Mineable reserve: 50.90 million tonnes; Extractable Reserves:50.90 million tonnes; Percent (%) of extraction: 88.00 %;
 - b. Range of ground water level Pre monsoon: 3.48 m to 11.85m (Depth from surface) Post monsoon : 2.62 m to 10.15 m (Depth from surface)
 - c. Total estimated water requirement 1306 m³/day
 - d. Details of intersecting ground water level 26.56 m
- (xvi) Details of Deposits: Depth of the ore body: 25 to 150 m; Grade of ore : G9 and G13; Stripping ratio : 1 : 3.32
- (xvii) Method of mining: Mechanized opencast method.
- (xviii) Life of mine: 1 year from 2019-20
- (xix) Ambient air quality seasonal data has been documented: From March 2018 to May 2018 (Summer season) and the results are within the prescribed limits.
- (xx) Monitoring report of earlier EC from MoEF Regional Office has been obtained, in case the proposal is for expansion: Certificate No. F.No EP/12.1/583/AP/1778, dated 11th November, 2019.
- (xxi) Details of O.B. : External OB dumps: Present; No of OB dumps: One; Area (in ha) :130.39; Height: 90 m above Ground Level; Quantity (in M.Cu.m) : 38.49; Year of back filling : 1; No. of OB dumps reclaimed : 1 ; Garland drains and settlement facility for runoff has been created. Run-off water from OB dumps is being let out into nearby tanks for agriculture purpose through settling ponds.
- (xxii) Details of Internal Dumps : Number of internal dumps: One; Area (ha) : 143.60; Height: 60 m; Quantity (in MCum) :126.03
- (xxiii) Utilization potential of wastes:



- Within the mines: Overburden will be dumped in the earmarked dumping areas and top soil will be spread on the dumps and plantation will be raised.
- Outside mines: Nil
- Efforts made by proponent Nurseries are established and native species are raised and planted on the OB dumps.

(xxiv) Details of final Mine Voids: Area (ha): 164.86 ; Depth : 150 m

(xxv) Details of Quarry : Total Quarry area (ha): 371.02 ; Back filled quarry area that shall be reclaimed with plantation:143.60; A void of 164.86 ha at a depth of 150 m is proposed to be converted into a water body

(xxvi) Green belt created in ha. :318.90

(xxvii) Details of Land usage

Pre-mining

S.No.	Description	Land (ha)
1	Forest land	380.52
2	Agricultural land	101.93
3	Waste land	52.36
4	Other land	10.00
	Total	544.81

Post- Mining

S. No.	Description	Land Use (ha)			
		Plantation	Water body	Public/ Other Use	Total
1	External OB dump	112.37	-	-	112.37
2(a)	Excavation (Backfilled area)	143.60	-	-	143.60
2(b)	Excavation (Void area)	-	164.86	-	164.86
2(c)	Safe zone including Drains	46.39		34.19	80.58
3	Service buildings, CHP & sub-station		-	18.14	18.14
4	Road diversion	-	-	15.26	15.26
5	Colony/township	-	-	10.0	10.0
	TOTAL	302.36	164.86	77.59	544.81

Core Area (Present Land Use)

Description	Forest land	Non Forest land	Total
Excavation Area(Including Drains etc.)	355.14	15.88	371.02
External dump yard	-	130.39	130.39
Service buildings, CHP & sub-station	15.96	2.18	18.14
Road diversion	9.42	5.84	15.26
Colony/township (To be Acquired)	-	10.00	10.00
Total Land	380.52	164.29	544.81

(xxviii) Details of Forest issues :

- Total forest area involved (in ha) for mining lease 380.52; Total broken forest area: 380.52
- Extent of forest land in the project (including safety zone and all types of forest land) (in ha) 380.52
- Balance forest land for which Stage-I FC is not available (give area in Ha : Nil
- Status of Forest Clearance and extent of forest land diverted in ha. Total forest area of 380.52 ha was diverted.
 - 244.02 ha vide Lr.No.8-129/2003-FC dt.02-02-2005
 - 136.50 ha vide Lr.No.8-56/2008-FC dt.03-07-2012.

(xxix) No National Park, eco-sensitive Zones lies within 10 km radius.

(xxx) A Wildlife Conservation & Mitigation Plan for Schedule-I species has been prepared for an amount of Rs. 2.57 Crores. Wildlife Conservation plan is yet to be approved by CWLW wherein PP has submitted budget for Rs. 2.57 Crores.

(xxxi) Costs of the project : Total capital Cost: ₹106.76 Crores; Cost of Production: ₹ 554 per Tonne; Sale Price: ₹1851 per Tonne; CSR cost: As per Companies Act, 2013 and Companies (Corporate Social Responsibility Policy) Rules - 2014, SCCL is spending 2% of its average annual net profit calculated in accordance with the provisions of Section 198 of the Act made during three immediately preceding financial years in pursuance of its CSR policy on CSR activities each financial year. In addition, an amount of Rs. 84.31 crores (from February 2016 – April 2019) was deposited with District Collector, Bhadradi Kothagudem, as District Mineral Fund (DMF) for taking up CSR works; R&R Cost: Nil; Cost for implementing EMP Capital: ₹ 9.50 Crores; Recurring: ₹ 2.87 Crores per Annum

(xxxii) Details of villages/habitation in mine lease area: Inside the lease : Nil; Surrender by lease: Nil; Extent of cropland acquired/ being acquired in ha. : 101.93

(xxxiii) Details of transportation of coal: In pit : Dumpers; Surface to siding: Conveyor; Siding to loading: From JVR OC – I Exp. to RCHP by Road and from there to end users by Rail. Quantity being transported by Road/Rail/conveyer /ropeway: 5 Mtpa; Proposed change in transportation means if any, give details: Proposed to change the road transport from the project to end users by rail mode.

(xxxiv) Details of reclamation: Reclaimed external OB dump in ha : 112.37; Internal Dump in ha : 143.60; Green belt in ha: 46.39; Density of the tree plantation (in no.): 2500 per hectare; Void (ha) at a depth of (m) proposed to be converted into water body : 164.86 ha at a depth of 150 m; Other in ha (such as excavation area along ML boundary, along roads and infrastructure, embankment area and in township located outside the lease etc..

(xxxv) Legal Issues : As per the ToR, State Govt/SPCB has to take action against the Project Proponent under the Provisions of the E(P) Act, 1986. State Govt. directed SPCB to take action in this regard. Action from SPCB is awaited.

4. The Expert Appraisal Committee in its 36th meeting held on 21st -22nd September, 2020 has recommended the proposal for grant of Environment Clearance. Based on the recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords Environment Clearance to the proposal of JalagamVengal Rao Opencast - I Expansion

Project of annual production of 2.50 MTPA to 5.00 MTPA in area of 544.81 ha at Village Ayyagaripeta, Mandal Sathupalli, District Khammam (Telangana) by M/s The Singareni Collieries Company Limited, under the provisions of Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environment safeguards: -

- (i) EAC recommended for an amount of Rs 2667.00 lakhs towards Remediation plan and Natural and Community Resource Augmentation plan to be spent within a span of three years. The details of Remediation plan, Natural resource Augmentation plan and Community Resource Augmentation plan with budgetary provision are mention below:
- (ii) Total budgetary provision with respect to Remediation plan and Natural & Community Resource Augmentation plan is Rs. 2667.00 lakhs. Therefore, project proponent shall be required to submit a bank guarantee of an amount of Rs. 2667.00 lakhs towards Remediation plan and Natural and Community Resource Augmentation plan with the SPCB prior to the grant of EC.
- (iii) Remediation plan shall be completed in 3 years whereas bank guarantee shall be for 5 years. The bank guarantee will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority.
- (iv) Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.
- (v) Wild life Conservation plan as approved by the Competent Authority shall be implemented.
- (vi) The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.

Remediation plan along with budgetary provision

S. No.	Component	Remediation Proposed	Description	Locations	Rate in Rs.	Total Qty.	Total Cost (Rs.)	Year I (Rs.)	Year II (Rs.)	Year III (Rs.)
1	Air Environment	Dust suppression	Laying of 10 feet road in the	NTR Colony	50,00,000 per 1km	1000m	50,00,000	25,00,000	15,00,000	10,00,000

			nearby village.							
1 b	Noise Environment and Ecology	Avenue Plantation / Plantation	Plantation of total 4900 No.s native plants at Rs.1000 per sapling, including maintenance for 3 years and 35 ha of block plantation around mine boundary.	1. Satupalli 2. Rejarla 3. Cherukupalli 4. Kothuru 5. Kommugudem 6. Kistaram 7. Mine boundary	1,000 + 1,00,000 per ha	4,900	75,00,000	25,00,000	25,00,000	25,00,000
2 a	Water Environment	Construction and annual maintenance of 100 Nos. Rain Water Harvesting structures in nearby villages	Construction of RWH-100 No. sand 11 No.s of roof top rain water harvesting facility (including raw material, labour, construction and maintenance)	1. Sathupalli 2. Kistaram 3. Cherukupalli 4. Rejarla 5. Kommugudem	2,55,000 + 2,00,000	100 + 11	2,77,00,000	95,00,000	95,00,000	87,00,000



		es	nce for one year)							
2 b		Constr uction of check dams and creati on of new water tanks	Lumpsu m (LS) cost includin g Material s, labour, construct ion and maintena nce for one year	1. Kistramche ruvu. 2. Jaganathpu ramcheruvu 3. Kothuru che ruvu 4. Jeenugupall i (New Tank)	LS	LS	2,00, 00,00 0	70,00 ,000	70,00 ,000	60,00, 000
2 c		Suppl y of potabl e water in surrou nding villag es.	RO plants of 1000 litres capacity with installati on and 3 years maintena nce	1. Vengalraon agar 2. Kistaram 3. Kakarlalli 4. Lingapalle m 5. Rejarla (2 No.s) 6. Ayyagaripe ta 7. NTR Nagar 8. Kothuru 9. Dwaraka Nagar 10. Gourigude m 11. Cherukupal li (R&R center) 12. Virat Nagar	9000 00	13	1,17, 00,00 0	40,00 ,000	40,00 ,000	37,00, 000
Total (Rs.)							7,19, 00,00 0	2,55, 00,00 0	2,45, 00,00 0	2,19,0 0,000

Natural Resource Augmentation plan with budgetary provision

S. No	Component	Activity Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I (Rs.)	Year II (Rs.)	Year III (Rs.)
1a	Natural Resource Augmentation Plan	Energy Conservation by adapting Green Energy technology.	Providing 1 KW Capacity Solar Lighting system (includes panels, inverters, wiring, structure, connectors, junction boxes, etc.)	1. Sathupalli 2. Kistaram 3. Rejarla 4. Ayyagaripeta 5. Kommugudem	50,000	200	1,00,000	40,000	30,000	30,000
1b			Solar water pump sets of 5 HP capacity for agriculture (including panels, inverters, wiring, structure, connectors, junction boxes, etc.)	1.Kistaram 2.Rejarla 3.Kothuru 4.Kommu gudem	3,00,000	130	3,90,000	1,30,000	1,30,000	1,30,000
1c			Improvement	Providing Bio	Sathupalli town	1,60,000	10	16,00,000	6,00,000	5,00,000

		of Public Sanitation	toilets in Sathupalli town.							
Total (Rs)							5,06,000	1,76,000	1,65,000	1,65,000

Community Resource Augmentation plan with budgetary provision

S. No	Component	Activity Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I	Year II	Year III
1 a	Community Resource Augmentation Plan	Development of Infrastructure	Construction of CC Roads and drains (2 km in each village) and bore wells.	1. Kistara 2. Rejarla 3. Kothuru	1,00,000	3	3,00,000	1,00,000	1,00,000	1,00,000
			Construction of Godown for storage of the agriculture products (Dimensions 20 m x 8 m x 6 m)	1. Rejarla 2. Kothuru	50,000	2	1,00,000	40,000	30,000	30,000
Repair of road and road widening as requested in the Public Hearing.			V.M.Banjar to sathupalli town (20 km) and widening of y-junction near Kistaram village	LS	LS	5,67,000	2,00,000	2,00,000	1,67,000	
Construction of Community halls / Community			1. Kistaram 2. Rejarla 3. Kothuru	75,000	3	2,25,000	75,000	75,000	75,000	
1 b										
1 c.										
1 d										

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		health centres (300 Sq. m. each)							
1		Land for dump yard (about 8 acres) used for treatment of solid waste for generation of compost.	Sathupalli	25,00,000	8	2,00,00,000	2,00,00,000	-	-
1f		Development of New Urban park	1. Sathupalli town 2. Kothuru	LS	2	50,00,000	20,00,000	20,00,000	10,00,000
Total (Rs)						14,42,00,000	6,35,00,000	4,25,00,000	3,82,00,000

Summary

Sl. No.	Description	Estimated cost (Rs. in Lakhs)
1	Remediation Plan	719
2	Natural Resources Augmentation Plan	506
3	Community Resources Augmentation Plan	1442
Total		2667

- (vii) Fund allocation for Corporate Environment Responsibility (CER) as per OM of 1st May, 2018 i.e 1.05 crore in this case may now be considered as fund allocated on commitment made during public consultation process for incorporating in EIA-EMP for deliberation of EAC and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- (viii) Effective dust suppression system shall be adopted at the transportation site and in the other parts of the mining lease to arrest the fugitive dust emission.
- (ix) Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.
- (x) The mining lease holder shall, after ceasing mining operations, under take re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to condition which is fit for growth of fodder, flora and fauna etc.State

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Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.

- (xi) As mine lease is valid till 22nd March 2025 and balance extractable reserve is only 1.30 Mt therefore validity of Environment Clearance shall be upto 22nd March 2025 and all activities proposed under RP, CRA and NRA shall be completed within three years of the grant of EC.

Standard Conditions

(a) Statutory compliance

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area).
- (iv) The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vi) Solid/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.

(b) Air quality monitoring and preservation

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. 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. Online ambient air quality



monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
 - (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/PM_{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
 - (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
 - (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
 - (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
 - (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) **Water quality monitoring and preservation**
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
 - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-1A.11 (M) dated 27th

May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

- (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
- (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
- (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
- (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development *etc.* The drains shall be regularly desilted particularly after monsoon and maintained properly.

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- (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- (d) Noise and Vibration monitoring and prevention**
- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.
- (e) Mining Plan**
- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan(including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
- (iv) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.
- (f) Land reclamation**

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/”post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
- (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
- (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
- (g) **Green Belt**



- (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
 - (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.
- (h) Public hearing and Human health issues**
- (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
 - (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
 - (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
 - (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
 - (v) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (i) Corporate Environment Responsibility**
- (i) The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions.

The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.

- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) Miscellaneous**
 - (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
 - (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same
 - (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
 - (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
 - (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
 - (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
 - (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
 - (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
 - (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
 - (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
5. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and spirit.
6. The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any

further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

7. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
8. The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others.
9. The concerned State Government shall ensure no mining operations to commence till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict compliance of the judgment of Hon'ble Supreme Court.
10. This environmental clearance shall not be operational till such time the project proponent complies with the above said judgment of Hon'ble Supreme Court, as applicable, and other statutory requirements.


(Lalit Bokolia)
Director

Copy to: -

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The APPCF, Regional office (EZ), Ministry of Environment, Forest and Climate Change, 1st&2nd Floor, Handloom Export Promotion Council, Cathedral Garden Road, Nungambakkam, Chennai - 34 (Tamil Nadu)
3. The Secretary, Department of Environment & Forests, Government of Telangana
4. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
5. The Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Chairman, Telangana State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanatnagar, Hyderabad - 38
7. The District Collector, Khammam, Government of Telangana
8. Monitoring File/Guard File/Record File 9. PARIVESH Portal


(Lalit Bokolia)
Director

Summons to Accused Person

(Section 68 Cr Pro. Code)

In the Court of the J.F.C.M. J.F.C.M.

at ~~Khemmam~~ Sathupalli

B.T.C./C.C. No. 1075/2020 of 2020

Between :

Telangana State Pollution Control Board
Complainant

And

m/s Singareni Collieries Company Ltd
Accused

To. m/s Singareni Collieries Company Ltd
Jalagam Vengal Rao Opencast - 1 Coal mine project
Ayyaganipeta (V) Rel by it's Project Officer,
Sathupally (M) S. Venkate Chary
Khemmam Dist - 507303

Whereas your attendance is necessary to the charge U/Sec. 15 of Environment
Protection (Act) H.P.C.

You are here by requested to appear in person before... 17-12-2020.....

..... Sathupally
J.F.C.M. Khemmam at 10-30 a.m.

on the 02 day of 12 2020



K. J. Lin
Judl. First Class Magistrate
J.F.C.M. Magistrate V.

Col. Hgr
SO / Dy. Hgr (Env)
F

ce of the
JVR OCPs
o. 4350
28/12/2020



Lr.No.8/TSPCB/EC/BG/2020- 1311

Dt.27.11.2020

✓ To,
The General Manager (Environment)
M/s. The Singareni Collieries Company Ltd.,
Kothagudem Collieries,
Bhadrachalam Road Rly. Station
Bhadradri Kothagudem District – 507 101

Sir,

Sub: TSPCB – EC – Acknowledgement in receipt of Bank Guarantee submitted by M/s.The Singareni Collieries Company Ltd., Jalagam Vengal Rao OC-I Expansion Project, Ayyagaripeta (V), Sathupalli Mandal, Khammam District, Telangana – Issued - Reg.

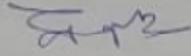
Ref: Lr. No.CRP/ENV/A/403/764, dated: 17.11.2020

With reference to the above, it is to acknowledge that this office is in receipt of Bank Guarantee No.0416820BG0000510, dated: 13.11.2020 for an amount of Rs.26,67,00,000/- (Rupees Twenty Six Crores Sixty Seven Lakhs only) in favour of Member Secretary, TSPCB valid for 5 years period i.e., upto 13.11.2025 towards remediation plan and natural & community resource augmentation plan as recommended by External Appraisal Committee (EAC), MoEF&CC, as stipulated in MoEF&CC, Government of India with ToR Letter F.No. 23-77/2018-IA (III), dated: 08.08.2019 with respect to your application for grant of prior Environmental Clearance.

Yours faithfully,

Sd/-
MEMBER SECRETARY

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


Joint Chief Environmental Engineer



ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring of AAQM in SCCL Mining Areas
 Area : Kothagudem
 Component : AAQM
 Period : I Fortnight Results (January 1st - 15th, 2021)

Sl.No	Location Code	Name of the Location	Date of Sampling	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
Coal mine standards (commenced prior to 25.9.2000), GSR 742(E), Dated 25.09.2000				300	-	120	120
1.	CA1	GK OC PO Office	02.01.2021	97	29.9	12.9	18.6
2.	CA2	GK OC Base Workshop	02.01.2021	150	49.4	14.9	22.1
3.	CA3	Padmavathikhani UG	03.01.2021	75	26.7	12.5	18.3
4.	CA4	Rudrampur CHP	03.01.2021	220	72.8	14.9	22.5
5.	CA5	Area workshop	03.01.2021	145	46.1	13.4	19.9
6.	CA6	VK 7 incline	03.01.2021	72	25.3	12.9	19.3
7.	CA9	GK OC Pit Head CHP	02.01.2021	218	69.4	14.3	21.8
Coal mine standards (commenced after 25.9.2000), GSR 742(E), Dated 25.09.2000				250	-	120	120
8.	CA7	JVR OC-1 Exp. PO Office	10.01.2021	104	33.4	13.5	20.6
9.	CA8	JVR OC-1 Exp. BWS	10.01.2021	134	45.7	14.4	21.1
10.	CA10	JVR OC-II Pit Head CHP	11.01.2021	223	67.2	15.3	22.8
11.	CA12	Kistaram OC PO Office	12.01.2021	121	38.8	14.8	22.0
12.	CA13	Pithead CHP/BWS, Kistaram OC	12.01.2021	129	41.9	14.3	21.1
13.	CA11	Kistaram Site Office	12.01.2021	118	39.0	13.9	20.5
NAAQ Standards, CPCB Dated: 18.11.2009				100	60	80	80
14.	BA1	Sitampet Village	05.01.2021	53	22.3	12.8	18.7
15.	BA2	Penagadapa Village	03.01.2021	64	25.4	13.3	19.7
16.	BA3	Tippanapalli Village	03.01.2021	60	25.5	13.8	20.7
17.	BA4	Rampur Village	03.01.2021	57	23.9	12.7	19.0
18.	BA5	Kistaram Village	12.01.2021	70	29.3	13.7	20.2
19.	BA6	Sathupalli Town	10.01.2021	60	24.7	13.5	19.7
20.	BA7	Venkatapuram Village	10.01.2021	58	23.7	12.4	18.0
21.	BA8	Pallewada Village	11.01.2021	55	23.6	11.3	16.1
22.	BA9	Rejarla Village	11.01.2021	67	28.9	12.1	17.7
23.	BA10	Chaudavaram Village	11.01.2021	55	24.1	11.6	16.9
24.	BA11	Cherukupalli Village	12.01.2021	54	22.6	11.6	16.9
25.	BA12	Kommugudem Village	11.01.2021	54	22.3	11.1	15.7
26.	BA13	Vengalarao Nagar	10.01.2021	61	25.3	13.2	19.4

No standard for PM_{2.5} was specified for the core zone.

ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring of AAQM in SCCL Mining Areas
 Area : Kothagudem
 Component : AAQM
 Period : II Fortnight Results (January 16th – 31st, 2021)

Sl.No	Location Code	Name of the Location	Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
Coal mine standards (commenced prior to 25.9.2000), GSR 742(E), Dated 25.09.2000				300	-	120	120
1.	CA1	GK OC PO Office	18.01.2021	98	30.2	13.9	20.3
2.	CA2	GK OC Base Workshop	18.01.2021	152	49.9	16.0	24.0
3.	CA3	Padmavathikhani UG Mine	19.01.2021	76	27.0	13.3	19.6
4.	CA4	Rudrampur CHP	19.01.2021	222	73.6	16.0	24.4
5.	CA5	Area workshop	19.01.2021	147	46.6	14.4	21.8
6.	CA6	VK 7 incline	19.01.2021	73	25.6	13.8	20.8
7.	CA9	GK OC Pit Head CHP	18.01.2021	221	70.2	15.4	23.8
Coal mine standards (commenced after 25.9.2000), GSR 742(E), Dated 25.09.2000				250	-	120	120
8.	CA7	JVR OC-1 Exp. PO Office	26.01.2021	107	34.3	14.5	22.4
9.	CA8	JVR OC-1 Exp. BWS	26.01.2021	136	46.2	15.5	23.0
10.	CA10	JVR OC-II Pit Head CHP	27.01.2021	220	66.2	16.4	24.7
11.	CA12	Kistaram OC PO Office	28.01.2021	127	40.8	15.9	23.9
12.	CA13	Pithead CHP/BWS, Kistaram OC	28.01.2021	133	43.2	15.4	23.1
13.	CA11	Kistaram Site Office	28.01.2021	120	39.8	15.0	22.4
NAAQ Standards, CPCB Dated: 18.11.2009				100	60	80	80
14.	BA1	Sitampet Village	20.01.2021	56	23.7	13.6	20.1
15.	BA2	Penagadapa Village	19.01.2021	67	26.7	14.3	21.5
16.	BA3	Tippanapalli Village	19.01.2021	61	25.8	14.7	22.3
17.	BA4	Rampur Village	19.01.2021	60	25.1	13.6	20.4
18.	BA5	Kistaram Village	28.01.2021	67	28.1	14.6	21.8
19.	BA6	Sathupalli Town	26.01.2021	58	24.1	14.5	21.5
20.	BA7	Venkatapuram Village	26.01.2021	57	23.5	13.4	19.7
21.	BA8	Pallewada Village	27.01.2021	52	22.3	12.0	17.4
22.	BA9	Rejarla Village	27.01.2021	64	27.7	12.8	19.0
23.	BA10	Chaudavaram Village	27.01.2021	57	25.0	12.4	18.3
24.	BA11	Cherukupalli Village	28.01.2021	51	21.4	12.2	18.0
25.	BA12	Kommugudem Village	27.01.2021	50	20.8	11.7	16.7
26.	BA13	Vengalarao Nagar	26.01.2021	64	26.2	14.2	21.1

No standard for PM_{2.5} was specified for the core zone.





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CPCB & DSIR
recognized Laboratory

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Email: eptri.lab@gmail.com, enquiry@eptri.com

ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring of AAQM in SCCL Mining Areas
Area : Kothagudem
Component : AAQM
Period : I Fortnight Results (February 1st- 15th, 2021)

Sl.No	Location Code	Name of the Location	Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
Coal mine standards (commenced prior to 25.9.2000), GSR 742(E), Dated 25.09.2000				300	-	120	120
1.	CA1	GK OC PO Office	03.02.2021	95	29.4	13.4	19.4
2.	CA2	GK OC Base Workshop	03.02.2021	161	53.0	14.8	22.0
3.	CA3	Padmavathikhani UG	04.02.2021	72	25.6	12.8	18.6
4.	CA4	Rudrampur CHP	04.02.2021	218	72.2	14.5	21.8
5.	CA5	Area workshop	04.02.2021	154	48.8	13.6	20.5
6.	CA6	VK 7 incline	04.02.2021	70	24.6	13.0	19.4
7.	CA9	GK OC Pit Head CHP	03.02.2021	216	68.7	14.8	22.6
Coal mine standards (commenced after 25.9.2000), GSR 742(E), Dated 25.09.2000				250	-	120	120
8.	CA7	JVR OC-1 Exp. PO Office	11.02.2021	102	32.7	13.3	20.2
9.	CA8	JVR OC-1 Exp. BWS	11.02.2021	143	48.8	14.6	21.6
10.	CA10	JVR OC-II Pit Head CHP	12.02.2021	202	60.8	15.4	23.0
11.	CA12	Kistaram OC PO Office	13.02.2021	129	41.4	14.9	22.2
12.	CA13	Pithead CHP/BWS, Kistaram OC	13.02.2021	136	44.2	14.5	21.5
13.	CA11	Kistaram Site Office	13.02.2021	116	38.5	14.1	21.0
NAAQ Standards, CPCB Dated: 18.11.2009				100	60	80	80
14.	BA1	Sitampet Village	05.02.2021	51	21.6	12.4	18.1
15.	BA2	Penagadapa Village	04.02.2021	69	27.5	13.3	19.8
16.	BA3	Tippanapalli Village	04.02.2021	63	26.6	13.2	19.6
17.	BA4	Rampur Village	04.02.2021	59	24.7	12.8	19.1
18.	BA5	Kistaram Village	13.02.2021	66	27.7	13.8	20.4
19.	BA6	Sathupalli Town	11.02.2021	55	22.8	13.3	19.4
20.	BA7	Venkatapuram Village	11.02.2021	53	21.7	12.8	18.6
21.	BA8	Pallewada Village	12.02.2021	50	21.3	11.6	16.8
22.	BA9	Rejarla Village	12.02.2021	65	28.1	12.4	18.2
23.	BA10	Chaudavaram Village	12.02.2021	53	23.2	11.8	17.4
24.	BA11	Cherukupalli Village	13.02.2021	53	22.2	11.9	17.5
25.	BA12	Kommugudem Village	12.02.2021	51	21.1	11.4	16.2
26.	BA13	Vengalarao Nagar	11.02.2021	62	25.7	13.5	19.9

- No standard for PM_{2.5} was specified for the core zone.



ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring of AAQM in SCCL Mining Areas
Area : Kothagudem
Component : AAQM
Period : II Fortnight Results (February 16th – 28th, 2021)

Sl.No	Location Code	Name of the Location	Date of Sampling	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
Coal mine standards (commenced prior to 25.9.2000), GSR 742(E), Dated 25.09.2000				300	-	120	120
1.	CA1	GK OC PO Office	19.02.2021	97	30.0	14.4	21.1
2.	CA2	GK OC Base Workshop	19.02.2021	165	54.3	15.9	23.9
3.	CA3	Padmavathikhani UG Mine	20.02.2021	74	26.3	13.6	20.2
4.	CA4	Rudrampur CHP	20.02.2021	223	74.0	15.7	23.8
5.	CA5	Area workshop	20.02.2021	158	50.0	14.6	22.2
6.	CA6	VK 7 incline	20.02.2021	72	26.0	13.9	21.0
7.	CA9	GK OC Pit Head CHP	19.02.2021	221	70.6	15.9	24.7
Coal mine standards (commenced after 25.9.2000), GSR 742(E), Dated 25.09.2000				250	-	120	120
8.	CA7	JVR OC-1 Exp. PO Office	21.02.2021	105	33.6	14.1	21.8
9.	CA8	JVR OC-1 Exp. BWS	21.02.2021	147	50.0	15.8	23.5
10.	CA10	JVR OC-II Pit Head CHP	22.02.2021	207	62.3	16.5	25.0
11.	CA12	Kistaram OC PO Office	27.02.2021	132	42.4	16.0	24.2
12.	CA13	Pithead CHP/BWS, Kistaram OC	27.02.2021	139	45.3	15.7	23.5
13.	CA11	Kistaram Site Office	27.02.2021	121	40.2	15.3	22.8
NAAQ Standards, CPCB Dated: 18.11.2009				100	60	80	80
14.	BA1	Sitampet Village	21.02.2021	52	22.1	13.3	19.6
15.	BA2	Penagadapa Village	20.02.2021	68	27.1	14.3	21.4
16.	BA3	Tippanapalli Village	20.02.2021	65	27.3	14.1	21.3
17.	BA4	Rampur Village	20.02.2021	60	25.3	13.7	20.6
18.	BA5	Kistaram Village	27.02.2021	68	28.3	14.8	22.2
19.	BA6	Sathupalli Town	21.02.2021	56	23.4	14.3	21.0
20.	BA7	Venkatapuram Village	21.02.2021	54	22.4	13.5	19.8
21.	BA8	Pallewada Village	22.02.2021	51	21.9	12.3	17.9
22.	BA9	Rejarla Village	22.02.2021	67	28.8	13.1	19.5
23.	BA10	Chaudavaram Village	22.02.2021	54	23.8	12.6	18.7
24.	BA11	Cherukupalli Village	27.02.2021	50	21.0	12.7	18.8
25.	BA12	Kommugudem Village	22.02.2021	52	21.7	12.1	17.4
26.	BA13	Vengalarao Nagar	21.02.2021	60	24.6	14.5	21.5

No standard for PM_{2.5} was specified for the core zone.



ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring of Noise Quality in SCCL Mining Areas
Area : Kothagudem
Component : Noise
Period : I Fortnight Results (January 1st – 15th, 2021)

S.No	Location Code	Name of the Location	Date of Sampling	Standard limits of Noise		Noise levels in dB (A)	
				Day time	Night time	Leq Day	Leq Night
Core Zone							
1.	CN1	GK OC Site Office	03.01.2021	75	70	66.3	50.5
2.	CN2	Gowthamkhani OC Base Workshop	03.01.2021	75	70	69.9	52.4
3.	CN3	PVK-5 Pit Head Office	05.01.2021	75	70	63.0	47.2
4.	CN4	Rudrampur CHP	05.01.2021	75	70	69.8	53.4
5.	CN5	JVR OC - I Site Office	12.01.2021	75	70	65.5	49.8
6.	CN6	JVR OC - I Base Workshop	12.01.2021	75	70	67.1	51.1
7.	CN9	Kistaram OC Project Office	13.01.2021	75	70	66.1	49.5
8.	CN10	Kistaram OC Base Work Shop	13.01.2021	75	70	65.1	49.0
Buffer Zone							
9.	BN1	Sitampet Village	06.01.2021	55	45	50.6	38.5
10.	BN2	Penagadapa Village	02.01.2021	55	45	51.9	39.6
11.	BN3	Tippanapalli Village	02.01.2021	55	45	51.7	39.4
12.	BN4	Kistaram Village	11.01.2021	55	45	52.2	39.8
13.	BN5	Sathupalli Town	10.01.2021	55	45	51.0	39.1
14.	BN6	Rejarla Village	11.01.2021	55	45	52.0	38.8
15.	BN7	Cherukupalli Village	14.01.2021	55	45	50.4	38.4
16.	BN8	Kommugudem Village	10.01.2021	55	45	49.5	37.8

Note: 1. Daytime is reckoned in between 6 a.m and 10 p.m

2. Night time is reckoned in between 10 p.m and 6 a.m



ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring of Noise Quality in SCCL Mining Areas
Area : Kothagudem
Component : Noise
Period : II Fortnight Results (January 16th - 31st, 2021)

S.No	Location Code	Name of the Location	Date of Sampling	Noise levels in dB (A)	
				Leq Day	Leq Night
Core Zone					
1.	CN1	GK OC Site Office	19.01.2021	65.9	50.1
2.	CN2	Gowthamkhani OC Base Workshop	19.01.2021	69.9	52.4
3.	CN3	PVK-5 Pit Head Office	20.01.2021	62.1	46.0
4.	CN4	Rudrampur CHP	20.01.2021	70.0	53.6
5.	CN5	JVR OC - I Site Office	28.01.2021	64.9	49.4
6.	CN6	JVR OC - I Base Workshop	28.01.2021	66.8	50.8
7.	CN9	Kistaram OC Project Office	29.01.2021	66.0	49.5
8.	CN10	Kistaram OC Base Work Shop	29.01.2021	64.9	49.0
Buffer Zone					
9.	BN1	Sitampet Village	21.01.2021	50.1	38.2
10.	BN2	Penagadapa Village	18.01.2021	51.5	39.2
11.	BN3	Tippanapalli Village	18.01.2021	50.8	38.7
12.	BN4	Kistaram Village	27.01.2021	51.7	39.4
13.	BN5	Sathupalli Town	26.01.2021	51.5	39.6
14.	BN6	Rejarla Village	27.01.2021	51.8	38.4
15.	BN7	Cherukupalli Village	30.01.2021	50.2	38.2
16.	BN8	Kommugudem Village	26.01.2021	49.3	37.6

Note: 1. Daytime is reckoned in between 6 a.m and 10 p.m

2. Night time is reckoned in between 10 p.m and 6 a.m



ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring of Noise Quality in SCCL Mining Areas
Area : Kothagudem
Component : Noise
Period : I Fortnight Results (February 1st – 15th, 2021)

S.No	Location Code	Name of the Location	Date of Sampling	Standard limits of Noise		Noise levels in dB (A)	
				Day time	Night time	Leq Day	Leq Night
Core Zone							
1.	CN1	GK OC Site Office	04.02.2021	75	70	66.1	50.2
2.	CN2	Gowthamkhani OC Base Workshop	04.02.2021	75	70	70.5	52.9
3.	CN3	PVK-5 Pit Head Office	05.02.2021	75	70	62.6	46.3
4.	CN4	Rudrampur CHP	05.02.2021	75	70	69.9	53.5
5.	CN5	JVR OC - I Site Office	13.02.2021	75	70	65.2	49.6
6.	CN6	JVR OC - I Base Workshop	13.02.2021	75	70	66.9	50.9
7.	CN9	Kistaram OC Project Office	14.02.2021	75	70	66.2	49.6
8.	CN10	Kistaram OC Base Workshop	14.02.2021	75	70	65.3	49.3
Buffer Zone							
9.	BN1	Sitampet Village	06.02.2021	55	45	51.0	38.9
10.	BN2	Penagadapa Village	03.02.2021	55	45	52.0	39.8
11.	BN3	Tippanapalli Village	03.02.2021	55	45	51.1	39.0
12.	BN4	Kistaram Village	12.02.2021	55	45	52.0	40.0
13.	BN5	Sathupalli Town	11.02.2021	55	45	51.1	39.1
14.	BN6	Rejarla Village	12.02.2021	55	45	51.9	38.7
15.	BN7	Cherukupalli Village	15.02.2021	55	45	49.9	38.1
16.	BN8	Kommugudem Village	11.02.2021	55	45	49.4	37.8

Note: 1. Daytime is reckoned in between 6 a.m and 10 p.m

2. Night time is reckoned in between 10 p.m and 6 a.m



ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring of Noise Quality in SCCL Mining Areas
Area : Kothagudem
Component : Noise
Period : II Fortnight Results (February 16th - 28th, 2021)

S.No	Location Code	Name of the Location	Date of Sampling	Standard limits of Noise		Noise levels in dB (A)	
				Day time	Night time	Leq Day	Leq Night
Core Zone							
1.	CN1	GK OC Site Office	20.02.2021	75	70	66.6	50.6
2.	CN2	Gowthamkhani OC Base Workshop	20.02.2021	75	70	69.5	52.1
3.	CN3	PVK-5 Pit Head Office	21.02.2021	75	70	60.1	44.5
4.	CN4	Rudrampur CHP	21.02.2021	75	70	69.7	53.4
5.	CN5	JVR OC - I Site Office	27.02.2021	75	70	66.0	50.3
6.	CN6	JVR OC - I Base Workshop	27.02.2021	75	70	67.3	51.2
7.	CN9	Kistaram OC Project Office	28.02.2021	75	70	65.8	49.4
8.	CN10	Kistaram OC Base Work Shop	28.02.2021	75	70	66.7	50.4
Buffer Zone							
9.	BN1	Sitampet Village	19.02.2021	55	45	50.5	38.5
10.	BN2	Penagadapa Village	19.02.2021	55	45	51.8	39.6
11.	BN3	Tippanapalli Village	19.02.2021	55	45	51.5	39.3
12.	BN4	Kistaram Village	22.02.2021	55	45	51.7	39.8
13.	BN5	Sathupalli Town	21.02.2021	55	45	50.9	39.0
14.	BN6	Rejarla Village	22.02.2021	55	45	51.6	38.4
15.	BN7	Cherukupalli Village	28.02.2021	55	45	49.5	37.8
16.	BN8	Kommugudem Village	21.02.2021	55	45	49.1	37.6

Note: 1. Daytime is reckoned in between 6 a.m and 10 p.m

2. Night time is reckoned in between 10 p.m and 6 a.m



ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring in SCCL mining areas

Area : Kothagudem

Component : Effluents

Period : I Fortnight Results (January 1st to 15th, 2021)

Date of sampling: 15.01.2021

S. No.	Sample Code	Sampling Locations	pH (25°C)	TSS (105°C)	TDS (180°C)	COD	BOD (27°C)	Oil & Grease
Unit			--	mg/L	mg/L	mg/L	mg/L	mg/L
Test Method (APHA, 23 rd Edition, 2017)			4500-H ⁺ B	2540-D	2540-C	5220-D	IS 3025 (Part-44):1993 (Reaffirmed 1999)	5520-B
MoEF GSR 742 (E) and GSR 801(E) Effluent Standards for coal mines			5.5 to 9.0	100	--	250	30	10
1.	EW1	GK OCP Mine Discharge (GK OCP)	7.2	11	1081	23	3	<1
2.	EW2	GK OCP Base Workshop ETP Outlet (GK OCP)	7.1	20	994	25	5	4.1
3.	EW3	GK OCP OB Dump surface runoff settling tank outlet (GK OCP)	7.4	16	966	20	2	<1
4.	EW4	PVK Mine Discharge (PVK U/G Mine)	7.1	12	1058	19	2	<1
5.	EW5	Rudrampur Colony treated sewage	7.0	19	912	64	18	5.1
6.	EW6	JVR OC -I Exp. Mine Discharge (JVR OC-I Exp.)	7.2	9	983	21	3	<1
7.	EW7	JVR OC-I Exp. Base Workshop ETP Outlet (JVR OC-I Exp.)	7.6	19	1064	20	2	4.6
8.	EW8	JVR OC-I Exp. OB Dump surface runoff settling tank outlet (JVR OC-I Exp.)	7.1	12	964	22	3	<1
9.	EW9	VK-7 Incline Mine Discharge	7.6	16	926	28	6	<1
10.	EW10	JVR OC -2 Mine Discharge	7.2	18	897	18	2	<1
11.	EW11	JVR OC -2 OB Dump surface runoff settling tank outlet (JVR OC-I Exp)	7.3	9	906	26	5	<1
12.	EW12	Kistaram mine discharge	7.2	15	937	24	3	<1

ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring in SCCL mining areas
Area : Kothagudem
Component : Effluents
Period : II Fortnight Results (January 16th to 31st, 2021)
Date of sampling: 30.01.2021

S. No.	Sample Code	Sampling Locations	pH (25°C)	TSS (105°C)	TDS (180°C)	COD	BOD (27°C)	Oil & Grease
Unit			--	mg/L	mg/L	mg/L	mg/L	mg/L
Test Method (APHA, 23 rd Edition, 2017)			4500-H ⁺ B	2540-D	2540-C	5220-D	IS 3025 (Part-44):1993 (Reaffirmed 1999)	5520-B
MoEF GSR 742 (E) and GSR 801(E) Effluent Standards for coal mines			5.5 to 9.0	100	--	250	30	10
1.	EW1	GK OC Mine Discharge (GK OCP)	7.2	19	1096	21	3	<1
2.	EW2	GK OCP Base Workshop ETP Outlet (GK OCP)	7.0	26	1021	27	6	5.8
3.	EW3	GK OCP OB Dump surface runoff settling tank outlet (GK OCP)	7.4	24	1034	23	3	<1
4.	EW4	PVK Mine Discharge (PVK U/G Mine)	7.7	14	1087	20	3	<1
5.	EW5	Rudrampur Colony treated sewage	8.1	21	986	55	14	4.6
6.	EW6	JVR OC -I Exp. Mine Discharge (JVR OC-I Exp.)	7.8	16	1031	19	2	<1
7.	EW7	JVR OC-I Exp. Base Workshop ETP Outlet (JVR OC-I Exp.)	7.0	13	1082	22	3	5.7
8.	EW8	JVR OC-I Exp. OB Dump surface runoff settling tank outlet (JVR OC-I Exp.)	7.1	18	921	26	4	<1
9.	EW9	VK-7 Incline Mine Discharge	7.6	21	1013	17	2	<1
10.	EW10	JVR OC -2 Mine Discharge	7.8	18	916	16	2	<1
11.	EW11	JVR OC -2 OB Dump surface runoff settling tank outlet (JVR OC-I Exp.)	8.3	8	957	25	4	<1
12.	EW12	Kistaram mine discharge	8.3	19	967	26	5	<1

ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring in SCCL mining areas
Area : Kothagudem
Component : Effluents
Period : I Fortnight Results (February 1st to 15th, 2021)
Date of sampling: 13.02.2021

S. No.	Sample Code	Sampling Locations	pH (25°C)	TSS (105°C)	TDS (180°C)	COD	BOD (27°C)	Oil & Grease
		Unit	--	mg/L	mg/L	mg/L	mg/L	mg/L
		Test Method (APHA, 23 rd Edition, 2017)	4500-H'B	2540-D	2540-C	5220-D	IS 3025 (Part-44):1993 (Reaffirmed 1999)	5520-B
		MoEF GSR 742 (E) and GSR 801(E) Effluent Standards for coal mines	5.5 to 9.0	100	--	250	30	10
1.	EW1	GK OC Mine Discharge (GK OCP)	6.6	12	976	27	5	<1
2.	EW2	GK OCP Base Workshop ETP Outlet (GK OCP)	6.2	16	1013	24	4	4.8
3.	EW3	GK OCP OB Dump surface runoff settling tank outlet (GK OCP)	6.5	13	984	26	5	<1
4.	EW4	PVK Mine Discharge (PVK U/G Mine)	7.1	18	851	21	3	<1
5.	EW5	Rudrampur Colony treated sewage	7.3	21	964	58	15	4.1
6.	EW6	JVR OC-I Exp. Mine Discharge (JVR OC-I Exp.)	6.7	7	979	16	2	<1
7.	EW7	JVR OC-I Exp. Base Workshop ETP Outlet (JVR OC-I Exp.)	7.2	15	1022	19	2	6.2
8.	EW8	JVR OC-I Exp. OB Dump surface runoff settling tank outlet (JVR OC-I Exp.)	7.2	6	881	15	2	<1
9.	EW9	VK-7 Incline Mine Discharge	7.4	8	985	18	2	<1
10.	EW10	JVR OC-2 Mine Discharge	7.1	11	902	22	3	<1
11.	EW11	JVR OC-2 OB Dump surface runoff settling tank outlet (JVR OC-I Exp)	6.7	16	929	20	2	<1
12.	EW12	Kistaram Mine Discharge	6.4	19	896	23	3	<1

ANALYSIS REPORT

Project Name : Post Project Environmental Monitoring in SCCL mining areas
Area : Kothagudem
Component : Effluents
Period : II Fortnight Results (February 16th to 28th, 2021)
Date of sampling: 28.02.2021

S. No.	Sample Code	Sampling Locations	pH (25°C)	TSS (105°C)	TDS (180°C)	COD	BOD (27°C)	Oil & Grease
		Unit	--	mg/L	mg/L	mg/L	mg/L	mg/L
		Test Method (APHA, 23 rd Edition, 2017)	4500-H ⁺ B	2540-D	2540-C	5220-D	IS 3025 (Part-44):1993 (Reaffirmed 1999)	5520-B
		MoEF GSR 742 (E) and GSR 801(E) Effluent Standards for coal mines	5.5 to 9.0	100	--	250	30	10
1.	EW1	GK OC Mine Discharge (GK OCP)	7.2	9	1086	21	3	<1
2.	EW2	GK OCP Base Workshop ETP Outlet (GK OCP)	7.4	6	1029	18	2	4.2
3.	EW3	GK OCP OB Dump surface runoff settling tank outlet (GK OCP)	7.2	15	1046	20	2	<1
4.	EW4	PVK Mine Discharge (PVK U/G Mine)	6.7	7	1103	19	2	<1
5.	EW5	Rudrampur Colony treated sewage	7.1	16	918	89	26	4.9
6.	EW6	JVR OC -I Exp. Mine Discharge (JVR OC-I Exp.)	6.8	15	906	24	3	<1
7.	EW7	JVR OC-I Exp. Base Workshop ETP Outlet (JVR OC-I Exp.)	6.9	11	1064	21	3	5.3
8.	EW8	JVR OC-I Exp. OB Dump surface runoff settling tank outlet (JVR OC-I Exp.)	7.1	9	1039	16	2	<1
9.	EW9	VK-7 Incline Mine Discharge	7.2	8	1016	23	2	<1
10.	EW10	JVR OC -2 Mine Discharge	6.9	6	985	15	2	<1
11.	EW11	JVR OC -2 OB Dump surface runoff settling tank outlet (JVR OC-I Exp)	6.8	10	994	22	2	<1
12.	EW12	Kistaram mine discharge	7.5	18	1071	26	5	<1



TELANGANA STATE POLLUTION CONTROL BOARD
ZONAL LABORATORY: HYDERABAD ZONE
H.No : 1-8-269, Balasamudram, Warangal - 506001
ISO-9001 & OHSAS-18001 Certified Laboratory
Certificate's No:- Q-180211 & 180204-S

Form IV
Report by the State Board Analyst
(See rule 14)

Sample Codes, ZLWGL20-123215 & 123216
Dated the 22nd December, 2020

I hereby certify that I, Smt. R. Parvathi, State Board Analyst, Zonal Laboratory duly appointed under sub-section (3) of section 53 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) received the day of 10.12.2020 from the Regional office, Kothagudem, effluent samples of M/s. Singareni Collieries Company Limited, JVR OC-I & II Expansion Project, Ayyagaripet (V), Sathupalli (M), Khammam District collected on 09.12.2020. The sample was in a condition fit for analysis reported below:

Sample code	Sample source
ZLWGL20-123215	Inlet of ETP (Before workshop)
ZLWGL20-123216	Outlet of ETP before utilization for on-land gardening within mine area (Base workshop).

I further certify that I have analyzed the aforementioned samples from 10.12.2020 to 22.12.2020 and declare the result of the analysis to be as follows: -

S. No.	Parameter	Method (*)	Unit	Sample Code		CFO Standards
				123215	123216	
				Values		
				8.01	8.37	5.5-9.0
1	pH at 25°C	4500-B	-	19	7	100
2	Total Suspended Solids	2540-D	mg/l	819	761	2100
3	Total Dissolved Solids	2540-C	mg/l	32	20	250
4	COD	5220-B	mg/l	-	2	30
5	BOD ₅ at 27 deg.C	IS-3025 (1993)	mg/l	-	NIL	10
6	Oil & grease	5520 A	mg/l	-	-	-

The condition of the seals, fastening and containers on receipt was intact.

Signed this on 22nd December, 2020

- Note:
- *Standard methods of APHA, 23rd Edition.
 - Results related to sample as received.

- Units:
- All values are expressed in mg/l, except pH.

Address:

R. Parvathi
Senior Environmental Scientist (FAC),
T.S. Pollution control Board,
Zonal Laboratory, Warangal.


Board Analyst

BOARD ANALYST
T.S. Pollution Control Board
Zonal Laboratory Hyderabad Zone
Warangal-506 001.

	TELANGANA STATE POLLUTION CONTROL BOARD ZONAL LABORATORY: HYDERABAD ZONE H.No : 1-8-269, Balasamudram, Warangal - 506001
	ISO-9001 & OHSAS-18001 Certified Laboratory Certificate's No:- Q-180211 & 180204-S

Form IV
Report by the State Board Analyst
(See rule 14)

Sample Codes. ZLWGL20-123217 to 123219
Dated the 22nd December, 2020

I hereby certify that I, Smt. R. Parvathi, State Board Analyst, Zonal Laboratory duly appointed under sub-section (3) of section 53 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) received the day of 10.12.2020 from the Regional office, Kothagudem, effluent samples of M/s. Singareni Collieries Company Limited, JVR OC-I & II Expansion Project, Sathupalli, Khammam District collected on 09.12.2020. The sample was in a condition fit for analysis reported below:

Sample code	Sample source
ZLWGL20-123217	Water sample collected from stagnated water in earthen tank near CHP area.
ZLWGL20-123218	Water sample collected from drain before joining into Kistaram Cheruvu.
ZLWGL20-123219	Water sample collected from drain connected to Chillavagu which is passing through reserve forest area.

I further certify that I have analyzed the aforementioned samples from 10.12.2020 to 22.12.2020 and declare the result of the analysis to be as follows: -

S. No.	Parameter	Method (*)	Unit	Sample Code			CFO Standards
				123217	123218	123219	
				Values			
1	pH at 25°C	4500-B	-	7.61	7.84	7.40	5.5-9.0
2	Total Suspended Solids	2540-D	mg/l	9	70	4	100
3	Total Dissolved Solids	2540-C	mg/l	1025	726	792	2100
4	COD	5220-B	mg/l	24	8	32	250
5	BOD ₅ at 27 deg.C	IS-3025 (1993)	mg/l	2	0.4	3	30
6	Oil & grease	5520.A	mg/l	NIL	NIL	NIL	10

The condition of the seals, fastening and containers on receipt was intact.

Signed this on 22nd December, 2020

- Note:
- *Standard methods of APHA, 23rd Edition.
 - Results related to sample as received.
- Units:
- All values are expressed in mg/l, except pH.



Board Analyst

BOARD ANALYST

T.S. Pollution Control Board
Zonal Laboratory Hyderabad Zone
Warangal-506 001.

Address:

Smt. R. Parvathi
Senior Environmental Scientist (FAC),
T.S. Pollution control Board,
Zonal Laboratory, Warangal.



3
TELANGANA STATE POLLUTION CONTROL BOARD
ZONAL LABORATORY: HYDERABAD ZONE
H.No : 1-8-269, Balasamudram, Warangal - 506001
ISO-9001 & OHSAS-18001 Certified Laboratory
Certificate's No:- Q-180211 & 180204-S

ANALYSIS REPORT

Sample Code	: ZLWGL20-123220
Sample description	: Complaint filed by Residents of Rejerla Village against M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam District.
Date of Collection	: 08.12.2020
Date of submission	: 10.12.2020
Sample Collected & Submitted by	: Zonal laboratory, Warangal
Point of Sample	: 123220 Water sample collected from bore well in the premises of Sri Sri Kali Matha temple, Rejerla Road, Sathupalli, Khammam District.

S. No.	Parameters	Result	IS 10500 : 2012 Drinking Water Standards	
		123220	Acceptable Limit	Permissible Limit
1.	pH at 25°C	6.54	6.5-8.5	No Relaxation
2.	Electrical Conductivity	1215	-	-
3.	Total Suspended Solids	32	-	-
4.	Total Dissolved Solids (TDS)	763	500	2000
5.	Chemical Oxygen Demand	9	-	-
6.	Chlorides as Cl ⁻	48	250	1000
7.	Sulphates as SO ₄ ⁻²	240	200	400
8.	Total Alkalinity as CaCO ₃	328	200	600
9.	Total Hardness as CaCO ₃	565	200	600
10.	Calcium as Ca+2	142	75	200
11.	Magnesium as Mg+2	51	30	100
12.	Sodium	38	-	-
13.	Potassium	5	-	-
14.	Fluoride	0.52	1.0	1.5
15.	Nitrates	3.5	45	No Relaxation
16.	Phosphates	0.001	-	-
17.	Boron	BDL	0.5	1.0
18.	% Sodium	12.6	-	-
19.	SAR	0.5	-	-
20.	Copper as Cu	BDL	0.5	1.5
21.	Iron as Fe	9.24	0.3	No Relaxation
22.	Zinc as Zn	20.58	5	15

Note: Results related to sample as received.
BDL: Below detectable limit.

R. Pal
SENIOR ENVIRONMENTAL SCIENTIST (FAC)
Senior Environmental Scientist
T.S. Pollution Control Board,
Zonal Laboratory Hyderabad Zone
WARANGAL-506 001.



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TELANGANA STATE POLLUTION CONTROL BOARD
ZONAL LABORATORY: HYDERABAD ZONE
H.No : 1-8-269, Balasamudram, Warangal - 506001
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Certificate's No:- Q-180211 & 180204-S

ANALYSIS REPORT

Sample Code	: ZLWGL20-123221 to 123223
Sample description	: Complaint filed by Sri Nandhu Naik and others, Residents of NTR nagar, Against M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam District.
Date of Collection	: 08.12.2020
Date of submission	: 10.12.2020
Sample Collected & Submitted by	: Zonal laboratory, Warangal.
Point of Sample:	
123221	Water sample collected from bore well in the premises of house of Sri MD. Muzebur Rehman, S/o Amed, H.No. 13-108, 8 th Ward, NRT Nagar, Sathupalli, Khammam Dist.
123222	Water sample collected from the Municipal Bore well located in front of House of Sri Sesh kumar Kommalla, S/o Satyamurthy, H.No. 14-132, 8 th Ward, NRT Nagar, Sathupalli, Khammam Dist.
123223	Water sample collected from the Municipal Bore well located in front of House of Sri M. Laxman, S/o Venkataiah, H.No. 10-184, Main Road, JVR Nagar, Sathupalli, Khammam Dist.

S. No.	Parameters	Result			IS 10500 : 2012 Drinking Water Standards	
		123221	123222	123223	Acceptable Limit	Permissible Limit
1.	pH at 25°C	6.75	7.40	7.64	6.5-8.5	No Relaxation
2.	Electrical Conductivity	1253	699	1074	-	-
3.	Total Suspended Solids	70	26	3	-	-
4.	Total Dissolved Solids (TDS)	804	428	646	500	2000
5.	Chemical Oxygen Demand	12	5	8	-	-
6.	Chlorides as Cl	128	58	122	250	1000
7.	Sulphates as SO ₄ ²⁻	102	42	54	200	400
8.	Total Alkalinity as CaCO ₃	315	252	325	200	600
9.	Total Hardness as CaCO ₃	390	285	360	200	600
10.	Calcium as Ca+2	96	72	92	75	200
11.	Magnesium as Mg+2	37	26	32	30	100
12.	Sodium	102	44	92	-	-
13.	Potassium	7	3	6	-	-
14.	Fluoride	0.12	0.39	0.23	1.0	1.5
15.	Nitrates	6.8	5.0	1.2	45	No Relaxation
16.	Phosphates	0.004	BDL	BDL	-	-
17.	Boron	BDL	BDL	BDL	0.5	1.0
18.	% Sodium	35.7	24.9	35.2	-	-
19.	SAR	1.6	0.8	1.5	-	-
20.	Copper as Cu	BDL	BDL	ND	0.5	1.5
21.	Iron as Fe	0.16	4.99	0.20	0.3	No Relaxation
22.	Zinc as Zn	0.19	0.67	BDL	5	15

Note: Results related to sample as received.
BDL: Below detectable limit, ND: Not Detected.

R.Pu
SENIOR ENVIRONMENTAL SCIENTIST (FAC)
Senior Environmental Scientist
T.S. Pollution Control Board,
Zonal Laboratory Hyderabad Zone
WARANGAL-506 001.

	TELANGANA STATE POLLUTION CONTROL BOARD
	ZONAL LABORATORY- HYDERABAD ZONE
	H.No : 1-8-269, Balasamudram, Warangal - 506001 ISO-9001 & OHSAS-18001 Certified Laboratory Certificate's No:- Q-180211 & 180204-S

ANALYSIS REPORT

Sample Code	: ZLWGL20-123224
Sample description	: Complain filed by Residents of Rejerla Village, Sathupalli, Against M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam Dist.
Date of Collection	: 08.12.2020
Date of submission	: 10.12.2020
Sample Collected & Submitted by	: Zonal Laboratory, Warangal.
Point of Sample	: 123224-Water sample collected from Jeenugupalli Cheruvu, Rejerla, Sathupalli, Khammam Dist.

Sl. No.	Parameter	Sample No.	CPCB Water Quality Criteria				
		123224	Class-A	Class-B	Class-C	Class-D	Class-E
		Values					
1.	pH	6.80	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.0-8.5
2.	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	166	-	-	-	-	2250 Max
3.	Dissolved Oxygen	7.5	≥ 6.0	≥ 5.0	≥ 4.0	≥ 4.0	-
4.	Chemical Oxygen Demand (COD)	8	-	-	-	-	-
5.	BOD 3days at 27°C	0.4	≤ 2.0	≤ 3.0	≤ 3.0	-	-
6.	Total Coliform	78	≤ 50	≤ 500	≤ 5000	-	-
7.	Fecal Coliform	NIL	-	-	-	≤ 1.2	-
8.	Free Ammonia	BDL	-	-	-	-	2 Max
9.	Boron as B	BDL	-	-	-	-	26 Max
10.	Sodium Absorption Ratio	0.2	-	-	-	-	-
11.	Cadmium as Cd	ND	-	-	-	-	-
12.	Lead as Pb	ND	-	-	-	-	-
13.	Nickel as Ni	ND	-	-	-	-	-
14.	Total Chromium as Cr	ND	-	-	-	-	-
15.	Iron as Fe	0.4	-	-	-	-	-
16.	Zinc as Zn	BDL	-	-	-	-	-
17.	Copper as Cu	ND	-	-	-	-	-
Units:	All values are expressed in mg/l except pH, Electrical Conductivity, Total Coliform, Fecal Coliform and Sodium Absorption Ratio.						
Note:	ND-Not Detected. BDL-Below Detectable Limit.						

Class of Water use:

Class-A: Drinking Water Source without conventional treatment but after disinfection.

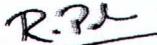
Class-B: Outdoor bathing (Organised).

Class-C: Drinking water source after conventional treatment and disinfection.

Class-D: Propagation of Wild life and Fisheries.

Class-E: Irrigation, Industrial Cooling, Controlled Waste disposal.

Below Class E: Not meeting A, B, C, D and E criteria.


SENIOR ENVIRONMENTAL SCIENTIST (FAC)
 Senior Environmental Scientist
 T.S. Pollution Control Board,
 Zonal Laboratory Hyderabad Zone
 WARANGAL-506 001.



6
TELANGANA STATE POLLUTION CONTROL BOARD
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ANALYSIS REPORT

Sample Code	: ZLWGL20-123225
Sample description	: M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam Dist.
Date of Collection	: 09.12.2020
Date of submission	: 10.12.2020
Sample Collected & Submitted by	: Zonal Laboratory, Warangal.
Point of Sample	: 123225-Water sample collected from Kistaram Cheruvu, Kistaram, Sathupalli, Khammam Dist.

Sl. No.	Parameter	Sample No.	CPCB Water Quality Criteria				
		123225	Class-A	Class-B	Class-C	Class-D	Class-E
		Values					
1.	pH	7.94	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.0-8.5
2.	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	702	-	-	-	-	2250 Max
3.	Dissolved Oxygen	7.1	≥ 6.0	≥ 5.0	≥ 4.0	≥ 4.0	-
4.	Chemical Oxygen Demand (COD)	9	-	-	-	-	-
5.	BOD 3days at 27°C	0.5	≤ 2.0	≤ 3.0	≤ 3.0	-	-
6.	Total Coliform	124	≤ 50	≤ 500	≤ 5000	-	-
7.	Fecal Coliform	NIL	-	-	-	-	-
8.	Free Ammonia	BDL	-	-	-	≤ 1.2	-
9.	Boron as B	BDL	-	-	-	-	26 Max
10.	Sodium Absorption Ratio	0.8	-	-	-	-	-
11.	Cadmium as Cd	BDL	-	-	-	-	-
12.	Lead as Pb	ND	-	-	-	-	-
13.	Nickel as Ni	ND	-	-	-	-	-
14.	Total Chromium as Cr	ND	-	-	-	-	-
15.	Iron as Fe	0.17	-	-	-	-	-
16.	Zinc as Zn	BDL	-	-	-	-	-
17.	Copper as Cu	ND	-	-	-	-	-
Units:	All values are expressed in mg/l except pH, Electrical Conductivity, Total Coliform, Fecal Coliform and Sodium Absorption Ratio.						
Note:	ND-Not Detected. BDL-Below Detectable Limits.						

Class of Water use:

- Class-A: Drinking Water Source without conventional treatment but after disinfection.
Class-B: Outdoor bathing (Organised).
Class-C: Drinking water source after conventional treatment and disinfection.
Class-D: Propagation of Wild life and Fisheries.
Class-E: Irrigation, Industrial Cooling, Controlled Waste disposal.
Below Class E: Not meeting A, B, C, D and E criteria.

R. P. L.

SENIOR ENVIRONMENTAL SCIENTIST (FAC)

Senior Environmental Scientist
T.S. Pollution Control Board,
Zonal Laboratory Hyderabad Zone
WARANGAL-506 001.



TELANGANA STATE POLLUTION CONTROL BOARD
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H.No : 1-8-269, Balasamudram, Warangal - 506001
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ANALYSIS REPORT

Sample Code	: ZLWGL20-123226
Sample description	: Complaint filed by Residents of Rejerla Village, Sathupalli, Against M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam Dist.
Date of Collection	: 08.12.2020
Date of submission	: 10.12.2020
Sample Collected & Sample submitted by	: Zonal Laboratory, Warangal.
Point of Sample	: 123226-Soil sample collected from Jeenugupalli Cheruvu, Rejerla, Sathupalli, Khammam Dist.

Parameter (s)	Results	Standards as per CRIT and TCLP Standards as per Schedule - II of HWM Rules 2016
	123226	
Colour	Brown	-
State	Solid	-
pH (1-5)	6.68	≤2 (Hazardous) ≥12.5 (Hazardous)
Electrical Conductivity $\mu\text{s}/\text{cm}$ (1-5)	126	-
TCLP Copper (mg/l)	BDL	25
TCLP Zinc (mg/l)	0.34	250
TCLP Cadmium (mg/l)	ND	1.0
TCLP Lead (mg/l)	BDL	5.0
TCLP Nickel (mg/l)	BDL	20
TCLP Total Chromium (mg/l)	BDL	5.0
TCLP Arsenic (mg/l)	ND	5.0
TCLP Mercury (mg/l)	ND	0.2

NOTE: Results related to sample as received.
BDL-Below Detectable Limit.
ND-Not Detected.

R. Paul
Senior Environmental Scientist (FAC)
Senior Environmental Scientist
T.S. Pollution Control Board,
Zonal Laboratory Hyderabad Zone
WARANGAL-506 001.

	TELANGANA STATE POLLUTION CONTROL BOARD ZONAL LABORATORY: HYDERABAD ZONE H.No : 1-8-269, Balasamudram, Warangal - 506001
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ANALYSIS REPORT

Sample Code	: ZLWGL20-123227
Sample description	: M/s. SOCL, JVR OC-I & II, Expansion, Sathupalli, Khammam Dist.
Date of Collection	: 09.12.2020
Date of submission	: 10.12.2020
Sample Collected & Sample submitted by	: Zonal Laboratory, Warangal.
Point of Sample	: 123227-Soil sample collected from Kistaram Cheruvu, Kistaram, Sathupalli, Khammam Dist.

Parameter (s)	Results	Standards as per CRIT and TCLP Standards as per Schedule - II of HWM Rules 2016
	123227	
Colour	Light Brown	-
State	Semi Solid	-
pH (1-5)	7.38	≤ (Hazardous) ≥12.5 (Hazardous)
Electrical Conductivity $\mu\text{s}/\text{cm}$ (1:5)	213	-
TCLP Copper (mg/l)	BDL	25
TCLP Zinc (mg/l)	0.11	250
TCLP Cadmium (mg/l)	ND	1.0
TCLP Lead (mg/l)	BDL	5.0
TCLP Nickel (mg/l)	0.3	20
TCLP Total Chromium (mg/l)	ND	5.0
TCLP Arsenic (mg/l)	ND	0.2
TCLP Mercury (mg/l)	ND	-

NOTE: Results related to sample as received.
BDL-Below Detectable Limit.
ND-Not Detected.


 Senior Environmental Scientist (FAC)
 Senior Environmental Scientist
 T.S. Pollution Control Board,
 Zonal Laboratory Hyderabad Zone
 WARANGAL-506 001.



	TELANGANA STATE POLLUTION CONTROL BOARD ZONAL LABORATORY: HYDERABAD ZONE H.No : 1-8-269, Balasamudram, Warangal - 506001
	ISO-9001 & OHSAS-18001 Certified Laboratory Certificate's No:- Q-180211 & 180204-S

Ambient Level Noise Monitoring Report

Name of the Noise Source :	Complaint filed by Sri Banothu Nandhu Naik and Others Residents of NTR Nagar, against M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam Dist.	
Date of Monitoring:	07.12.2020	
Time of Monitoring:	03:42 pm to 04:20 pm (Day time)	
Report No.	ZLWGL20-123228	
Samples Collected & Submitted by :	Sri. P. Narsimha Assistant Scientist, Zonal laboratory, Warangal.	
Instrument make:	3M Sound Scanner USA	Model No.: SE40110501

Monitoring location	Observed Noise Level dB(A) Leq		
(*) Back ground noise level conducted at Residence of Sri Racharla Mohan Rao, S/o Vishwanatham, H.No. 13-167, NTR Nagar, Sathupalli, Khammam Dist. (03:42 pm to 03:49 pm).	55.00		
(**) Noise level conducted at Residence of Sri Racharla Mohan Rao, S/o Vishwanatham, H.No. 13-167, NTR Nagar, Sathupalli, Khammam Dist. (03:50 pm to 04:20 pm).	56.11		
<p align="center"><i>Actual ambient sound pressure levels are calculated as per the formula :</i></p> $L_{\text{pressure}} = 10 \log_{10} \left(\frac{10^{\text{pw } L_p / 10} - 10^{\text{pw background } L_p / 10}}{10} \right)$ <p align="center"><i>The reported values are calculated as per the above formula.</i></p>			
<p>*Standards: National Ambient Air Quality Standards in respect of Noise, [(Schedule III) (Rule 3)] of E (P), Act, 1986.</p> <p>Note: All values are corrected to back ground noise.</p>			
Ambient Noise Standards* Schedule-III (Rule-3) of E(P) Act, 1986.			
Area Code	Category of Area / Zone	Day time dB(A) Leq	Night time dB(A) Leq
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40
<p>1. Day time shall mean from 6.00 am to 10.00 pm.</p> <p>2. Night time shall mean from 10.00 pm to 6.00 am.</p>			
Note:	<p>(*) Back ground Noise levels (Ambient Noise level) are measured during Blasting was not in operation.</p> <p>(**) Noise levels (Ambient Noise level) are measured during Blasting was in operation.</p>		


Senior Environmental Scientist (FAC)
 Senior Environmental Scientist
 T.S. Pollution Control Board,
 Zonal Laboratory Hyderabad Zone
 WARANGAL-506 001.



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TELANGANA STATE POLLUTION CONTROL BOARD
ZONAL LABORATORY: HYDERABAD ZONE
H.No : 1-8-269, Balasamudram, Warangal - 506001
ISO-9001 & OHSAS-18001 Certified Laboratory
Certificate's No:- Q-180211 & 180204-S

Ambient Level Noise Monitoring Report

Name of the Noise Source :	M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam Dist.
Date of Monitoring:	09.12.2020
Time of Monitoring:	03:17 pm to 04:00 pm (Day time)
Report No.	ZLWGL20-123229
Samples Collected & Submitted by :	Sri. P. Narsimha Assistant Scientist, Zonal laboratory, Warangal.
Instrument make: 3M Sound Scanner USA	Model No.: SE40110501

Monitoring location	Observed Noise Level dB(A) Leq
(*) Back ground noise level conducted at terrace of Project office. (03:17 pm to 03:22 pm).	60.21
(**) Noise level conducted at terrace of Project office. (03:30 pm to 04:00 pm).	75.78

Actual ambient sound pressure levels are calculated as per the formula :
 $L_{pressure} = 10 \log(10^{pw} L_p/10 - 10^{pw} background L_p/10)$
The reported values are calculated as per the above formula.

*Standards: National Ambient Air Quality Standards in respect of Noise, [(Schedule III) (Rule 3)] of E (P), Act, 1986.
Note: All values are corrected to back ground noise.

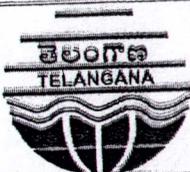
Ambient Noise Standards* Schedule-III (Rule-3) of E(P) Act, 1986.

Area Code	Category of Area / Zone	Day time dB(A) Leq	Night time dB(A) Leq
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40

1. Day time shall mean from 6.00 am to 10.00 pm.
2. Night time shall mean from 10.00 pm to 6.00 am.

Note: (*) Back ground Noise levels (Ambient Noise level) are measured during Blasting was not in operation.
(**) Noise levels (Ambient Noise level) are measured during Blasting was in operation.

R.P.J.
Senior Environmental Scientist (FAC)
Senior Environmental Scientist
T.S. Pollution Control Board,
Zonal Laboratory Hyderabad Zone
WARANGAL-506 001.

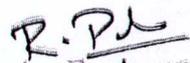
	TELANGANA STATE POLLUTION CONTROL BOARD ZONAL LABORATORY: HYDERABAD ZONE H.No : 1-8-269, Balasamudram, Warangal - 506001
	ISO-9001 & OHSAS-18001 Certified Laboratory Certificate's No:- Q-180211 & 180204-S

Ambient Air Quality Analysis Report

Sample No. :	ZLWGL20-123202
Name of the industry:	Complaint filed by Residents of Rejerla Village against M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam District.
Samples Collected & Submitted by :	Zonal laboratory, Warangal.

Sampling Location	Date of sampling	Time and duration of sampling	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³
Ambient Air Quality Monitoring conducted on the terrace of house of Sri Maddikuntla. Venkatachenna Rammohan Rao, S/o Satyanarayana, BC Colony, Rejerla (V), Sathupalli (M), Khammam (D).	07.12.2020	03:45pm to 11:45pm	91	5	10
				6	9
Average			91	6	10
National Ambient Air Quality Standards (NAAQS)			100	80	80

NAAQS, CPCB Notification, New Delhi Dt. 18.11.2009[(Schedule VII) (Rule 3(3B)) of E(P), Act,1986.
 PM₁₀ – Particle size less than 10 micrometers.


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TELANGANA STATE POLLUTION CONTROL BOARD
ZONAL LABORATORY: HYDERABAD ZONE
H.No : 1-8-269, Balasamudram, Warangal - 506001
ISO-9001 & OHSAS-18001 Certified Laboratory
Certificate's No:- Q-180211 & 180204-S

Ambient Air Quality Analysis Reports

Sample No. :	ZLWGL20-123203 to 123205
Name of the industry:	Complaint against M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam District.
Samples Collected & Submitted by :	Zonal laboratory, Warangal.

Sampling Location	Date of sampling	Time and duration of sampling	PM ₁₀ $\mu\text{g}/\text{m}^3$	SO ₂ $\mu\text{g}/\text{m}^3$	NO ₂ $\mu\text{g}/\text{m}^3$	
Ambient Air Quality Monitoring conducted on the terrace of house of Sri Racharla. Mohan Rao, S/O Vishwanatham, H.No. 1-3-167, NTR Nagar, Sathupalli (V & M), Khammam (D).	07.12.2020	12:40 pm to 08:40 pm	100	5	9	
		08:40 pm to 04:40 am	83	6	26	
	08.12.2020	04:40 am to 12:40 pm	56	5	17	
		24 Hrs Average	80	9	13	
				100	10	14
					5	22
				7	17	
				80	80	

National Ambient Air Quality Standards (NAAQS)
NAAQS, CPCB Notification, New Delhi Dt. 18.11.2009[(Schedule VII) (Rule 3(3B)) of E(P), Act, 1986.
PM₁₀ - Particle size less than 10 micrometers.

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Ambient Air Quality Analysis Reports

Sample No. :	ZLWGL20-123206 to 123208
Name of the industry:	Complaint filed by Sri Banoth Nandhu Naik and others Residents of NTR Nagar against M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam District.
Samples Collected & Submitted by :	Zonal laboratory, Warangal.

Sampling Location	Date of sampling	Time and duration of sampling	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	
Ambient Air Quality Monitoring conducted on the terrace of house of Sri SK. Khurshida Bagum, H.No. 10-59, Road No. 4, JVR Nagar, Sathupalli (V & M), Khammam (D).	08.12.2020	10:00 am to 06:00 pm	63	9	28	
		06:00 pm to 02:00 am	43	12	48	
	09.12.2020	02:00 am to 02:00 am	59	9	57	
		02:00 am to 10:00 am	59	9	20	
	24 Hrs Average			55	11	37
	National Ambient Air Quality Standards (NAAQS)			100	10	38
NAAQS, CPCB Notification, New Delhi Dt. 18.11.2009[(Schedule VII) (Rule 3(3B)] of E(P), Act,1986.			100	80	80	
PM ₁₀ - Particle size less than 10 micrometers.						

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Certificate's No:- Q-180211 & 180204-S

Ambient Air Quality Analysis Reports

Sample No. :	ZLWGL20-123209 to 123211
Name of the industry:	M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam District.
Samples Collected & Submitted by :	Zonal laboratory, Warangal.

Sampling Location	Date of sampling	Time and duration of sampling	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³
Ambient Air Quality Monitoring conducted South side of the CHP, near Substation of CHP area.	07.12.2020 & 08.12.2020	02:15 pm to 10:15 pm	186	10 9	25 28
		10:15 pm to 06:15 am	96	7 9	32 36
		06:15 am to 02:15 pm	120	10 10	27 29
		24 Hrs Average	134	9	30
		Ambient Air Quality Standards (AAQS) for Coal Mines	250	120	120
		NAAQS, CPCB Notification, New Delhi Dt. 18.11.2009[(Schedule VII) (Rule 3(3B)) of E(P), Act,1986. PM ₁₀ - Particle size less than 10 micrometers.			
Filed observations:	Internal vehicular movement was observed during monitoring.				

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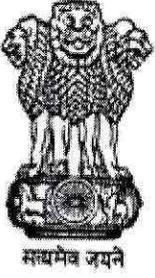
	TELANGANA STATE POLLUTION CONTROL BOARD ZONAL LABORATORY: HYDERABAD ZONE H.No : 1-8-269, Balasamudram, Warangal - 506001
	ISO-9001 & OHSAS-18001 Certified Laboratory Certificate's No:- Q-180211 & 180204-S

Ambient Air Quality Analysis Reports

Sample No. :	ZLWGL20-123212 to 123214
Name of the industry:	M/s. SCCL, JVR OC-I & II, Expansion, Sathupalli, Khammam District.
Samples Collected & Submitted by :	Zonal laboratory, Warangal.

Sampling Location	Date of sampling	Time and duration of sampling	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³
Ambient Air Quality Monitoring conducted on the terrace of Project Office.	08.12.2020 & 09.12.2020	01:15 pm to 09:15 pm	106	6	34
		09:15 pm to 11:15 am	71	10	30
		09:15 pm to 11:15 am	71	7	33
		05:15 am to 01:15 pm	77	9	24
		05:15 am to 01:15 pm	77	7	37
		05:15 am to 01:15 pm	77	9	32
24 Hrs Average			85	8	32
Ambient Air Quality Standards (AAQS) for Coal Mines			250	120	120
NAAQS, CPCB Notification, New Delhi Dt. 18.11.2009[(Schedule VII) (Rule 3(3B)) of E(P), Act,1986. PM₁₀ - Particle size less than 10 micrometers.					
Filed observations:	Internal vehicular movement was observed during monitoring.				


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No. J-11015/268/2007-IA.II (M)

Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi – 3
E mail: lk.bokolia@nic.in Tel: 011-24695301

Dated: 19th April, 2021

To,

The Director (Planning & Projects)
M/s The Singareni Collieries Company Ltd (SCCL),
Kothagudam Collieries (PO)
Bhadradri- 507101 (Telangana) Email: gm_env@scclmines.com

Sub: JalgamVengalrao Opencast Project-II of 4 MTPA (Normative)/5 MTPA (peak) of M/s The Singareni Collieries Company Ltd in ML area 1409.81 ha located in village Kommepalli, District Khammam (Telangana)- Amendment in Environmental Clearance – reg

Sir,

This has reference to your online proposal no. IA/TG/CMIN/196357/2021 dated 5th February, 2021, submitted to this Ministry for grant of amendment in Environmental Clearance (EC) dated 28th March, 2010, in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 for JalgamVengalrao Opencast Project-II of 4 MTPA (Normative)/5 MTPA (peak) of M/s The Singareni Collieries Company Ltd in ML area 1409.81 ha located in village Kommepalli, District Khammam (Telangana).

The project/activity is covered under category 'A' of item 1(a) 'Mining of Minerals' the Schedule to the EIA Notification, 2006

Following were specific conditions at 2(A) (viii) wherein amendments were sought:-

No coal transportation shall be undertaken by road.

2. The proposal was considered by the Expert Appraisal Committee (EAC) in the Ministry for Coal Mining Sector in its 47th meeting held on 22nd August, 2019 and 8th meeting held on 11th February, 2021. Non-compliance of EC conditions was observed by EAC and accordingly Ministry after deliberation on the recommendation of EAC sought clarification from the Project Proponent. SCCL submitted the status of progress of railway line works vide Lr.No.CRP/ENV/A/405/698 dated 19th October, 2020, and requested to extend the validity period of modification to enable transport of coal by road mode up to March, 2022, considering the existing pandemic Covid19. Ministry after

LB

examining the submission and request of SCCL and advised to apply for necessary amendment and subsequently apprise the EAC on status of compliance

3. Project Proponent has requested for amendment of above conditions to specific condition to enable transport of coal by road mode up to March, 2022. Transportation of coal has been proposed by Trucks/Dumpers from mine to pit head, from surface to siding (pit head CHP to RCHP, Kothagudem) by Road and from siding (RCHP Kothagudem) to customers by rail

4. The Expert Appraisal Committee in its 8th meeting held on 11th February, 2021 has recommended the proposal for grant of amendment in Environment Clearance. Based on the recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords amendment in Environment Clearance to JalagamVengalrao Opencast Project-II of 4 MTPA (Normative)/5 MTPA (peak) of M/s The Singareni Collieries Company Ltd in ML area 1409.81 ha located in village Kommepalli, District Khammam (Telangana), under the provisions of Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

- (i) PP shall transport coal by road mode with covered tarpaulin only up to December 31st 2021
- (ii) PP shall only transport the coal in 40-50 tonnes trucks/dumper.
- (iii) State Pollution Control Board while granting CTO shall ensure that PP must follow all the norms of Ambient Air Quality.
- (iv) 5 fog cannon shall be permanently installed to reduce the impact of road transportation.
- (v) Mist type mobile water sprinkler arrangement shall be installed for dust suppression in areas like Loading operations, Crusher points, transfer points and CHPs etc.
- (vi) Thick green belt around the mining area and along the transportation route (Road side) (50000 nos) shall be developed by planting native species.
- (vii) CAAQMS to monitor ambient air quality parameters like PM10, PM2.5, SOx, NOx etc. shall be installed at locations in the population / habitation areas/ receptor villages.
- (viii) PM10 Analyser shall be installed at a particular point on the road to monitor the fugitive dust emission from coal transfer activities
- (ix) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- (x) PP shall comply with the judgment/orders of the two NGT cases Case No. O.A. 174 of 2020 (SZ), dt: 08.09.2020 - Basing on a complaint received from Sri Banothu Nandu Nayak, R/o Sathupalli in regard to environmental violations and damage caused to houses by SCCL in operation of JVR Opencast mines. 2. Case No. O.A.No.20 of 2021(SZ) , dt:27.01.2021 - Basing on a complaint received from Sri Oggu Srinivasa Reddy, R/o Sathupalli and another in regard to violation of environmental conditions by SCCL in operation of JVR OCP-II.

5. All other terms and conditions stipulated in the environmental clearance dated 28th March, 2010 shall remain the same.


(Lalit Bokolia)
Director

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The APPCF, Regional office (EZ), Ministry of Environment, Forest and Climate Change, 1st&2nd Floor, Handloom Export Promotion Council, Cathedral Garden Road, Nungambakkam, Chennai - 34 (Tamil Nadu)
3. The Secretary, Department of Environment & Forests, Government of Telangana
4. The Chairman, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
5. The Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Chairman, Telangana State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanatnagar, Hyderabad - 38
7. The District Collector, Khammam, Government of Telangana
8. Monitoring File/Guard File/Record File 9. PARIVESH Portal


(Lalit Bokolia)
Director

CHAPTER-13

REMEDIATION PLAN AND NATURAL AND COMMUNITY RESOURCE AUGMENTATION PLAN (NCRAP)

13.1. Introduction

The Singareni Collieries Company Ltd (SCCL) has been exploiting coal for more than 129 years. Jalagam Vengala Rao OC-I Expansion Project (JVR OC-I Expn.) is located in the south central part of Sattupalli – Chinthalapudi coal belt. This block lies adjacent to Sathupalli town covering an area of 2.469 km². The JVR OC-I Expansion project is a working mine with a capacity of 2.5 MTPA from 2007-2008. The block is bounded by North Latitude 17°11'28.4" and 17°12'42.87" and East Longitude 80°46'44.99" and 80°49'26.53" in the Survey of India Topo sheet Nos. 65 C/16.

The Jalagam Vengala Rao Open Cast - I Expansion Project is covered in existing JVR OC-I mining Lease and JVR OC-I (Expansion) Mining Leases, which were approved, vide G.O.Ms. No. 51 (I&C dept), dated 21.02.2005 to an extent of 383.05 ha, valid up to 22.03.2025 and G.O.Ms. No. 115(I&C dept), dated 13.05.2008 to an extent of 136.50 ha, valid up to 09.11.2028 respectively.

The present proposal is planned for expansion of the Project from 2.0 MTPA (Peak-2.5 MTPA) to 5.0 Mtpa in 544.81 ha area (with a reduction of 2.27 ha), with a life of the project is 4 years (from 2017-18) under the violation category with same name.

13.2. Brief Details of Violation

Mining Plan of Sathupalli OCP-I for a rated capacity of 0.70 Mt was approved by MoC, Gol vide O.M.13016/39/2003-CA dated 24th June, 2004. The Geological reserves considered were 21.19 Mt up to 120 m depth line of seam A considering bottom layers in B seam, Index- I and A seam. The lease area of the project was 383.05 ha and project area was 410.58 ha. Environmental Clearance was obtained from MoEF&CC for a rated capacity of 0.70 Mt in 410.58 ha project area Vide MoEF&CC letter No. J-11015/240/2003-IA. II (M) dated 16th September, 2004.

After obtaining Forest Clearance for diversion of 244.02 ha and Grant of Mining Lease for 383.05 ha, the Sathupalli OCP-I (JVR OCP-I) project was started on 03rd June, 2005 and coal production was started on 03rd December, 2005.

Revised Mining Plan of Sathupalli OCP-I (renamed as JVR OC-I Opencast Expansion Project) for a rated capacity of 2.0 Mt (Peak-2.5 Mt) was approved by MoC, Gol. Vide O.M. 13016/12/2006-CA-II dated 21st May, 2007. Environmental Clearance was obtained for JVR OC-I Opencast Expansion Project at a annual rated capacity of 2.0 Mt (Peak- 2.5 Mt), vide MoEF & CC letter No.J-11015/301/2007- IA. II (M) dated 27th July, 2007.

JVR OC-I project comes under the violation due to the execs production from last 11 years based on the recent MoEF&CC circular, S.O. No 804(E), dt.14th March 2017 on violation of EC However the ToR was obtained for expansion mines vide MoEF&CC. F.No. 23-77/2018 IA (III) dated 08th August 2019 under violation.

13.3. Introduction to damage assessment

The objective of Damage Assessment is to comply with violation notification Ref. no. S.O. 804 (E), dated 14.03.2017 and Prepare Assessment chapter of Environmental Damage, Remediation Plan and Natural & Community Resource Augmentation plan. Thus, in this chapter data have been collected and analyzed for relevant environmental parameters. For identification of overall impact due to mining activity during operation, the air, water, noise, soil, land environment and other relevant data has been assessed.

13.3.1. Remediation Plan

The objectives of remediation plan are to identify mitigation and control measures and its cost.

13.3.2. Natural and Community Resource Augmentation Plan

Augmentation plan includes various activities which will be done for augmentation of Natural Resources like water, land, vegetative cover, etc. Activities considered for augmentation of community resources has been mentioned below:

- It may be physical structure or place –as a school, hospital, library or recreation center or others.
- It may be a community service that makes life better for majority of community members - public transportation, early childhood education center, community recycling facilities, cultural organization, etc. (or)
- It may be an activity that provides jobs and supports the local economy.

Fig. 13.1 Impact Assessment Pathway

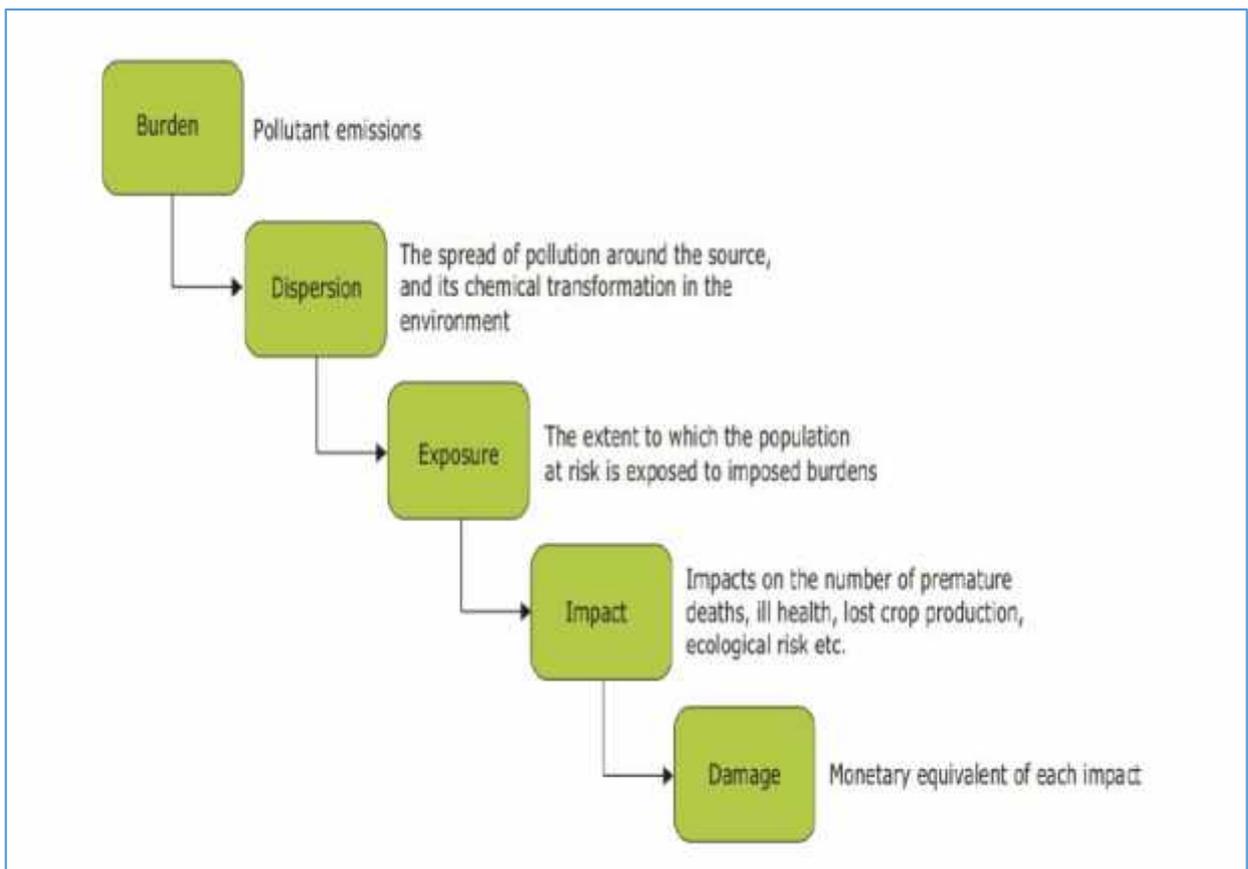


Table 13.1 Economic Benefits Derived due to Excess Production

Sl.No.	Year	EC capacity (MTPA)	Actual Coal Production in MTPA	Excess Production more than EC capacity (MTPA)	NET benefit of excess production (In Crores)
1.	2007-08	2.5	1.917	NA	NA
2.	2008-09		2.679	0.179	3.38
3.	2009-10		3.573	1.073	20.07
4.	2010-11		3.529	1.029	11.52
5.	2011-12		4.135	1.635	23.87
6.	2012-13		3.963	1.463	37.16
7.	2013-14		4.898	2.398	40.53
8.	2014-15		4.500	2.00	133.80
9.	2015-16		4.545	2.045	49.69
10.	2016-17		5.219	2.719	60.36
11.	2017-18		4.955	2.455	93.29
12.	2018-19		4.710	2.210	114.92
Total			48.623	19.206	588.60

SCCL has violated by producing a total of 19.20 MTPA Tonnes of Coal ore during 11 years from 2008-09 onwards.

Total net profit gained due to excess production is INR 588.60 (Rupees Five Hundred and Eighty Eight Crore and Sixty Lakhs), 3% of the total net profit of INR 17.65 Crores will be contributed towards remediation plan cost.

13.4. Assessment of Ecological Damage

13.4.1 Impact on Air Environment due to excess Production of Coal

The impact of pollutants emission into the air atmosphere is assessed for the operation period between 2008-09 and 2018-19. For the assessment, the difference of excess production from 2.5 MTPA as per existing EC is taken and corresponding value is considered as violation.

The emission are quantified based on the activity involved during the production as mentioned below,

- Top Soil Removal
- Drilling & Blasting in coal and OB benches
- Handling, loading & unloading of coal
- Handling, loading & unloading of OB
- Dozing of Coal & OB
- Coal & OB transportation
- Use of Machinery
- Wind erosion from OB dumps & Coal stockyard

Table 13.2 Summarized Details of Air pollutant Emission into Environment for Excess production

EMISSION FROM VARIOUS ACTIVITIES WITH CONTROL MEASURES (KG/DAY)					
	YEAR	PM 2.5	PM 10	SoX	NoX
<ul style="list-style-type: none"> • ACTIVITY- Top Soil Removal By Excavator / Scrapper • EMISSION FACTOR REFERENCE - AP 42 USEPA (1998) • CONTROL MEASURE - The Soil is naturally wet, further by artificially making the soil wet using water sprinklers, the emission is controlled effectively up to 70%. 	2008-09	0.00	0.00	NA	NA
	2009-10	0.12	1.11		
	2010-11	0.00	0.00		
	2011-12	0.00	0.00		
	2012-13	0.02	0.16		
	2013-14	0.11	1.03		
	2014-15	0.05	0.49		
	2015-16	0.13	1.19		
	2016-17	0.05	0.47		
	2017-18	0.00	0.00		
2018-19	0.01	0.06			
<ul style="list-style-type: none"> • ACTIVITY- Coal ore dozing • EMISSION FACTOR REFERENCE - AP 42 USEPA (1998) • CONTROL MEASURE - 90% Emissions Controlled is achieved due to Water Sprinkling and combined effect of Pit retention 	2008-09	0.25	1.69	NA	NA
	2009-10	1.13	7.58		
	2010-11	1.10	7.36		
	2011-12	1.49	9.98		
	2012-13	1.39	9.32		
	2013-14	1.84	12.36		
	2014-15	1.67	11.22		
	2015-16	1.69	11.36		
	2016-17	1.96	13.15		
	2017-18	1.86	12.50		
2018-19	1.77	11.84			
<ul style="list-style-type: none"> • ACTIVITY- Drilling in Ore • EMISSION FACTOR REFERENCE - CMPDI (HQ) Study Report (EE-27)* • CONTROL MEASURE - 90% Emissions Controlled Due To Water Sprinkling & Pit retention 	2008-09	0.01	0.04	NA	NA
	2009-10	0.05	0.26		
	2010-11	0.04	0.25		
	2011-12	0.07	0.39		
	2012-13	0.06	0.35		
	2013-14	0.10	0.57		
	2014-15	0.09	0.48		
	2015-16	0.09	0.49		
	2016-17	0.12	0.65		
	2017-18	0.11	0.59		
2018-19	0.10	0.53			

EMISSION FROM VARIOUS ACTIVITIES WITH CONTROL MEASURES (KG/DAY)					
	YEAR	PM 2.5	PM 10	SoX	NoX
<ul style="list-style-type: none"> • ACTIVITY- Blasting in Ore • EMISSION FACTOR REFERENCE – CMPDI (HQ) Study Report (EE-27)* • CONTROL MEASURE - 90% Emissions Controlled Due To Pit retention 	2008-09	0.04	0.27	NA	NA
	2009-10	0.19	1.12		
	2010-11	0.18	1.08		
	2011-12	0.26	1.57		
	2012-13	0.24	1.44		
	2013-14	0.36	2.13		
	2014-15	0.31	1.85		
	2015-16	0.31	1.88		
	2016-17	0.39	2.36		
	2017-18	0.36	2.17		
2018-19	0.33	2.00			
<ul style="list-style-type: none"> • ACTIVITY- Loading & Unloading of Ore • EMISSION FACTOR REFERENCE – CMPDI (HQ) Study Report (EE-27)* • CONTROL MEASURE - 90% Emissions Controlled Due To Mist spraying, water sprinkling & Pit / Stockyard surface retention 	2008-09	0.02	0.14	NA	NA
	2009-10	0.11	0.86		
	2010-11	0.11	0.83		
	2011-12	0.17	1.31		
	2012-13	0.15	1.17		
	2013-14	0.25	1.93		
	2014-15	0.21	1.61		
	2015-16	0.21	1.64		
	2016-17	0.28	2.18		
	2017-18	0.25	1.97		
2018-19	0.23	1.77			
<ul style="list-style-type: none"> • ACTIVITY- Transport to stockyard via haul roads • EMISSION FACTOR REFERENCE – CMPDI (HQ) Study Report (EE-27)* • CONTROL MEASURE - 90% & 50% Emissions Controlled for PM 2.5 & 10 and SoX & NoX respectively Due To Water Sprinkling and covering the top of tipper with tarpaulin sheets 	2008-09	0.29	1.99	0.00	0.16
	2009-10	1.71	11.95	0.00	0.71
	2010-11	1.64	11.46	0.00	0.69
	2011-12	2.61	18.20	0.00	0.93
	2012-13	2.34	16.29	0.00	0.87
	2013-14	3.83	26.70	0.00	1.16
	2014-15	3.19	22.27	0.00	1.05
	2015-16	3.27	22.77	0.00	1.06
	2016-17	4.34	30.27	0.00	1.23
	2017-18	2.29	15.95	0.00	1.17
2018-19	2.06	14.35	0.00	1.11	

EMISSION FROM VARIOUS ACTIVITIES WITH CONTROL MEASURES (KG/DAY)					
	YEAR	PM 2.5	PM 10	SoX	NoX
<ul style="list-style-type: none"> • ACTIVITY- Overburden dozing • EMISSION FACTOR REFERENCE - AP 42 USEPA (1998) • CONTROL MEASURE - 90% Emissions Controlled is achieved due to Water Sprinkling and combined effect of Pit retention 	2008-09	0.01	0.03	NA	NA
	2009-10	0.05	0.12		
	2010-11	0.05	0.12		
	2011-12	0.06	0.16		
	2012-13	0.06	0.15		
	2013-14	0.08	0.20		
	2014-15	0.07	0.18		
	2015-16	0.07	0.19		
	2016-17	0.08	0.21		
	2017-18	0.08	0.20		
2018-19	0.07	0.19			
<ul style="list-style-type: none"> • ACTIVITY- Drilling in Overburden • EMISSION FACTOR REFERENCE - CMPDI (HQ) Study Report (EE-27)* • CONTROL MEASURE - 90% Emissions Controlled Due To Water Sprinkling & Pit retention 	2008-09	0.15	0.77	NA	NA
	2009-10	0.69	3.53		
	2010-11	0.52	2.65		
	2011-12	0.66	3.34		
	2012-13	0.35	1.79		
	2013-14	1.08	5.50		
	2014-15	0.82	4.20		
	2015-16	1.86	9.45		
	2016-17	1.81	9.21		
	2017-18	1.32	6.72		
2018-19	1.21	6.15			
<ul style="list-style-type: none"> • ACTIVITY- Blasting in Overburden • EMISSION FACTOR REFERENCE - CMPDI (HQ) Study Report (EE-27)* • CONTROL MEASURE - 90% Emissions Controlled Due To Pit retention 	2008-09	0.06	0.36	NA	NA
	2009-10	0.20	1.21		
	2010-11	0.16	0.96		
	2011-12	0.19	1.15		
	2012-13	0.12	0.70		
	2013-14	0.29	1.72		
	2014-15	0.23	1.39		
	2015-16	0.44	2.66		
	2016-17	0.43	2.60		
	2017-18	0.34	2.02		
2018-19	0.31	1.89			

EMISSION FROM VARIOUS ACTIVITIES WITH CONTROL MEASURES (KG/DAY)					
	YEAR	PM 2.5	PM 10	SoX	NoX
<ul style="list-style-type: none"> • ACTIVITY- Loading & Unloading of Overburden • EMISSION FACTOR REFERENCE – CMPDI (HQ) Study Report (EE-27)* • CONTROL MEASURE - 90% Emissions Controlled Due To Mist spraying, water sprinkling & Pit / Stockyard surface retention 	2008-09	0.04	0.31	NA	NA
	2009-10	0.17	1.41		
	2010-11	0.12	1.06		
	2011-12	0.16	1.33		
	2012-13	0.08	0.71		
	2013-14	0.26	2.19		
	2014-15	0.20	1.68		
	2015-16	0.44	3.78		
	2016-17	0.43	3.68		
	2017-18	0.31	2.68		
2018-19	0.29	2.46			
<ul style="list-style-type: none"> • ACTIVITY- Transport to dump yard via haul roads • EMISSION FACTOR REFERENCE – CMPDI (HQ) Study Report (EE-27)* • CONTROL MEASURE - 95% & 50% Emissions Controlled for PM 2.5 & 10 and SoX & NoX respectively Due To Water Sprinkling and covering the top of tipper with tarpaulin sheets 	2008-09	0.97	6.77	0.00	0.16
	2009-10	4.46	31.14	0.00	0.71
	2010-11	3.35	23.37	0.00	0.69
	2011-12	3.29	22.98	0.00	0.93
	2012-13	1.77	12.33	0.00	0.87
	2013-14	5.43	37.86	0.01	1.16
	2014-15	4.15	28.93	0.00	1.05
	2015-16	9.34	65.13	0.01	1.06
	2016-17	9.10	63.48	0.01	1.23
	2017-18	6.64	46.28	0.01	1.17
2018-19	6.08	42.40	0.01	1.11	
<ul style="list-style-type: none"> • ACTIVITY- Wind erosion at Stockyards / Dump Yard (6 Hours per day is taken as windy or non-calm period). • EMISSION FACTOR REFERENCE - AP 42 USEPA (1998) • CONTROL MEASURE - 90% & 70% Emissions Controlled Due To Water Sprinkling, proper covering etc for Stockyard & Dump Yard. 		STOCK YARD		DUMP YARD	
	2008-09	0.01	0.16	1.10	12.36
	2009-10	0.01	0.16	0.25	2.83
	2010-11	0.01	0.16	0.00	0.00
	2011-12	0.01	0.16	0.66	7.37
	2012-13	0.01	0.16	0.69	7.80
	2013-14	0.01	0.16	0.00*	0.00*
	2014-15	0.01	0.16	0.00*	0.00*
	2015-16	0.01	0.16	0.00*	0.00*
	2016-17	0.01	0.16	0.00*	0.00*
2017-18	0.01	0.16	0.00*	0.00*	
2018-19	0.01	0.16	0.00*	0.00*	
<ul style="list-style-type: none"> • ACTIVITY- Emissions from machinery (Excavator & Dozer) • CONTROL MEASURE - Nil 	2008-09	NA	0.11	0.001	1.94
	2009-10		0.47	0.003	8.73
	2010-11		0.46	0.003	8.47
	2011-12		0.62	0.004	11.49
	2012-13		0.58	0.003	10.73
	2013-14		0.77	0.005	14.23

EMISSION FROM VARIOUS ACTIVITIES WITH CONTROL MEASURES (KG/DAY)					
	YEAR	PM 2.5	PM 10	SoX	NoX
	2014-15		0.70	0.004	12.92
	2015-16		0.71	0.004	13.08
	2016-17		0.82	0.005	15.14
	2017-18		0.78	0.005	14.40
	2018-19		0.74	0.004	13.64
<p>1. The emission factors for PM 2.5 & PM 10 are referred from “National Pollutant Inventory Emission Estimation Technique Manual” for mining 2012, USEPA AP 42 (1998) & *- a S&T Study titled “Development of emission factors for various mining machineries & operations in Open cast coal mines (EE-27)” conducted by CMPDI (HQ) during 2002 to 2008.</p> <p>2. The emission factors for SoX & NoX are referred from National emission booklet by ARAI and Report on fuel quality by Ministry of Road & Transport</p>					

From the above table, it can be observed that there is minor damage on air environment due to excess production. Further the following environmental measures were in place for controlling the emission,

- Deployed the drills with wet drilling arrangement.
- Effective water spraying arrangements on Haul roads, dump yards, storage yard and points of loading and unloading.
- Two mobile water sprinklers of 28 KL for coal, four mobile water sprinklers of 28KL and three mobile water sprinklers of 16 KL capacities are deployed for water spraying purpose.
- Cabins of heavy earth moving machines are provided with A.C.
- Emissions from heavy earth moving machinery are being monitored.
- Proper periodic maintenance of vehicles, etc.
- Black topping of permanent coal transport route.
- Overall 318.90 ha of land brought under plantation within & surrounding the ML area and along coal transport route by planting with native species.
- Covering the trucks with tarpaulin while transporting coal.
- No burning of coal or wood or cotton waste impregnated with oil and grease is done in the mine premises.
- Employees are being provided with free LPG gas cylinders instead of coal to discourage coal burning for domestic use. All employees are using LPG gas in place of coal.
- Ambient air quality is being monitored every fortnight in and around the project area.
- Automatic sprinkling system under the control of operator is provided at the crushers.
- Periodical maintenance of all diesel / petrol operated vehicles is being done to control SO₂, NO₂ & CO in the exhaust emissions.
- The requirements and standards specified in this regard by Director General of Mines Safety (DGMS) are adhered to.

13.4.2 Monetary value of Air pollutants emission due to excess production

Table 13.3 Damage Cost for Emission of Pollutants during Excess Production

YEAR	TOTAL EMISSION FROM VARIOUS ACTIVITIES (KG/DAY)				COST PER KG OF EMISSION (INR)				TOTAL DAYS CONSIDERED FOR VIOLATION (Negating 130 Days Of Monsoon Out Of 340 Working Days)	DAMAGE COST PER ANNUM (INR)
	PM _{2.5}	PM ₁₀	SoX	NoX	PM _{2.5}	PM ₁₀	SoX	NoX		
2007-08	NA	NA	NA	NA						₹ 0.00
2008-09	2.94	21.78	0.002	2.26						₹ 19,61,815.64
2009-10	9.14	62.57	0.008	10.15						₹ 58,42,898.19
2010-11	7.286	49.28	0.007	9.85						₹ 46,78,995.93
2011-12	9.62	66.11	0.009	13.36						₹ 62,65,246.71
2012-13	7.28	50.43	0.007	12.47						₹ 48,55,215.24
2013-14	13.636	92.35	0.012	16.54	524	340	165	96	210	₹ 86,95,955.80
2014-15	11.00	74.45	0.010	15.02						₹ 70,72,350.92
2015-16	17.870	120.689	0.015	15.20						₹ 1,11,36,002.54
2016-17	19.018	128.434	0.017	17.60						₹ 1,19,02,601.83
2017-18	13.572	91.252	0.013	16.74						₹ 86,17,014.67
2018-19	12.465	83.805	0.012	15.85						₹ 79,31,286.16
									TOTAL DAMAGE COST	₹ 7,89,59,383.62

*Cost are based on various Case studies of European Environmental Agency Air emission penalty paid for environmental damage and only 20% of cost is taken as per Indian currency value compared with Euro

13.5. Impact on Water Environment due to excess Production of Coal

The impact on water environment is assessed based on following modes of its availability,

- Ground Water
- Surface Water

Apart from the above fresh water sources other impacts considered is due to wastewater generated via various activities (Sewage & Effluent),

13.5.1 Impact on Ground Water

In the process of mining, water will be accumulated in the dip most places of the mine due to natural seepage and conventional open cast mining operations. The water so accumulated is collected in sumps at different places in the mine and is pumped out to the surface with suitable capacity pumps.

The mine discharge water will be stored in settling ponds for removal of suspended solids. Further it is sent to filter beds and surface tanks, to be used for domestic use and Plantation, Dust Suppression & HEMM washing respectively.

Presently the average quantity of water being pumped during non-monsoon season from JVR OC-I is about 2378 m³/day.

After meeting the mine requirements about 1072 m³/day is being released into nearby streams/tanks via proper drainage route. The excess water discharged is used by local farmers for agriculture.

Table 13.4 Details of water usage (KLD)

1.	Total waste water pumped out (In KLD)	2378
2.	Total Consumption water (In KLD)	
a.	Dust suppression	1156
b.	HEMM Washing	50
c.	Plantation	30
d.	Domestic Use	70
	Sub-Total (Total consumption water)	1306
3.	Excess Discharged Water	1072

Table 13.5 Details of settling tank

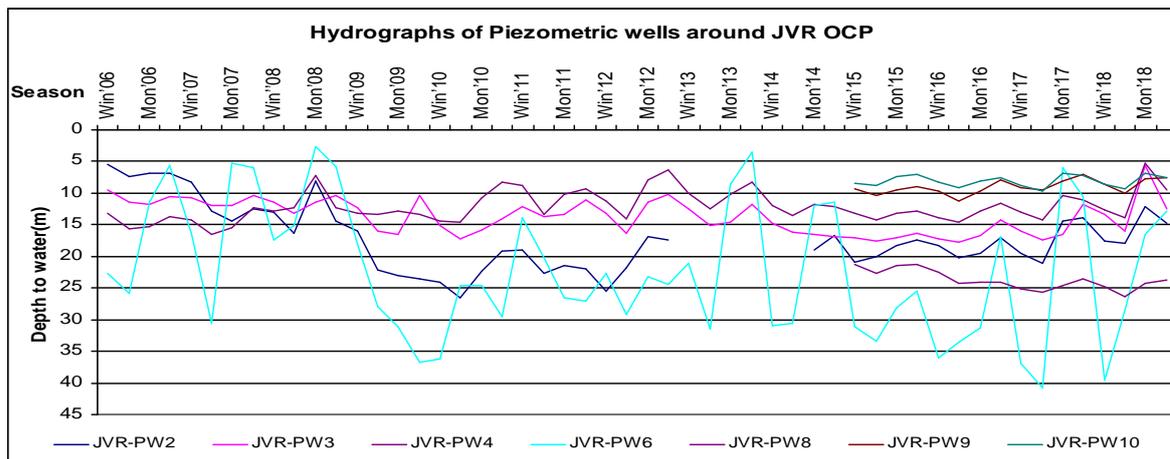
MINE WATER TREATMENT VIA SETTLING TANKS	
Mine	JVR OC - 1
No of settling Tanks	6 Nos
Each Capacity in KL	1586

Potential Damage on Ground water due to Excess Production is as given below:

- Depletion of ground water level due to mine seepage and obstruction of Rainwater infiltration due to mining Activities.
- Excess Ground Water Withdrawal due to advance broken up area
- Impact on ground water quality.

13.5.1.1 Depletion of ground water level and mitigation measures adopted –

To evaluate the behaviour of long term groundwater level trends, long term water level data from the permanent observation wells have been referred. Long term water level trends and hydrographs are given below.



In Sattupalli area, mining operations commenced in 2005. The attitude of phreatic surface is being monitored in 22 observation wells in the buffer zone of the project area. These wells are located at a distance of 200m to 9 km from the coal mines in operation as also in the virgin areas. The phreatic surface varies from 3.48m to 11.85m during pre-monsoon season and from 2.79m to 10.15m during post-monsoon season and also monitoring the piezometric heads around existing JVR OC in piezometric wells which were constructed around the project area. The piezometric heads vary from 02.62m to 11.85m. This monitoring is aimed at studying the impact of coal mining on ground water regime.

Table 13.6 Groundwater level trends

Piezometric Well no.	Location	Depth (m)	Dia (m)	Measuring point (m)	Period	Depth to water(m)								
						2010	2011	2012	2013	2014	2015	2016	2017	2018
JVR-PW2	In the Market yard,100m NW from quarry edge 17°12'43.34"N, 80°48'28.31"E	50.0	0.10	0.50	Winter	24.08	18.93	25.52	NR	NR	21.00	18.29	19.50	17.55
					Pre-monsoon	26.56	22.72	21.76	16.40	NR	20.00	20.15	21.17	18.00
					Monsoon	22.30	21.44	16.83	NR	19.00	18.20	19.53	14.50	12.17
					Post-monsoon	19.17	22.05	17.45	16.40	16.66	17.37	17.07	13.83	14.84
JVR-PW3	About 100m from Eastern edge, near Service buildings. 17°12'41.51"N, 80°48'48.66"E	50.0	0.10	0.50	Winter	15.11	12.06	13.17	12.47	14.71	17.00	17.15	16.00	13.31
					Pre-monsoon	17.14	13.74	16.31	15.10	16.11	17.65	17.81	17.40	16.00
					Monsoon	15.78	13.43	11.50	14.54	16.48	17.03	16.70	16.50	5.70
					Post-monsoon	14.00	11.12	10.19	11.74	16.80	16.32	14.22	11.70	12.45
JVR-PW4	About 500m SW of the quarry, on the way to Kommepalli Road; adj. to forest boundary. 17°11'29.44"N, 80°46'53.30"E	50.0	0.10	0.50	Winter	14.46	8.82	11.20	10.00	12.00	13.26	13.94	13.00	12.62
					Pre-monsoon	14.58	13.40	14.11	12.41	13.53	14.26	14.64	14.20	13.80
					Monsoon	10.81	10.20	7.85	10.20	11.72	13.25	12.81	10.32	5.22
					Post-monsoon	8.27	9.33	6.40	8.25	12.10	12.77	11.60	11.00	9.50
JVR-PW6	About 500m South of the quarry, on the way to Vemsoor near culvert. 17°10'47.54"N, 80°48'22.69"E	50.0	0.10	0.50	Winter	36.13	13.96	22.69	21.05	31.00	31.10	36.00	37.00	39.60
					Pre-monsoon	24.57	20.25	29.12	31.44	30.65	33.47	33.62	40.80	28.40
					Monsoon	24.64	26.56	23.20	8.65	12.00	28.20	31.25	6.00	16.50
					Post-monsoon	29.50	28.00	24.50	3.50	11.50	25.49	16.87	10.60	12.80
JVR-PW8	In Mother Theresa Engg. College, Kothuru. 17°11'18.95"N, 80°49'42.38"E	50.0	0.10	0.80	Winter						21.20	22.45	25.16	24.82
					Pre-monsoon						22.60	24.23	25.58	26.34
					Monsoon						21.45	24.00	24.57	24.32
					Post-monsoon						21.25	24.00	23.50	23.80
JVR-PW9	In JVR Degree college, 17°12'45.54"N, 80°49'29.71"E	50.0	0.10	0.80	Winter						9.25	9.66	9.18	8.58
					Pre-monsoon						10.40	11.20	9.54	10.00
					Monsoon						9.50	9.70	8.00	7.68
					Post-monsoon						8.90	7.91	7.00	7.63
JVR-PW10	Near Hanuman temple, Vemsoor road 17°11'53.66"N, 80°49'22.56"E	50.0	0.10	0.80	Winter						8.40	8.24	8.87	8.68
					Pre-monsoon						8.72	9.10	9.61	9.38
					Monsoon						7.42	8.07	6.80	6.82
					Post-monsoon						6.96	7.60	7.17	7.55

From the long term monitoring of phreatic and piezometric data in the buffer zone of the existing mine scenario, it is observed that, there is no considerable impact of mining on groundwater regime in this area.

13.5.1.2 Excess Ground Water Withdrawal due to advance broken up area

During the years 2007-08 to 2008-09 the quarry area was excavated beyond the EMP projections and in the subsequent years also to excavate excesses production. As soon as the internal dump was started from 2009-10, the excess ground water seepage was arrested and from 2009-10 to 2011-12 the area operated is much less than the EMP projections.

As such there is no excess ground water seepage during these years. Again the quarry was extended beyond the EMP projections from 2013-14 to 2016-17. Overall 61.0 ha of area was extended beyond the EMP projections.

Even though the quarry was operated beyond the year wise projections, overall the excavation was within the quarry area envisaged in EMP and prior clearance from state Ground water authority was also obtained (Please refer Annexure 2D). The excess areas broken up for excess production and corresponding excess mine seepage during the years is calculated and damage is accounted under violation.

The following table depicts the year wise area broken up, excess areas operated for excess production and the excess mine seepage during the years.

Table 13.7 Summary of Excess seepage water pumped due to excess production with damage cost

Year	EC capacity (MTPA)	Excess Production (MTPA)	Quarry area As Per EMP for 2.5 MT (Ha)	Quarry area As Per Operation (Ha)	Advance area Operated (Ha)	Depth of the quarry (m)	Excess mine seepage in (KL/day)	Excess mine seepage in 250 Days (KL/Year)	Cost of water pumped out @ 5 Rs/m3 as per CGWB Guidelines
2008-09	2.5	0.179	21.00	26.90	5.90	60.00	264.00	66000	₹ 3,30,000.00
2009-10	2.5	1.073	23.00	20.40	-2.60	60.00	0.00	0	₹ 0.00
2010-11	2.5	1.029	21.00	2.10	-18.90	67.00	0.00	0	₹ 0.00
2011-12	2.5	1.635	22.00	2.10	-19.90	85.00	0.00	0	₹ 0.00
2012-13	2.5	1.463	13.00	5.40	-7.60	90.00	0.00	0	₹ 0.00
2013-14	2.5	2.398	13.00	16.90	3.90	80.00	401.00	100250	₹ 5,01,250.00
2014-15	2.5	2.0	13.30	20.10	6.80	110.00	1065.00	266250	₹ 13,31,250.00
2015-16	2.5	2.045	16.70	49.70	33.00	70.00	327.00	81750	₹ 4,08,750.00
2016-17	2.5	2.719	16.00	23.80	7.80	80.00	449.00	112250	₹ 5,61,250.00
2017-18	2.5	2.455	16.00	9.20	-6.80	110.00	0.00	0	₹ 0.00
2018-19	2.5	2.21	13.00	5.50	-7.50	130.00	0.00	0	₹ 0.00
									₹ 31,32,500.00

13.5.1.3 Impact on ground water quality –

To assess the impact on ground water quality, comparative study of ground water quality status of 2017-18 at Vengal Rao Nagar has been done and furnished in Table 13.8.

Table 13.8 Ground water quality

S. No.	Parameters	Unit	Test Method	IS 10500 Standard		Vengal Rao Nagar Sathupalli	Rejarla Village
				Desirable	Permissible		
1	Colour	Pt-co Scale	2120. B	5	15	<5	<5
2	Odour	TON	2150. B	Agreeable	Agreeable	No odour observed	No odour observed
3	pH	-	4500-H ⁺ B	6.5 to 8.5	No relaxation	6.8	6.9
4	Taste	FTN	2160. B	Agreeable	Agreeable	No flavor observed	No flavour observed
5	Turbidity	NTU	2130. B	1	5	0.2	0.11
6	Total Dissolved Solids at 180° C	mg/L	2540.C	500	2000	600	840
7	Electrical Conductivity	µmhos/cm	2510-B	-	-	991	1360
8	Aluminium as Al	mg/L	3120-B	0.03	0.2	0.12	0.10
9	Anionic Detergents (as MBAS)	mg/L	IS:13428:2005K	0.2	1.0	<0.2	<0.2
10	Barium as Ba	mg/L	3120. B	0.7	No relaxation	1.01	2.60
11	Boron as B	mg/L	3120-B	0.5	1.0	0.06	0.10
12	Calcium as Ca	mg/L	3500-Ca.B	75	200	102	84
13	Chlorides as Cl ⁻	mg/L	4500-Cl ⁻ .B	250	1000	94	114
14	Copper as Cu	mg/L	3120-B	0.05	1.5	BDL	BDL
15	Fluoride as F ⁻	mg/L	4500-F ⁻ .C	1.0	1.5	0.695	1.04
16	Residual free chlorine	mg/L	4500-Cl ⁻ .B	0.2	1.0	BDL	BDL
	Iron as Fe	mg/L	3120-B	0.3	No relaxation	0.89	0.82
17	Magnesium as Mg	mg/L	3500-Mg.B	30	100	30	59
18	Manganese as Mn	mg/L	3120-B	0.1	0.3	BDL	BDL
19	Mineral oil	mg/L	IS:3025 (part 39)	0.5	No relaxation	Absent	Absent
20	Nitrates as NO ₃	mg/L	4500-NO ₃ ⁻ .B	45	No relaxation	5	27
21	Phenolic compounds as C ₆ H ₅ OH	mg/L	5530-D	0.001	0.002	BDL	BDL
22	Selenium as Se	mg/L	3120-B	0.01	No relaxation	BDL	BDL
23	Silver as Ag	mg/L	3120. B	0.1	No relaxation	BDL	BDL
24	Sulphates as SO ₄ ²⁻	mg/L	4500-SO ₄ ²⁻ .E	200	400	21	18
25	Sulfide as S ²⁻	mg/L	4500. S ²⁻ - G	-	-	BDL	BDL
26	Total Alkalinity as CaCO ₃	mg/L	2320. B	200	600	375	455
27	Total Hardness as CaCO ₃	mg/L	2340. C	200	600	378	452
28	Zinc as Zn	mg/L	3120-B	5	15	3.07	0.32
29	Orthophosphates	mg/L	4500-P-D	-	-	BDL	BDL
30	Chemical Oxygen Demand	mg/L	5220. D	-	-	20	20
31	Nitrites as NO ₂	mg/L	4500-NO ₂ ⁻ B	-	-	BDL	0.04

S. No.	Parameters	Unit	Test Method	IS 10500 Standard		Vengal Rao Nagar Sathupalli	Rejarla Village
				Desirable	Permissible		
32	Sodium Na	mg/L	3500 Na.B	-	-	74	107
33	Potassium as K	mg/L	3500. K.B	-	-	27	126
34	Carbonates as CO ₃	mg/L	2320. B	-	-	-	-
35	Bicarbonates as HCO ₃	mg/L	2320. B	-	-	-	-
36	Cadmium as Cd	mg/L	3120-B	0.003	No relaxation	BDL	BDL
37	Cyanide as CN-	mg/L	4500-CN.F	0.05	No relaxation	BDL	BDL
38	Lead as Pb	mg/L	3120-B	0.01	No relaxation	BDL	BDL
39	Mercury as Hg	µg/L	3500-Hg.B	0.001	No relaxation	BDL	BDL
40	Molybdenum as Mo	mg/L	3120. B	0.07	No relaxation	BDL	BDL
41	Nickel as Ni	mg/L	3120-B	0.02	No relaxation	BDL	BDL
42	Pesticides: -BHC, -BHC, -BHC, -BHC, o,p-DDT, p,p' - DDT, Aldrin, Endosulfan, Dieldrin - Endosulfan,	µg/L	6630. D	Absent	0.001	ND	ND
43	2,4-D, Carbaryl (Carbonate) Malathion Methyl Parathion Anilophos, Chloropyriphos	Qualitative analysis	6630. D	Absent	0.001	ND	ND
44	Polyaromatic Hydrocarbons (PAH's): Acenaphthene, Acenaphthylene, Anthracene, B(a)A, B(a) P, B(b) F, B(k)F, Pyrene, Dibenz(a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-d) Pyrene, Naphthalene, Pyrene, Phenanthrene, Methyl Naphthalene	µg/L	6440.C	-	-	ND	ND
45	Total Arsenic as As	mg/L	3120-B	0.01	0.05	BDL	BDL
46	Total Chromium as Cr	mg/L	3120-B	0.05	No relaxation	BDL	BDL
47	<i>E. Coli</i>	Presence or Absence/ 100 mL	9221 F	-	-	Absent	Absent
48	Total Coliforms	MPN/100 mL	9221A & B	-	-	<1.8	<1.8
49	Fecal Coliforms	MPN/100 mL	9221 E	-	-	<1.8	<1.8

It can be observed from the data that Total Hardness, Alkalinity and Magnesium are on higher side, especially during the period of violation and also represent the natural ground water quality pattern of that area. However the values are under the permissible limit even during the period of violation.

13.5.2 Impact on Surface Water

The source of waters that are considered under surface water category are, Catchment Tanks, Nallahs and Streams. The common source of water for all surface water is rainfall. The impact on the surface hydrology (quantity) and quality depends on the provisions that are in place like garland drains, toe drains, toe walls, check dams, Rain water harvesting and recharge pits, etc. to handle the quantum of monsoon rains in the core area and buffer areas.

13.5.2.1 Impact due to surface runoff

During the years 2007-08 to 2008-09 the quarry area was excavated beyond the EMP projections and in the subsequent years also to excavate excesses production. During these years some surface runoff water obstructed due to advance excavation. As soon as the internal dump was started from 2009-10, the surface runoff above the ground level was diverted to garland drains provided around the quarry. As such there is no obstruction of surface runoff water from 2009-10 to 2011-12 and the area operated is much less than the EMP projections.

As such there is no obstruction for surface runoff water during these years. Again the quarry was extended beyond the EMP projections from 2013-14 to 2016-17. Even though the quarry was operated beyond the year wise projections, overall the excavation was within the quarry area envisaged in EMP.

The following table gives the details of mitigation measures that are in place to address the impacts due to surface run off.

S.No	Description of Area	Mitigation measure already implemented for Surface Water management
1	Perimeter of present mining pit of Area 146 Ha is 4209 Meters	Garland drains with dimensions of 1.5 Meter width by 1.8 Meter height are provided all along perimeter of mining pit with running length of 4240 Meters (Refer Images below)
2	Perimeter of external Dump Yard with area of 130.39 Ha is 4466 Meters	Toe drains with dimensions of 2.5 Meter width by 1.5 Meter height are provided all along perimeter of both external and Internal dumping yards with total running length of 13,000 Meters (Refer Images below)
3	Perimeter of internal Dump Yard is 7485 Meters	
4	Management of mine discharge and excess rainfall water during monsoon within ML area	There are 6 Nos Settling Tank with each with Capacity of 1586 KLD and 3 Nos Check dams within the ML area

From the above table it is evident that sufficient measures are in place to handle surface runoff.

Figure 13.2 Images of Garland drains & Toe drains around the dumps

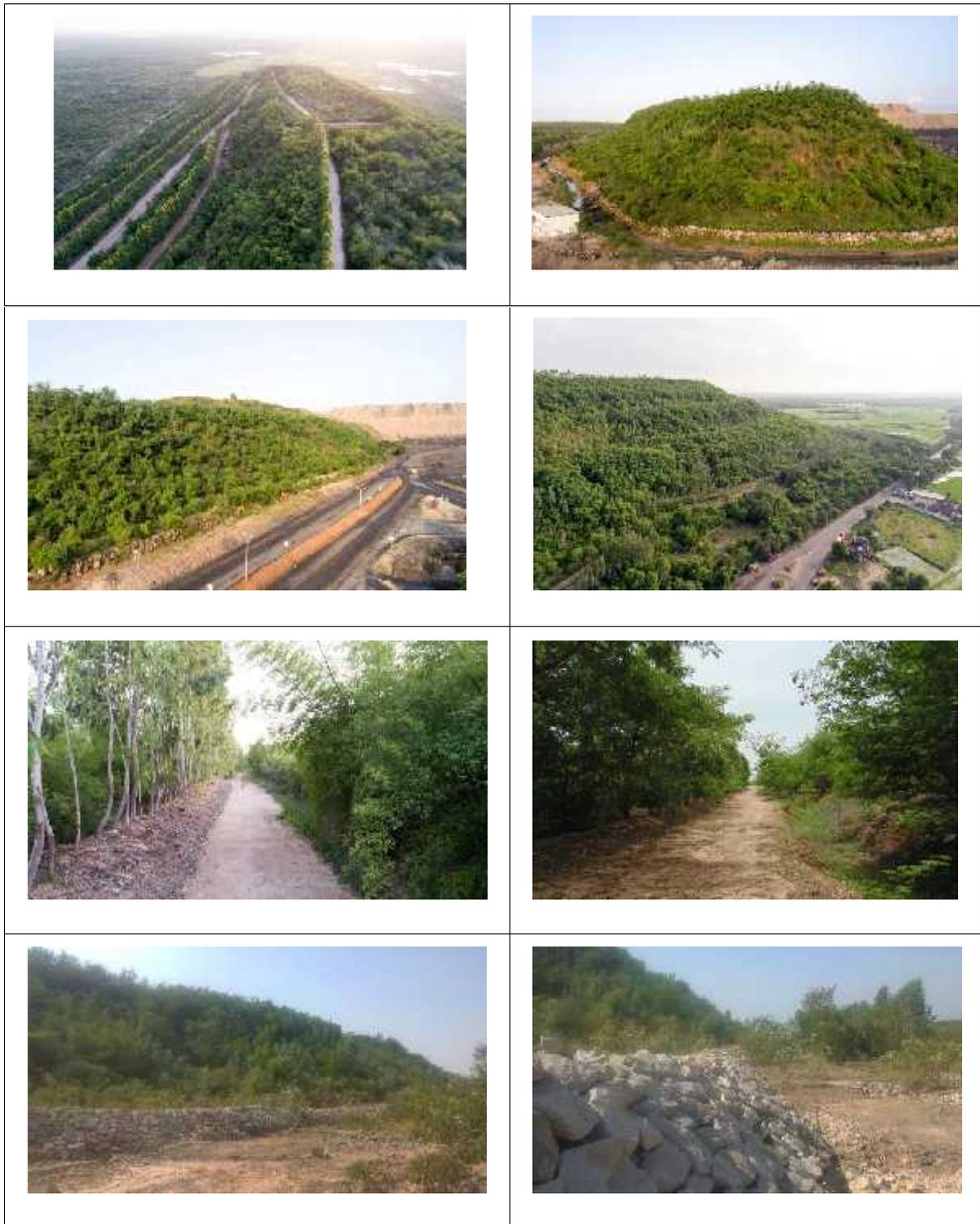


Figure 13.3 Images of Garland drains around the quarry area

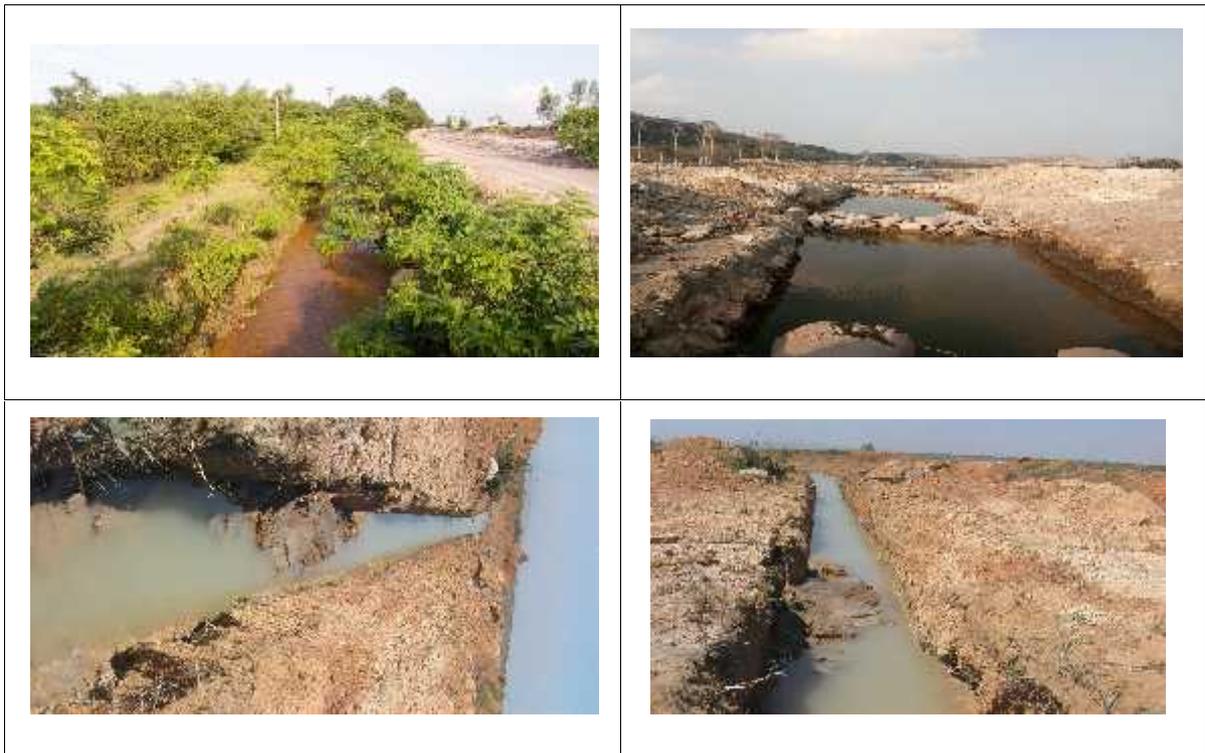


Figure 13.4 Settling Ponds and Check Dams



13.5.2.2 Impact due to Non-Provision of Rainwater harvesting structure inside ML area

Although the mitigation measures mentioned in above table will take care of issues raising due to surface runoff, by law its mandatory to have a Rain water harvesting structure. This will help augment ground water recharge to the extent possible and also will restore the groundwater regime.

Table 13.9 Calculation of Average Rain Water runoff within Mine Lease Area

S.No	Description of Area	Forest land	Non-Forest land	Total	Annual Rain Water Rooftop Catchment (Cum)	Annual Rain Water Surface Runoff (Cum)
1	Excavation Area (Including Drains etc.)	355.14	15.88	371.02	NA	2787362
2	External dump yard		130.39	130.39	NA	452114.3
3	Service buildings, CHP & sub-station	15.96	2.18	18.14	136280.4	NA
4	Road diversion	9.42	5.84	15.26	NA	114643.8
5	Colony/township		10	10	NA	75127
Total		380.52	164.29	544.81	3565527.42	

On an average 3.56 M.CuM of water can be harvested during the monsoon season. Considering the infrastructure facilities alone, which has a harvesting potential of 0.136 MCum of rain water every year.

Apart from Core zone, it was observed that no provision of Rain water harvesting structure is present in buffer zone.

As per GWC issued by State Ground water authority, it was recommended to construct Rainwater harvesting pits in neighbouring villages within the buffer zone.

13.5.3 Positive impacts on Water environment (Ground Water & Surface water)

- As mentioned in above table, surplus water from the existing mines is being let out into the local streams/tanks which is being used by the local people to meet their agricultural needs. This is also augmenting recharge to the ground water regime of the area.
- The effluent from service facilities is being collected and treated by means of series of process in effluent treatment plant. **(Refer Fig. 13.5)**
- Sewage is being treated in septic tank followed by soak pit
- As per GEC-2015, this area is categorised as 'Safe'. SCCL has taken steps to augment groundwater through construction of Rain water harvesting pits.

Figure 13.5 ETP at Base Work Shop



13.5.3.1 Monetary value for impacts on Water environment (Ground Water & Surface water)

S.No	Damage Description	Damage Costing
a	Construction of Rainwater Harvesting Structure (Settling Tank, Collection Pit with Borewell) within ML area	• Cost for construction of 2 Nos Rainwater Harvesting Structure @ INR 5 Lacs each
b	Construction of Rooftop Rainwater Harvesting facility in villages located in buffer zone.	• Cost for construction of 25 Nos Rooftop Rainwater Harvesting facility @ INR 1 Lacs each
C	Construction of check dam	• Cost of construction 2 no's of check dam @ 3 lakhs each.

13.6. Impact on Land Environment due to excess Production of Coal

Remote Sensing technique has been used to study the change in LULC due to excess production. It is the most efficient and cost-effective tool for surveying, mapping and monitoring of varied natural and man-made resources. It has become particularly indispensable in mapping and monitoring the dynamic aspects of earth's surface features including land use / land cover (LU/LC).

Although land use at times is abstract, it can admirably be inferred from land cover, which is directly detected by remote sensing sensor and registered on the imagery. Variation in multi-spectral response of the different land cover categories enable detection, identification and categorization of the different land use classes commensurate with the scale of mapping.

Guided by these considerations, land use and land cover assessment of JVR OC 1 mine study area was carried out by visual interpretation of Resource- sat 1 LISS 4 MX data acquired during Kharif season, Rabi season during 2004 and 2006 and Resource-sat 2 LISS 4 MX data acquired during 2017 Kharif & 2018 Rabi season.

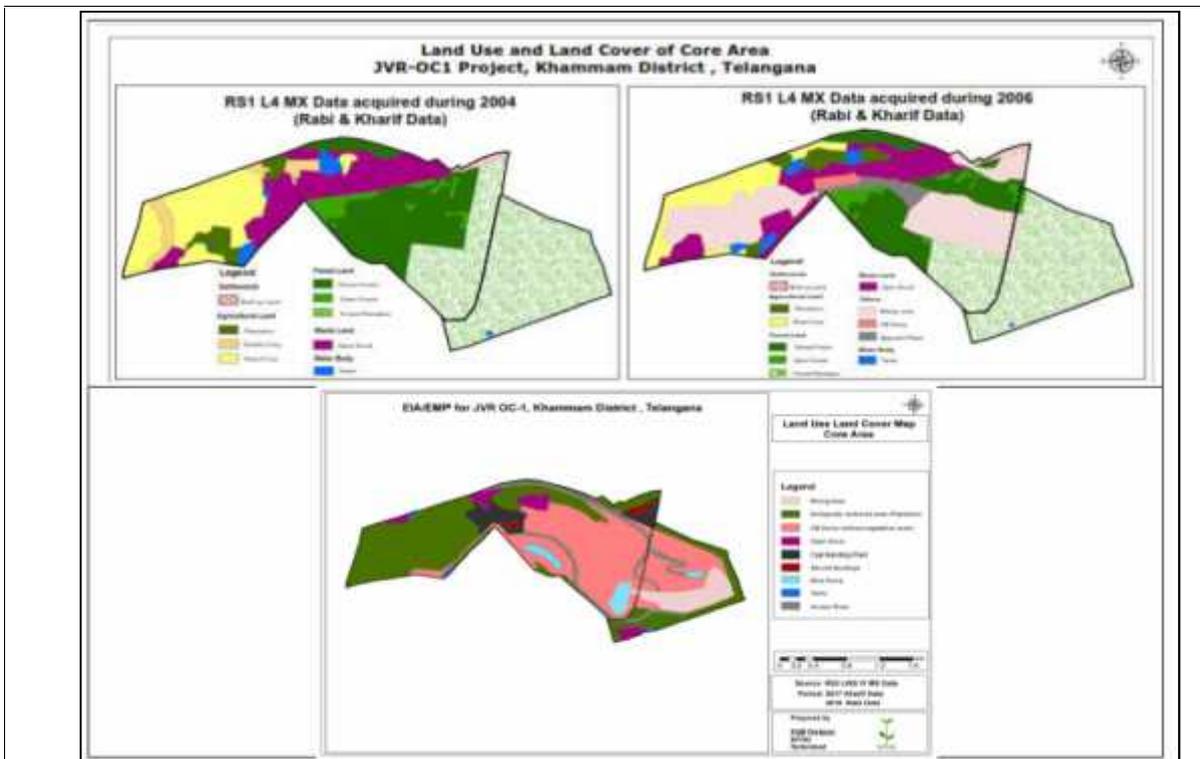


Figure 13.6 Change detection of Land use and Land cover setting in core area of JVR OC 1 Based on interpretation of satellite data acquired during 2004, 2006 and 2018

13.6.1 Interpretation of Land use land cover map

The comparison of LULC classification with interpretation is given in Table 13.10. The map showing the LULC classification for Rabi and Kharif season is shown in Figure No.13.6.

Table 13.10 Comparison of Change detection of land use and land cover during the years 2004, 2006 and 2018

S.No	Land use and Land cover category	Distribution in percentage		
		2004	2006	2018
1.	Built up land	0.88	0.65	6.31
2.	Agricultural Plantation	2.89	2.99	0.00
3.	Double Crop area	2.94	0.00	0.00
4.	Kharif Crop land	15.45	8.5	0.00
5.	Dense Forest land	19.37	15.14	0.00
6.	Open Forest land	2.74	2.54	0.00
7.	Forest Plantation area	40.00	35.31	0.00
8.	Open Scrub land	14.15	11.32	0.00
9.	Mining area	0.00	22.09	10.12
10.	Biologically reclaimed area (Plantation on OB Dump)	0.00	0.00	38.5
11.	OB Dump without vegetative cover	0.00	0.00	40.89
12.	Access roads	0.00	0.00	1.48
13.	Mine sump	0.00	0.00	2.22
14.	Water Body	1.58	1.46	0.48

From the above data the notable changes in Land use and Land cover of JVR OC 1 Core area during the years 2004-2006-2018 are as follows,

- During 2004 the built up area used to be 0.88% which reduced to 0.65% during 2006. By 2018 build up area is 6.31 % (Coal handling plant covering 5.43% and Service buildings covering 0.88%) has been developed.
- During 2004 the Agricultural plantations used to occupy 2.89% and by 2018 there is no Agricultural plantations as the mining operations are in final stage.
- During 2004 the Double crop area used to occupy 2.94% and by 2018 there was no double crop area as the mining operations are in final stage.
- During 2004 the Kharif crop area used to occupy 15.45%, during 2006 it was 8.5% and by 2018 there was no Kharif crop.
- During 2004 the dense forest area used to occupy 19.37%, during 2006 it was 15.14% and by 2018 there was no dense forest.
- During 2004 the Open forest area used to occupy 2.74%, during 2006 it was 2.54% and by 2018 there was no open forest area.
- During 2004 the Forest plantation area used to occupy 40%, during 2006 it was 11.32% and by 2018 there was no open forest plantation.
- During 2004 the Open scrub land area used to occupy 14.15%, during 2006 it was 11.32% and by 2018 there was no open scrub land area.
- During 2004 there was no Mining activity. During 2006 it was 22.09% and by 2018 has reduced to 10.12% of the area.
- During 2018 the over burden dump area covering 38.5% of core area biologically reclaimed with plantation is observed and about 40.89% of area of over burden dumps are observed ready for biological reclamation with plantation.

- During 2018 Mine access roads are found in mine occupying about 1.48% of core area
- During 2018 Mine sumps are found occupying 1.22% of the area.
- During 2004 the water bodies used to occupy 1.58% and during 2006 they were 1.46% and by 2018 the water bodies developed covering an area of 1.48%.

In conclusion no land outside the project area has been used for the purpose of excess production. The mined out area will be reclaimed as per the Post-mining land use as mentioned in EMP / EIA. The excavated area till date is within the overall excavation area and the land use is as per the approved EC. As such degradation of land due to mining is within the envisaged extent of land use. Therefore no violation is caused on account of Land use and land cover.

13.7. Impact on Ecology, Biodiversity and Greenbelt due to excess Production of Coal

During survey it is observed that, there are no prominent vegetation patches and wildlife habitats in the core zone. However, the mining and its related activities have altered the topography of landscape and initiate degradation in quality of environment, Ecological degradation, Loss of biodiversity, Loss of Wildlife habitats due to overburden removed and dumped in nearby area within ML area. Having said the above, the vigorous plantation initiative by SCCL has turned the OB dump yards into dense plantation area. The details of Plantation and images of plantation are as follows,

13.7.1 Plantation with type of species along with Photographs

13.7.1.1 Plantation Details

Table 13.11 Details of Plantation

Sl.No	Description	Area in ha.
1	External Dump Yard	115
2	Internal Dump Yard	27.5
3	Vacant Land within Mining Lease Area	35
4	Avenue Plantation within Mining Lease Area	9.4
5	Gap Plantation in Forest Land between Mine Boundary and R&B Road beyond mandate	80
6	Safety Zone Area of 136.50 Ha. Of Forest Land diverted for JVR OC-I Expn.	52
Total		318.9

13.7.1.2 Details of Species planted:

- Trees in the Core zone

Table 13.12 Most dominant tree species in the Core zone

S.No.	Name of the taxa	Family	A	D	F	RA	RD	RF	IVI
1	<i>Hardwickia binata</i>	Leguminosae	5.00	2.14	42.86	10.00	15.31	7.89	33.20
2	<i>Lannea coromandelica</i>	Anacardiaceae	2.00	1.71	85.71	4.00	12.24	15.79	32.03
3	<i>Diospyros melanoxylon</i>	Ebenaceae	3.50	2.00	57.14	7.00	14.29	10.52	31.81
4	<i>Diospyros chloroxylon</i>	Ebenaceae	5.50	1.57	28.57	11.00	11.22	5.26	27.49
5	<i>Pterospermum xylocarpum</i>	Malvaceae	4.00	1.14	28.57	8.00	8.16	5.26	21.43
6	<i>Chloroxylon swietenia</i>	Rutaceae	6.00	0.86	14.29	12.00	6.12	2.63	20.75
7	<i>Anogeissus latifolia</i>	Combretaceae	2.50	0.71	28.57	5.00	5.10	5.26	15.36
8	<i>Strychnos nux-vomica</i>	Loganiaceae	2.00	0.57	28.57	4.00	4.08	5.26	13.34

- **Shrubs in the Core zone**

Table 13.13 Most dominant shrub species in the Core zone

S.No.	Name of the taxa	Family	A	D	F	RA	RD	RF	IVI
1	<i>Ixora pavetta</i>	Rubiaceae	5.60	4.00	71.43	15.95	36.36	17.86	70.18
2	<i>Carissa carandas</i>	Apocynaceae	4.50	1.29	28.57	12.82	11.69	7.14	31.65
3	<i>Canthium coromandelicum</i>	Rubiaceae	2.00	1.14	57.14	5.70	10.39	14.29	30.37
4	<i>Getonia floribunda</i>	Combretaceae	4.00	1.14	28.57	11.40	10.39	7.14	28.93
5	<i>Helicteres isora</i>	Malvaceae	2.50	0.71	28.57	7.12	6.49	7.14	20.76

- **Herbs in the Core zone**

Table 13.14 Most dominant herb species in the Core zone

S.No.	Name of the taxa	Family	A	D	F	RA	RD	RF	IVI
1	<i>Aristida adscensionis</i>	Poaceae	4.17	3.57	85.71	11.06	35.71	26.05	72.83
2	<i>Spermacoce hispida</i>	Rubiaceae	6.00	1.71	28.57	15.93	17.14	8.68	41.75
3	<i>Heteropogon Contortus</i>	Poaceae	6.00	0.86	14.29	15.93	8.57	4.34	28.84
4	<i>Hemidesmus Indicus</i>	Apocynaceae	2.00	0.86	42.86	5.31	8.57	13.03	26.91
5	<i>Pavonia zeylanica</i>	Malvaceae	2.50	0.71	28.57	6.64	7.14	8.68	22.46
6	<i>Hemigraphis latebrosa</i>	Acanthaceae	3.00	0.43	14.29	7.96	4.29	4.34	16.59
7	<i>Justicia vahlii</i>	Acanthaceae	2.00	0.29	14.29	5.31	2.86	4.34	12.51

13.7.2 Images of Plantation

Fig.13.7 External Dump Plantation





Fig.13.8 Internal Dump Plantation



Fig. 13.9 Avenue Plantation inside mine





Fig. 13.10 Avenue Plantation Outside mine



Fig.13.11 Block Plantation Outside mine



It is thus concluded that no violation is accounted under impact on ecology, biodiversity and Greenbelt since Surplus plantation is done in both core and ML boundary areas, which has helped to mitigate the loss due to ecological degradation or loss of biodiversity. In fact, according to latest Wildlife Conservation plan approved by department of forest reported returning of wildlife in the core as well as buffer regions.

13.7.3 Impact on Flora Fauna

13.7.3.1 Core Zone

The excess production was excavated from area as envisaged in EC. No additional land was acquired for achieving excess production. Therefore, the impact of Flora in core zone due to excess production over and above approved EC is Nil. However to bring the land near to original usage, plantation is being taken up as per approved EMP.

13.7.3.2 Buffer Zone

Major source of impact on flora in buffer zone is the air borne dust deposition. The predicted levels air pollution in buffer zone has been calculated through AERMOD software in the previous section. Based upon the air quality modelling there are 2 villages are coming under the impacted zone The type of land falling within the impacted zone ($> 10 \mu\text{g}/\text{m}^3$) is given in the Table 13.5

Table 13.15 Area of Land within Impacted area

Type of Land	Area of Land within Impacted area in ha			
	Siddaram		Kistaram	
	2001	2011	2001	2011
Total Geographical Area	820.40	822	1776	1776
Forest Land	0	0	759.4	750
Area under Non-Agricultural Uses	170	133	256.4	155
Barren & Un-cultivable Land Area	100.8	45	0	77
Permanent Pastures and Other Grazing Land	0	94	0	87
Land Under Miscellaneous Tree Crops etc.	0	0	0	0
Cultivable waste	130.4	0	280	93
Fallows Land other than Current Fallows Area	0	0	0	0
Current Fallows area	0	75	209	469
Net Area Sown	405.2	475	257.4	145

Based on the pattern of incremental fugitive dust concentrations in buffer zone, it has been identified that the total land covered with vegetation including forest, Plantation & shrub area and Agricultural land within the zone of impact is 1332.2 ha. The incremental dust emission might have adversely impacted the productivity and growth pattern of the vegetation that has been spread over 2311 ha of land in buffer zone. Hence, impact due to excess mining on ecology, flora and fauna has been considered and the mitigation measures have been proposed in damage remediation plan.

13.8. Impact due to Noise and Vibration

The major source of noise and vibration due to mining and its allied activities are as listed below.

- Drilling and Blasting
- Heavy Machinery
- Movement of coal transportation vehicles.

Existing Control Measures

- Controlled blasting is being practiced.
- Blasting is being done at specific time and care is being taken that no person is present in the vicinity during the time of blasting.
- Noise proof AC cabins were provided to all equipment and workmen who are susceptible to heavy noise exposure have been provided with ear muffs and sound proof operator cabins.

The noise levels monitored in the previous years by EPTRI are as given below.

Table 13.16 Noise Monitoring Data Location: Sattupalli Village

Year	Noise levels in dBA (Day Time)				Permissible limit
	June	Sept.	December	March	
2014-15	52.7	54.6	52.2	50.5	55
2015-16	49.4	50.5	52.6	50.8	55
2016-17	49.4	53.5	47.9	50.1	55
2017-18	49.6	49.9	50.4	49.9	55

From the above table, it is observed that there is no significant damage due to noise resulted due to mining activities. The permission obtained for controlled blasting including scientific study is enclosed as Annexure 2K.. As no permanent structure exists within 300 m from the working faces of the mine, there is no significant damage from vibration. Therefore, this impact has been considered as low and accordingly, mitigation measures have been suggested in the remediation plan to compensate the violation.

13.9. Impact due to Socio-Economic Environment

There is no direct adverse impact that can be observed due to violation activity on the socio economic status of nearby villagers. In turn coal handling and despatch activities of excess production have created excess income to the villagers.

Table 13.17 Total Population

Impacted Villages	Total Population	
	As per Census 2001	As per Census 2011
Siddaram	2217	3924
Kistaram	3666	3339

Table 13.18 Demographic profile of Siddaram village

Components	Siddaram		Kistaram	
	2001	2011	2001	2011
Total	2217	3924	3339	3666
Male	1135	1970	1749	1914
Female	1082	1954	1590	1752
0-6 years	259	384	438	313
SC	528	782	1676	1819
ST	630	798	9	119
Literates	1112	2247	1705	2256
Total workers	1084	1834	1723	1590
Main workers	1058	1711	1571	500
Marginal workers	26	123	152	1090
Non-workers	1133	2090	1616	2076

13.9.1 Preventive/ Mitigate measures adopted

CSR activities are carried out continuously. More emphasis of CSR is in drinking water, infrastructure, sanitation, education, skill development, social empowerment, water management, environment, sports and health.

13.10. Occupational Health & Safety

Due to increased pollution load and mining activities in the period of violation, health of the workmen and villagers living within the vicinity of the project may get affected.

13.10.1 Impact Assessment & Measures implemented

- To examine the health status of workmen who are exposed to extreme working conditions, periodic PME checks have been taken up.
- Safety inspections are being done periodically by Safety Officer of the project to check if there is any non-compliance.
- A buffer health status comparison was made, according to which, the field survey health data revealed that large numbers of respondents are affected by general health problems like Asthma, General fever, Headache, Knee pains, Joint pains, Body pains

and Diabetic prevailing health problems observed in the study area. Data collected from area hospital Sathupalli, it is observed that 16 cases for dengue in Siddaram village

- Health camps are being organized in the nearby villages to check the health status.
- Additional health camps have been proposed.
- PME report suggests that there is no adverse health impact on workmen due to dust.
- From the last 5 year's health status of villagers, the major diseases reported were body aches, and skin infection etc. and there was no instance of occupational diseases such as pneumoconiosis.

Table13. 19. Details of medical camps held in Sathupalli

SL. No	Year	Place	No. of persons attended	Persons undergone Cataract Surgery
1.	2003	Sathupalli	6000	200
		Vemsur	5130	175
2.	2006	NTR Nagar	4006	104
		Rejarla	4219	115
3.	2008	Rejarla	4700	320
4.	2013	Surrounding Villages	549	185
5.	2014	Surrounding Villages (Kistaram, Kommepalli, Rejarla, Jagannadhapuram, NTR Nagar)	806	-
6.	2017	Surrounding Villages (Kistaram, Kommepalli, Rejarla, Jagannadhapuram, NTR Nagar)	358	-
7.	2018	Surrounding Villages (Kistaram, Kommepalli, Rejarla, Jagannadhapuram, NTR Nagar)	491	-
8.	2019	Surrounding Villages (Kistaram, Kommepalli, Rejarla, Jagannadhapuram, NTR Nagar, Lankapalli, Gowrigudem, Cherukupalli, vengala rao Nagar, Tallamada, Kottur, Kakarlapalli, Chowdavaram)	956	-
		NTR Nagar	267	
Total			27,482	1099

Table 13.20 PME Target & Achievement

Year	PME	
	Target	Achievement
2014	134	134
2015	99	99
2016	142	142
2017	129	129
2018	61	60 - One person long absent

Table 13.21 Safety Material issued year-Wise along with Cost

JVR OC-I Expn Mine List of Personal protective Equipment supplied to employees along with cost year wise during the violation period													
Year	Shoes		Helmets		Ear plugs		Dust masks		Gloves		Safety Belts		Total cost in Rs.
	Units	Price	Units	Price	Units	Price	Units	Price	Units	Price	Units	Price	
2007-08	260	72800	52	2704	143	2574	107	2033.00	0	0	0	0	80111.00
2008-09	380	121600	58	3016	130	2340	113	2147.00	0	0	0	0	129103.00
2009-10	545	205124.50	69	3588	300	5400	0	0.00	0	0	0	0	214112.50
2010-11	541	142710.50	70	4103.8	0	0	0	0.00	0	0	0	0	146814.30
2011-12	345	90988.35	90	5953	500	9000	0	0.00	0	0	0	0	105941.35
2012-13	496	140863.00	344	30021.36	1350	24300	0	0.00	0	0	0	0	195184.36
2013-14	509	198177.50	225	16585.94	500	9000	100	1900.00	4	1970.08	0	0	227633.52
2014-15	719	189638.13	196	148555.96	0	0.00	100	1900.00	0	0.00	0	0.00	340094.09
2015-16	411	109956.00	47	4089.70	0	0.00	300	5700.00	0	0.00	3	1380.00	121125.70
2016-17	2060	629211.00	377	32231.58	2000	36000.00	0	0.00	4	988.68	10	9450.00	707881.26
2017-18	0	0.00	0	0.00	0	0.00	2800	53200.00	8	156880.44	0	0.00	210080.44
2018-19	675	306299.00	165	14577.30	0	0.00	0	0.00	15	10023.70	6	5670.00	336570.00
2019-20	1514	404047.00	333	29718.14	500	9000.00	500	9500.00	200	24626.00	8	7560.00	484451.14
Total	7815	2611414.98	2026	295144.78	5423	97614.00	4020	76380.00	231	194488.90	27	24060.00	3299102.66
Total Cost in Crores													0.33

13.11. REMEDIATION PLAN AND COST

S.No.	Component Remediation	Remediation Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I	Year II	Year III
1a.		Dust suppression	Providing water sprinkling via mobile tankers (360 Days/ Year).	Coal transportation road near ML boundary area and CC roads of villages in the downwind direction. (Vengalrao nagar, Rejarla, sathupalli).	3,000/day	1080	32,40,000	10,80,000	10,80,000	10,80,000
1b.	Air & Noise Environment and Ecology	Monitoring of ambient air quality within buffer zone towards downwind direction	As per Central Pollution Control Board (CPCB) guidelines for National Ambient Air Quality Standards (NAAQS).	1. Vengalrao nagar 2. Sathupalli 3. Kakarlipalli 4. Siddaram 5. Rejarla 6. NTR nagar	2,000/Sample (PM 2.5 & 10, SoX and NoX.)	432	8,64,000	2,88,000	2,88,000	2,88,000
1c.		Avenue Plantation	Plantation of total 7000 Nos native plants at Rs.1000 per sapling, including maintenance for 3 years in nearby 6 villages.	1. Satupalli – 2000 Nos 2. Rejarla - 1000 Nos 3. Cheruku palli - 1000 Nos 4. Kothuru - 1000 Nos 5. Kommugudem- 1000 Nos 6. Kistaram - 1000 Nos	1,000	7000	70,00,000	25,00,000	25,00,000	20,00,000
Sub-Total – A (1a+1b+1c)							1,11,04,000	38,68,000	38,68,000	33,68,000
2a.	Water Environment	Construction and annual maintenance of 100 Nos Rain Water Harvesting in nearby village	Construction of RWH-100 Nos @ 2,50,000/per RWH (including raw material, labour, construction and maintenance for one year)	1. Sathupalli 2. Kistaram 3. Cheruku palli 4. Rejarla 5. Kommugudem	2,50,000	100	2,50,00,000	90,00,000	80,00,000	80,00,000

S.No.	Component Remediation	Remediation Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I	Year II	Year III
2b.		De-silting and Beautification of tanks, construction of new water tanks & open wells in nearby areas	Lumpsum cost including Materials, labour, construction and maintenance for one year	1. Kistram cheruvu. 2. Jaganathpuram cheruvu 3. Kothuru cheruvu 4. Jeenugupalli (New Tank)	LS	LS	2,00,00,000	70,00,000	70,00,000	60,00,000
2c.		Supply of potable water in surrounding villages.	RO plants of 1000 litres capacity with installation and 3 years maintenance in nearby villages@ 9, 00,000 per plant in the village panchayat office.	1. Vengalrao nagar 2. Kistaram 3. Kakarlipalli 4. Lingapallem 5. Rejarla@2 6. Ayyagari peta 7. NTR Nagar 8. Kothuru 9. Dwaraka Nagar 10. Gourigudem 11. Cheruku palli (R&R center) 12. Virat Nagar	900000	13	1,17,00,000	40,00,000	40,00,000	37,00,000
Sub-Total – A (2a+2b+2c)							5,67,00,000	2,00,00,000	1,90,00,000	1,77,00,000
Grand Total A +B (Rs.)							6,78,04,000	2,38,68,000	2,28,68,000	2,10,68,000

13.12. Natural & Community Resource Augmentation

Natural Resource Augmentation plan specific to the region along with action plan with a budget of Rs. **5,06,00,000** (Rs. 506 Lakhs) and The community resources development plan specific to the region along with action plan with a budget of Rs. **14,42,00,000** (Rs. 1442 Lakhs) is given in **Table below**.

S.No	Component	Activity Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I	Year II	Year III
1a.	Natural Resource Augmentation Plan	Energy Conservation by adapting Green Energy technology.	Providing 1 KW Capacity Solar Lighting system (includes panels, inverters, wiring, structure, connectors, junction boxes, etc.) in nearby 5 villages as per requirement of village panchayats at Rs.50,000 per unit	1. Sathupalli 2. Kistaram 3. Rejarla 4. Ayyagari peta 5. Kommugudem	50,000	200	1,00,00,000	40,00,000	30,00,000	30,00,000
1b.			Solar water pump sets of 5 HP capacity for agriculture (including panels, inverters, wiring, structure, connectors, junction boxes, etc.) in nearby 4 villages as per the requirement of village Panchayats @ Rs.3,00,000 per unit.	1. Kistaram 2. Rejarla 3. Kothuru 4. Kommugudem	3,00,000	130	3,90,00,000	1,30,00,000	1,30,00,000	1,30,00,000
1c.		Improvement of Public Sanitation	Providing 10 no's Bio toilets in Sathupalli town.	Sathupalli town.	1,60,000	10	16,00,000	6,00,000	5,00,000	5,00,000
Sub-Total – A (1a+1b+1c)							5,06,00,000	1,76,00,000	1,65,00,000	1,65,00,000

S.No	Component	Activity Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I	Year II	Year III
1a.	Community Resource Augmentation Plan	Development of Infrastructure	Construction of CC Roads with drains and bore wells in the nearby villages.	1. Kistaram 2. Rejarla 3. Kothuru	1,00,00,000	3	3,00,00,000	1,00,00,000	1,00,00,000	1,00,00,000
1b.			Construction of Godown for storage of the agriculture products in the nearby villages (Dimensions 20 Mtrs x 8 Mtrs x 6 Mtrs)	1. Rejarla 2. Kothuru	50,00,000	2	1,00,00,000	40,00,000	30,00,000	30,00,000
1c.			Repair of road and road widening	Repair of road from VM Banjar to sathupalli town (20 Km) and widening of the y -junction near kistaram raised in the PH.	LS	LS	5,00,00,000	2,00,00,000	2,00,00,000	1,00,00,000
1d.			Construction of Community hall in the nearby villages.(300 Sq M Each)	1. Kistaram 2. Rejarla 3. Kothuru	74,00,000	3	2,22,00,000	75,00,000	75,00,000	72,00,000
1e.			Construction of community health centres in the nearby villages	1. Kistaram 2. Rejarla 3. Kothuru	90,00,000	3	2,70,00,000	90,00,000	90,00,000	90,00,000
					Development of New Urban park	1. sathupalli town 2. Kothuru	LS	2	50,00,000	20,00,000
Sub-Total – B (1a+1b+1c+1d+1e)							14,42,00,000	5,25,00,000	5,15,00,000	4,02,00,000
Grand Total A +B (Rs.))							19,48,00,000	7,01,00,000	6,80,00,000	5,67,00,000

13.13. Economic Benefits Accrued Due to Violation**13.13.1 Part A- EMP Cost of the Project****Table 13.22 Capital Expenditure**

S.NO.	DESCRIPTION	ITEM	Amount in Rs.
1.	Air and water quality management and monitoring	Pollution Monitoring Facilities	0.60
		Effluent Treatment Incl. Oil and Grease Trap	0.11
		Sewage Treatment Plant/Septic Tanks etc.	0.25
		Environmental Baseline Data Generation	0.20
		Raw Water Storage Tank and Pump House for Dust Suppression	0.20
		Asphalting of Roads Including Side Drains and Avenue Plantation - Approach Road To Mine & Permanent Haul Road	1.20
		Construction Of Toe Walls, Check Dams, Cribs etc.	0.64
		Garland Drains	0.30
		Constructions of Check Dams	0.10
		Fencing around the Quarry	0.20
2.	Green belt development	Green Belt Development Around Quarry, Colony, Service Buildings Etc., and Over The Reclaimed Area and OB Dumps and Compensatory Afforestation	4.42
3.	Plant & Machinery Proposed to be Used for Pollution Control	28 Kl Water Sprinklers (@Rs70.00 Lakhs/Unit)	2.80
		320 Hp Dozers (@ Rs. 120.00 Lakhs/Unit)	3.10
		Floats & Assemblies For Water Sprinklers & Dozers	0.50
TOTAL (In Crores)			14.62

Table 13.23 Recurring Expenditure

Sl.No.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total
1	Air Pollution (Prevention & Control)	4.05	4.35	4.4	4.2	5.53	6.8	4.42	6.27	5.56	6.4	5.35	57.45
2	Water Pollution(Prevention & Control)	1.14	2.24	2	3.5	3.01	4.3	3.48	3.79	3.06	3.8	3.41	33.62
3	Maintenance and repairs of Reclamation HEMM	0.43	0.83	1.3	1	0.65	1	0.06	0.05	1.05	0.5	0.7	7.5
4	Plantation	0.15	0.21	0.4	0.3	0.35	0.5	0.49	0.51	0.49	0.5	0.46	4.37
5	Consultancy Payments/Scientific Studies	0	0	0	0	0	0	0	0.01	0	0	0	0.01
TOTAL (In Crores)		5.87	9.13	9	9.1	9.74	13	8.65	11.2	10.3	11	9.93	102.95

SCCL had made necessary provisions for Continuous Environmental monitoring program, hence No EMP Cost was saved during the violation period of 11 years

Part B- Profit Accrued During Violation Period

Year	EC capacity (MTPA)	Actual Coal Production in MTPA	Excess Production more than EC capacity (MTPA)	NET benefit of excess production (In Crores)
2007-08	2.5	1.917	NA	NA
2008-09		2.679	0.179	3.38
2009-10		3.573	1.073	20.07
2010-11		3.529	1.029	11.52
2011-12		4.135	1.635	23.87
2012-13		3.963	1.463	37.16
2013-14		4.898	2.398	40.53
2014-15		4.500	2.00	133.80
2015-16		4.545	2.045	49.69
2016-17		5.219	2.719	60.36
2017-18		4.955	2.455	93.29
2018-19		4.710	2.210	114.92
Total		48.623	19.206	588.60

The total net profit gained on account of excess production is Rs 588.60 Crores. 3% of this amount is Rs.17.65 Crores, will be contributed to remediation, Natural & Community resource augmentation plan cost.

13.14. Corporate Environmental Responsibility (CER)

The Total Investment made for the project is Rs. 106.76 Crores. Hence, the total cost for CER has been calculated as per notification dated 1st May, 2018 is mentioned in following table.

S.NO.	AS PER MOEF&CC NOTIFICATION DATED 1 ST MAY, 2018	OUR CAPITAL INVESTMENT (IN RS.)	GREENFIELD PROJECT - % OF CAPITAL INVESTMENT	COST (IN LAKHS)
1	100 Crores	100 Crores	1%	100.00
2	> 100 to 500 Crores	6.76 Crores	0.75%	5.07
Total				105.07

Following work will be done under CER in 3 years after the accordance of EC of the project

Sl. No.	Area of Focus	Proposed Action	2020 - 21	2021 - 22	2022 - 23	TOTAL (Rs.)
			Year wise cost (Rs.)			
1.	Green Energy	Providing 1 KW Capacity Solar Lighting system (includes panels, inverters, wiring, structure, connectors, junction boxes, etc.) in nearby 3 villages as per requirement of village panchayats at Rs.50,000 per unit	15,00,000	15,00,000	10,00,000	40,00,00
2.	Drinking Water	RO plants of 1000 litres capacity with installation and 3 yrs maintenance in nearby 3 villages @ 10,00,000 per plant in the village panchayat office.	10,00,000	10,00,000	10,00,000	30,00,000
3.	Education	Infrastructure like provision of computers to surrounding 3 Villages	15,00,000	10,00,000	10,00,000	35,00,000
Total						105,00,000

13.15. Budget for remediation plan, natural resource augmentation plan and community resource augmentation plan

The summary of amounts which will be spent for Remediation Plan, Natural Resource Augmentation Plan and Community Resource Augmentation Plan is given below.

Sl. No.	Description	Estimated cost (Rs. in Lakhs)
1	Remediation Plan	678
2	Natural Resources Augmentation Plan	506
3	Community Resources Augmentation Plan	1442
Total		2626

Detail of Remediation Plan, Natural Resource Augmentation Plan and Community Resource Augmentation Plan along with budget and action plan is given above.

Life of the project is up to 2020-21 only as per duly approved mining plan.
