



**The Singareni Collieries Company Limited**  
(A Government Company)

**Regd. Office:**

Kothagudem Collieries - 507 101,  
Bhadrachalam Road Rly Station,  
Bhadradi Kothagudem District - Telangana.

Director (P&P) : 08744 - 242328  
GM (CP&P) : 08744 - 243108  
GM (ENV) : 08744 - 243059  
Fax : 08744 - 244115 / 242305  
E.Mail : gm\_env@scclmines.com

Ref.No. CRP/ENV/IA/ 405/4415

Date:08.07.2021

To  
The Member Secretary (Coal Mining),  
Ministry of Environment, Forest and Climate Change,  
Indira Paryavaran Bhawan, Jor Bagh Road,  
New Delhi - 110 003.

Sir,

Sub: Submission of reply for the ADS pertaining to Jalagam Vengala Rao Opencast (I&II Expansion) Project of M/s The Singareni Collieries Company Ltd. for grant of EC – Reg.

Ref.: 1. Proposal No. IA/TG/CMIN/171196/2019  
2. Minutes of the 10<sup>th</sup> EAC meeting held on 22.03.2021.

\*\*\*

Kind attention is invited on the subject cited. It is to submit that Jalagam Vengala Rao Opencast Mine (I&II Expansion), located at Kommepalli village near Sathupalli town, Sathupalli Mandal, Khammam District of Telangana State of The Singareni Collieries Company Limited was deliberated for grant of EC during the 10<sup>th</sup> EAC (Agenda item No.10.1) meeting held on 22.03.2021. Vide reference (2), the EAC sought additional information to be submitted.

In this regard, point-wise reply is being submitted for your kind perusal. It is requested to kindly consider the proposal in the ensuing EAC meeting for grant of EC.

Yours Sincerely,

  
General Manager  
Environment

Encl: ADS Reply

## ADS Reply

Sl.No.	Information	Status
i)	PP shall submit Past Production details of both the said mines since inception of mine duly authenticated by departments of Mine and Geology Government of Telangana or from Coal Controller vis-à-vis CTO.	<p>Past production details of both the mines since inception are authenticated by the Department of Mines and Geology, Government of Telangana.</p> <p>Copy of authentication is enclosed as <b>Annexure-A.</b></p>
ii)	Fresh certified compliance report from Ministry's Regional Office shall be obtained and accordingly also submit action taken report of both the ECs (JVR- OC I and JVR OC II).	<p>Deputy Director, MoEF&amp;CC, Integrated Regional Office, Hyderabad inspected both the projects on 30<sup>th</sup> April, 2021 and issued certified compliance report for both the ECs. Accordingly, action taken report was submitted.</p> <p>Certified compliance reports of both the ECs along with the action taken report are furnished as <b>Annexure B-1 and B-2.</b></p>
iii)	PP should submit details of control blasting with adequate safeguard for nearby people.	<p>Controlled blasting is being carried out as per the permission obtained from the DGMS based on the recommendations of scientific studies carried out by CIMFR, Dhanbad to control ground vibrations, noise and fly rock.</p> <p>The measures being taken as per the conditions are furnished hereunder:</p> <ul style="list-style-type: none"> <li>• Suitable supervision</li> <li>• Regulating the explosive charge per delay so as to limit the vibrations to PPV of 10mm/s with a frequency more than 8 Hz.</li> <li>• Limiting the charge per delay to 100Kg for blasting up to 200m and 50 Kg while blasting up to 125m.</li> <li>• Avoidance of secondary blasting by using rock breaker</li> <li>• Safe initiation direction of the face with respect to nearest structure,</li> <li>• Avoidance of blasting in crushed/ broken/ sliced ground.</li> <li>• Adequate burden distance and stemming column</li> <li>• Muffling of shot holes, etc.</li> </ul> <p>Copy of control blasting permissions is enclosed as <b>Annexure-C.</b></p>

Sl.No.	Information	Status																																																												
iv)	PP should conduct Noise and vibration monitoring in nearby habitation/villages during day and night for 1 month.	<p>Ambient noise in surrounding villages is being monitored once in a fortnight as a part of PPEM and blast induced ground vibrations are being monitored daily. All the noise and vibration readings are within the prescribed limits.</p> <p>However, as per the advice of EAC, Noise and vibration monitoring has been carried out through third party in nearby habitation/villages for 1 month. Details are as follows:</p> <p>i. Hourly monitoring of ambient noise has been carried out at six locations from 27<sup>th</sup> April, 2021 to 26<sup>th</sup> May, 2021, through EPTRI, Hyderabad. It is observed that the noise levels in terms of Leq (day) and Leq (night) are well within the stipulated standards at all the locations. Summary of the observations is as follows:</p> <table border="1" data-bbox="799 1070 1445 1464"> <thead> <tr> <th rowspan="2">Station</th> <th rowspan="2">Distance</th> <th rowspan="2">Direction</th> <th colspan="2">Leq Day</th> <th colspan="2">Leq Night</th> </tr> <tr> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>NTR Nagar</td> <td>0.9</td> <td>E</td> <td>46.8</td> <td>52.1</td> <td>36.7</td> <td>43.0</td> </tr> <tr> <td>Vengalarao Nagar</td> <td>0.12</td> <td>N</td> <td>46.6</td> <td>51.6</td> <td>34.7</td> <td>42.0</td> </tr> <tr> <td>Rejarla</td> <td>0.82</td> <td>S</td> <td>49.0</td> <td>52.9</td> <td>36.5</td> <td>42.4</td> </tr> <tr> <td>Kistaram</td> <td>1.23</td> <td>NW</td> <td>47.9</td> <td>52.1</td> <td>36.3</td> <td>40.9</td> </tr> <tr> <td>Jinugupalli</td> <td>0.28</td> <td>E</td> <td>48.6</td> <td>53.0</td> <td>38.1</td> <td>43.8</td> </tr> <tr> <td>Pallewada</td> <td>3.15</td> <td>SW</td> <td>47.9</td> <td>51.7</td> <td>36.6</td> <td>39.5</td> </tr> <tr> <td colspan="3">Standards</td> <td colspan="2">55</td> <td colspan="2">45</td> </tr> </tbody> </table> <p>The monitoring report is furnished in <b>Annexure D-1</b>.</p> <p>ii. Blast induced ground vibrations and air overpressure are monitored for 346 blasts at 5 different locations through Uttam Blastech Pvt. Ltd., Hyderabad. Each blast was monitored with 5 No.s of Seismographs. Readings are triggered for only five blasts at one location (Near Sattemma Temple Rejarla). In other four locations no reading was triggered. Minimum and maximum PPV triggered are 0.508 mm/sec and 0.635 mm/sec</p>	Station	Distance	Direction	Leq Day		Leq Night		Min	Max	Min	Max	NTR Nagar	0.9	E	46.8	52.1	36.7	43.0	Vengalarao Nagar	0.12	N	46.6	51.6	34.7	42.0	Rejarla	0.82	S	49.0	52.9	36.5	42.4	Kistaram	1.23	NW	47.9	52.1	36.3	40.9	Jinugupalli	0.28	E	48.6	53.0	38.1	43.8	Pallewada	3.15	SW	47.9	51.7	36.6	39.5	Standards			55		45	
Station	Distance	Direction				Leq Day		Leq Night																																																						
			Min	Max	Min	Max																																																								
NTR Nagar	0.9	E	46.8	52.1	36.7	43.0																																																								
Vengalarao Nagar	0.12	N	46.6	51.6	34.7	42.0																																																								
Rejarla	0.82	S	49.0	52.9	36.5	42.4																																																								
Kistaram	1.23	NW	47.9	52.1	36.3	40.9																																																								
Jinugupalli	0.28	E	48.6	53.0	38.1	43.8																																																								
Pallewada	3.15	SW	47.9	51.7	36.6	39.5																																																								
Standards			55		45																																																									

Sl.No.	Information	Status																																								
		<p>respectively. Minimum and maximum Air over pressure recorded are 110.9 dB(A) and 127.3 dB(A) respectively.</p> <p>It is observed that the blast induced ground vibrations are within the stipulated standards. Summary of observations is as follows.</p> <table border="1" data-bbox="799 584 1445 913"> <thead> <tr> <th rowspan="2">Station</th> <th rowspan="2">Instrument distance from Blast site (m)</th> <th colspan="2">PPV (mm/sec)</th> <th colspan="2">Air Over Pressure dB(A)</th> </tr> <tr> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>Near Sattemma Temple, Rejarla</td> <td>501-2976</td> <td>0.508</td> <td>0.635</td> <td>110.9</td> <td>127.3</td> </tr> <tr> <td>Vengalarao Nagar</td> <td>1756-4126</td> <td>NR</td> <td>NR</td> <td>NR</td> <td>NR</td> </tr> <tr> <td>NTR Nagar/Colony</td> <td>2730-4284</td> <td>NR</td> <td>NR</td> <td>NR</td> <td>NR</td> </tr> <tr> <td>Jinugupalli Village</td> <td>2130-3748</td> <td>NR</td> <td>NR</td> <td>NR</td> <td>NR</td> </tr> <tr> <td>Rejarla Village</td> <td>972- 3599</td> <td>NR</td> <td>NR</td> <td>NR</td> <td>NR</td> </tr> </tbody> </table> <p style="text-align: center;"><i>NR: Not Recorded (Readings Below Trigger Limit)</i></p> <p>The monitoring report is furnished in <b>Annexure D-2.</b></p>	Station	Instrument distance from Blast site (m)	PPV (mm/sec)		Air Over Pressure dB(A)		Min	Max	Min	Max	Near Sattemma Temple, Rejarla	501-2976	0.508	0.635	110.9	127.3	Vengalarao Nagar	1756-4126	NR	NR	NR	NR	NTR Nagar/Colony	2730-4284	NR	NR	NR	NR	Jinugupalli Village	2130-3748	NR	NR	NR	NR	Rejarla Village	972- 3599	NR	NR	NR	NR
Station	Instrument distance from Blast site (m)	PPV (mm/sec)			Air Over Pressure dB(A)																																					
		Min	Max	Min	Max																																					
Near Sattemma Temple, Rejarla	501-2976	0.508	0.635	110.9	127.3																																					
Vengalarao Nagar	1756-4126	NR	NR	NR	NR																																					
NTR Nagar/Colony	2730-4284	NR	NR	NR	NR																																					
Jinugupalli Village	2130-3748	NR	NR	NR	NR																																					
Rejarla Village	972- 3599	NR	NR	NR	NR																																					
v)	PP should submit the point wise reply of Public Hearing with timeline and fund allotted. Proper response of public consultation with regard to pollution mitigation measures and demands of local people	Point wise reply of Public Hearing with timeline and fund allotted is enclosed as <b>Annexure -E.</b>																																								
vi)	Expenditure incurred for wildlife conservation, submitted during earlier ECs.	<p>Wild life conservation plan for JVR OC-II was prepared for Rs.134.07 Lakhs and deposited with Forest Department for implementation.</p> <p>In addition, Wild life conservation plan was also prepared for the proposed JVR OC Mine (I&amp;II Expansion) for an amount of Rs.2.57 Crores, which was approved by the Principal Chief Conservator of Forest (HoFF) and Chief Wild life Warden (FAC), TS.</p> <p>SCCL will deposit funds in favor of State Forest Department on obtaining the actual demand and the Forest department will implement the works.</p>																																								
vii)	PP should submit Effectiveness report of road and vegetation checked by authority.	<p>Effectiveness report of road and vegetation from Sathupalli to Penuballi road is obtained from R&amp;B department and enclosed as <b>Annexure-F-1.</b></p> <p>Remaining road between Penuballi to Rudrampur road comes under NH-221, which</p>																																								

Sl.No.	Information	Status
		<p>is a built-on-toll road where operation and maintenance is being looked after by NHAI. It is proposed to take up plantation along this road during this monsoon as a part of Telangana Harithaharam Programme.</p> <p>Photos of Vegetation are furnished as <b>Annexure-F2</b>.</p> <p>Besides this, Traffic impact assessment (TIA) study has been carried out through EPTRI, Hyderabad. From the TIA study, it is observed that there is no change in the LoS.</p>
viii)	<p>PP shall bring out the action plan for upgrading the skills of the local people already employed in the mines.</p>	<p>For upgrading the skills of the local people already employed in the mines, SCCL has been imparting trainings through company Mines Vocational Training Centre as per the MVTC Rules, 1966. The existing details as well as future action plan is as follows.</p> <ol style="list-style-type: none"> <li>a. Prior to employment - All new workers are imparted Basic/Initial training suitable to their job.</li> <li>b. On introduction of new technique/operation or machine - Connected workmen are trained in their new job prior to such engagement or employment.</li> <li>c. Once in every five years - Refresher training to all workers already employed on their job.</li> <li>d. Change of job training - To persons whenever their job is changed, suitable training prior to such employment.</li> </ol> <p>During the course of basic and refresher training, departmental HEMM operators are also being trained on simulators at Technical Training Centre, Ramagundam and OB off-loading operators are being trained through original equipment manufacturers.</p>
ix)	<p>PP should submit the fund allocated for green belt development with proper timeline. PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt</p>	<p>As per the Revised cost estimates (RCE-II) of Jalagam Vengalrao Opencast Project-II approved on 13.03.2019, vide minute No.548.5.2, Rs.40.00 Lakhs were allocated as capital cost for Green Belt Development for 2 years.</p>

Sl.No.	Information	Status
	development in and around the mining lease. PP should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years	<p>In addition, revenue cost of Rs.30.00 Lakhs per annum is allocated towards Green Belt Development &amp; Post Project Environment Monitoring throughout life of the project. Out of the Rs.30.00 Lakhs revenue fund provision, Rs.25 Lakhs will be spent towards green belt development and remaining Rs.5.00 Lakhs will be spent for post Project Environment Monitoring. If necessary, approval for any additional fund requirement beyond the estimations will be obtained.</p> <p>Copy of fund allocation is furnished as <b>Annexure-G-1.</b></p> <p>Plan of suitable scale showing the area to be covered under afforestation &amp; green belt with latitude and longitude of the area to be covered during each 5 years is furnished as <b>Annexure-G-2.</b></p>
x)	PP should submit the plan for installation of CAAQMS and its display system in the nearby habitations or at mine office.	<p>CAAQMS has been already installed at the present location in January, 2018 and its display system is provided at mine office with the consent of PCB authorities.</p> <p>CAAQMS is connected to TSPCB server in February, 2018 and real time data is available on TSPCB website.</p> <p>Photographs showing the CAAQMS station along with a sample real time monitoring report are furnished as <b>Annexure-H.</b></p>
xi)	Plan and allotted fund for maintenance and widening (if any) for road transportation (32 km) of coal till the commissioning of railway siding.	<p>It is planned for repair of existing coal transportation road from Sathupalli town to V.M.Banjar, till the commissioning of railway siding.</p> <p>Accordingly Rs.9.20 Crores were allocated for the proposal, out of which Rs.4.60 Crores were deposited to R&amp;B department and the work is under progress. The cheque deposited with R&amp;B department along with the photographs showing progress of works are furnished in <b>Annexure-I.</b></p>
xii)	PP shall study the impact Assessment and its mitigation measures w.r.t. proposed road route on receptors for	<p>EPTRI, Hyderabad has been entrusted to carry out the Impact assessment and its mitigation measures w.r.t road route.</p> <p>The study has been carried out for a period of</p>

Sl.No.	Information	Status
	environment parameters as per Ambient Air Quality standards.	<p>one month from 23<sup>rd</sup> April - 22<sup>nd</sup> May 2021, along the coal transportation route in eight villages.</p> <p>From the study of Impact Assessment, it is inferred that the environment parameters <b>PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub></b> are within the stipulated Ambient Air Quality standards.</p> <p>However, following mitigation measures will be taken/continued to maintain the air quality parameters within the standards.</p> <ul style="list-style-type: none"> <li>• Loading of trucks up to brim level of the body to prevent spillage of coal.</li> <li>• Covering of trucks with tarpaulin while transporting coal.</li> <li>• Periodic checking for vehicle fitness and oil leakages of coal transportation trucks.</li> <li>• Obtaining PUC certificates for contractual coal tippers being deployed for coal transportation.</li> </ul> <p>The report of Impact Assessment and its mitigation measures are furnished as <b>Annexure- J.</b></p>
xiii)	Ministry shall form the EAC Subcommittee to conduct site visit to analyze the prevailing condition of the current scenario and implementation of measures approved by Ministry while granting EC dated 1st February, 2021 regarding Remediation plan and Natural and Community Resource Augmentation Plan	<p>The measures approved by Ministry while granting EC dated 1<sup>st</sup> February, 2021 regarding Remediation plan and Natural and Community Resource Augmentation Plan are being implemented.</p> <p>It is planned to complete all the measures approved to be completed with in the time period of 3 years.</p> <p>The status of work progress is furnished as <b>Annexure- K.</b></p>
xiv)	PP shall propose air pollution mitigation measures for nearby villages of Kistaram and Siddaram.	<p>The following air pollution mitigation measures for Kistaram and Siddaram Village will be taken up in next three years.</p> <p><b>Village: Kistaram</b></p> <ol style="list-style-type: none"> <li>1. Deployed 12Kl water tanker for dust suppression from Pit CHP to Kistaram village at Khammam – Sathupalli PWD road, till the railway line is completed. Photos enclosed as <b>Annexure-L.</b></li> </ol>

Sl.No.	Information	Status
		<p>2. Plantation of total 7000 No. of native plants including maintenance for 3 years.</p> <p>3. Distribution of 1000 No. of fruit bearing plants.</p> <p>4. Construction of 2 km length CC Roads &amp; drains and bore wells.</p> <p>5. Repairs of road from Sathupalli to Penuballi road including Y-Junction at Kistaram Village.</p> <p><b>Village: Siddaram</b></p> <p>1. Plantation of total 1000 No. of native plants including maintenance for 3 years.</p>
xv)	Plan for utilization of washery rejects in FBC Power Plant/ Thermal Power Plant.	The guidelines issued by MoC for 'Handling and Disposal of Washery Rejects' vide F. No. CCT-13011/3/2007-CA-I (Vol-III), dated 27.05.2021 will be followed.
xvi)	PP shall check the physical characteristics of OB material for extraction of sand for its further utilization in construction activity.	<p>To check the physical characteristics of OB material for extraction of sand for its further utilization in construction activity, SCCL conducted a study through JNTU, Hyderabad.</p> <p>After the study, JNTU-Hyderabad has recommended to use the processed sand from overburden for PCC, RCC and other civil constructions.</p> <p>As such, it is proposed to establish a pilot plant of 100 TPH capacity M-Sand (Manufactured sand) Plant at MOCP, Godavarikhani under 'BOO' business mode for a period of minimum 6 years.</p> <p>As all the SCCL coal mines are located in Godavari-Pranahitha Valley Coalfield, developed with Lower Gondwana rock formations, the rock properties will be similar in all mines with least variance.</p> <p>Hence, basing on the success at MOCP-Godavarikhani and based on the marketability of the product, a plant will be proposed in future.</p>

\*\*

File No.DMG-R1 2/ML/3/2021-DMG

GOVERNMENT OF TELANGANA  
DEPARTMENT OF MINES AND GEOLOGY

Lr.No. 331406/R1-2/2021

Dated:29/06/2021

From  
D Ronald Rose, IAS  
Director of Mines & Geology(FAC)  
2<sup>nd</sup> Floor, My Home Sarovar Plaza,  
Secretariat Road, Adarsh Nagar,  
Hyderabad-500063.

To  
The Chairman-cum-Managing Director,  
M/s Singareni Collieries Company Ltd  
Singareni Bhavan, Red Hills, Khairatabad ,  
Hyderabad-500004.

Sir,

Sub Mines & Minerals - Mining Leases for Coal held by M/s Singareni Collieries Company Ltd (A Government Company) - M/s SCC Ltd - Authentication of Annual Coal Production details in respect of Mining Leases for Coal in Jalagam Vengalrao Opencast-I & II Coal Mines located near Sathupalli Town, Khammam District - Regarding.

Ref: 1.Ref No.KGM/ENV/403/70, Dt:27.04.2021 from M/s Singareni Collieries Company Limited.  
2.Lr.No.1076/M/2007, Dt:18.06.2021 from the Asst. Director of Mines & Geology., Khammam District.

\* \* \* \* \*

I invite attention to the subject and reference cited wherein through reference 1<sup>st</sup> cited M/s SCC Ltd requested for authentication of Annual Coal Production details in respect of Jalagam Vengalrao Opencast (I & II) Coal Mines located near Sathupalli Town, Khammam District for the purpose of Environmental Clearance for the proposed Jalagam Vengala Rao Opencast Mine Project-II (I & II Expansion) from 5 MPTA to 10 MPTA by integrating with adjacent Jalagam Vengal Rao Opencast-I Expansion Project of 5 MTPA production and establishing a coal washery in Village Kommepalli, Mandal Sathupalli and District Khammam of Telangana State.

Through reference 2<sup>nd</sup> cited the Asst. Director of Mines & Geology., Khammam submitted detailed report on the mining leases for Coal held by M/s SCC Ltd in the subject area alongwith the details of annual coal production since the date of inception of said two mining leases.

The details of the Mining Leases for Coal held by M/s Singareni Collieries Company Ltd and their Annual Coal Production in the subject area is as under:

S. No	Mining Lease	Location	Extent (in Ha.)	Lease Period
1	ML-I Jalagam Vengalrao Opencast-I Expansion	Sy.Nos:160 & 168 of Rajerla, Ayyavaripeta and Kistaram Villages and in Sy.No.151 to 177, 183, 184, 185, 186, 189, 197, 198, 201, 202, 205 to 215 and 297 Kistaram Village,	383.05	23.03.2005 to 22.03.2025

**File No.DMG-R1 2/ML/3/2021-DMG**

	Mine.	Sathupally Mandal, Khammam District for 20 years (Non-forest land). {G.O.Ms.No.51, Ind. & Comm. (M.III) Dept., Dated:21.02.2005}.		
2	ML-II Jalagam Vengalrao Opencast Project-II:	Compartment No.166, 167, 168 & 184 of Lankapally RF Sathupally Forest Range, Khammam District for 20 years (Forest land). {G.O.Ms.No.29, Energy(power/A1) Dept., Dt:03.11.2016}.	776.20	14.02.2017 to 13.02.2047

The details of Annual Coal Production pertaining to the aforementioned two Mining Leases for Coal are as under:

**1. ML-I: Jalagam Vengal Rao Opencast-I Expansion Mine:**

Year	Coal Production in MTPA
2007-08	1.917
2008-09	2.679
2009-10	3.573
2010-11	3.529
2011-12	4.135
2012-13	3.963
2013-14	4.898
2014-15	4.500
2015-16	4.545
2016-17	5.219
2017-18	4.955
2018-19	4.710
2019-20	3.813
2020-21	0.307

**2. ML-II: Jalagam Vengal Rao Opencast Project-II:**

Year	Coal Production in MTPA
2017-18	0.749
2018-19	2.955
2019-20	4.828
2020-21	4.756

Signature valid,  
**D. RONALD DSE**  
**DIR, M&C (F&C)**  
 Date: 2021.06.29  
 11:05:17 AM  
 Reason: Approved



**The Singareni Collieries Company Limited**

(A Govt. Company)

**Kothagudem Area.**

Ref.No.KGM/JVR/AGT/2021/302/646

Dt. 03.07.2021.

To  
Dr. E. Arockia Lenin,  
Scientist-C, MoEF&CC,  
Integrated Regional Office,  
Hyderabad-500004.

From:  
The Project Officer,  
JVR OC Project -II,  
SCCL,Kothagudem Area.

Sir,

Sub:- Compliance report on inspection of Dr. E. Arockia Lenin, Deputy Director,  
MoEF&CC JVR OCP-I(Expn) Project on 30/04/2021 – Reg.  
Ref No:- F.No. ENV/IRO-HYD/CCR-06/A/2021/ Dt.23.06.2021.

\*\*\*

With reference to the above cited subject, herewith submitting latest status on the non-compliances of EC Conditions in JVR OCP-I(Expn) Project as per the observations made by RO, MoEF&CC, Hyderabad are as following.

Sl.No.	Observation	Clarification
Cond. No. iv	Consent for operation for environment clearance (of 2.50 MTPA to 5.00 MTPA capacity) has not been obtained. It was informed that an application has been submitted to TSPCB for CFO.	Application was submitted to TSPCB to obtain CFE and CFO. CFE meeting was conducted on 26.06.2021. After issue of CFE, CFO will be obtained. Copy of CFO application is enclosed as Annexure-1.
Cond. No. v.	Approval from Central Ground Water Authority has not been obtained as stipulated.	State Ground Water Authority is authorized to issue NoC for ground water withdrawal for Mining Projects. Accordingly, Ground Water Clearance was obtained from state ground water authority . A Copy of NoC is enclosed as Annexure-2.

This is for your information and kind perusal please.

Thanking you,

Yours faithfully,

  
 Project Officer,  
 JVR OCP-I(Expn) Project

Encl: A/a.

Cc to:  
Member Secretary, MoEF&CC, New Delhi- for Information.  
GM(Env), SCCL, Corporate.  
GM, SCCL, Kothagudem Area.



**Singareni Collieries Company Limited**  
(A Government Company)  
Kothagudem Area

P.O: Venkatesh khani-507103  
Bhadrachalam Road Rly Station,  
Bhadradi Kothagudem District – T.S  
Ref.No. KGM/ENV/534/2021/ 66

Phone : 08744-250521/250795  
Fax : 08744-250536  
Email: env\_kgm@scclmines.com  
Date: 05.04.2021

To  
The Environmental Engineer,  
Telangana State Pollution control Board,  
Regional office, Kothagudem.  
Sir,

Sub: Renewal of Air and Water Consents for ONE YEAR for the existing Jalagam Vengal Rao Opencast-I Expansion Project, of capacity 5.00 MTPA under section 21 of 1981(Air Act) and under Sec.25 of 1974(Water Act) - Reg.,


Ref: CFO ORDER NO.16082281186 dt. 03.10.2016 & valid up to 30.06.2021.

\*\*\*

Application was submitted online on 03.04.2021 for renewal of CFO for Jalagam Vengalrao Opencast - I (JVR OC-I Expn.) Expansion Project for One year i.e. from 01.07.2021 to 30.06.2022 near Kommepalli Village, Sathupalli Mandal, Khammam District, Telangana State with a rated capacity of 5.0 MTPA (Flag "A") 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 and the hard copies of the same have been enclosed with required Annexure (2 sets).

Prescribed fee is being paid for a total capital of Rs.176.118 crores @ 0.009% in accordance with Telangana State Pollution Control Board(TSPCB) G.O.Ms.No.22, EFS&T(For.III) Dept, Dt:09.07.2018, stipulating revised CFO fee structure w.e.f.12.02.2018(Flag-"B").The minimum amount of fee payable for renewal of CFO for one year on the above Capital Cost under Air (Prevention & Control of Pollution) Act, 1981 and Water (Prevention & Control of Pollution) Act, 1974 will be Rs. 4,50,000 (Rupees Four Lakhs Fifty Thousand only),(i.e. Rs. 2,25,000 for Air Consent + Rs. 2,25,000 for Water Consent).

Hence, it is requested to process the consent applications for one year for Jalagam Vengal Rao Opencast-I Expansion Project, Sathupalli of capacity 5.00 MTPA in mine lease area of 544.81 ha.

  
 General Manager  
 Kothagudem Area  
 General Manager

Encl:

1. CFO Application & CFO Order No. 16082281186 dt. 03.10.2016.
2. DD for an amount of Rs. 4,50,000/-(Rs.2,25,000 for Air Consent and Rs.2, 25,000 for Water Consent) in favour of TSPCB, Kothagudem.
3. Copy of Latest E.C issued by MoEF&CC to JVROC-I Expn.Project.



**NoC For Mining Projects of Telangna State**

File no: CGWA-21/25/2021- 204  
Government of India  
Ministry of Jal Shakti  
Central Ground Water Authority  
18/11, Jamnagar House, Mansingh Road  
New Delhi – 110011  
E-mail: [cgwa@nic.in](mailto:cgwa@nic.in)  
Date –

30 MAR 2021

To,  
The Commissioner  
Rural Development Department,  
Govt. of Telangana,  
1-3-1028, DWCR Building,  
Hyderabad

**Sub: NOC for Mining Projects in respect of Telangana State as per Notified Guideline dated 24.09.2021.**

**Ref: letter No 11/SLNA/TSWALTA/NOC/2018 dated 24.09.2019**

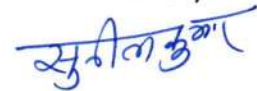
Sir,

Kindly refer your above referred letter dated 24.09.2019 on the above cited subject, vide which it was informed that issuance of NOC for ground water abstraction by mining projects is not covered under TSWALT Act 2002. In this regard, it is to mention that on the request of Government of Telangana, CGWA was processing the mining cases pertaining to the Telangana state. In the mean time new guidelines have been notified by the Department of Water Resources, Ministry of Jal Shakti, which are having pan-India applicability. CGWA has already written to all the States which are regulating themselves to prepare/ modify their guidelines in line with the provisions of newly published guidelines by Government of India.

Subsequently, during the discussion with the Ministry of Jal Shakti it has been decided that No Objection Certificate for ground water withdrawal (NOC) for all the projects including Industries, Infrastructure and Mining should be issued by the respective State Authority only.

It is therefore, requested that NOC for mining projects may also be issued by your State following the guidelines issued by Department of Water Resources, Ministry of Jal Shakti issued vide notification No. S.O. 3289 (E), dated 24.09.2020

Yours faithfully



(Sunil Kumar)  
Member CGWA

Copy to :

1. The Joint Secretary (IC & GW), RD & GR, Department of Water Resources , Ministry of Jal Shakti
2. Regional Director, CGWB, Southern Region, GSI Post, Bandlaguda, Hyderabad- 500068. With request to pursue the matter with to issue NOC for GW withdrawal for mining projects also.
3. PS to Chairman, CGWB, Faridabad.

(Sunil Kumar)  
Member CGWA



भारत सरकार  
Government of India  
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय  
Ministry of Environment, Forests & Climate change  
एकीकृत क्षेत्रीय कार्यालय  
Integrated Regional Office

3<sup>rd</sup> floor, Aranya Bhavan,  
Saifabad, Hyderabad-500004,  
Telangana.  
irohyd.mofcc@gmail.com

File No. ENV/IRO-HYD/CCR-06/A/2021/

23.06.2021

To

The Director & Member Secretary,  
Coal Mining projects, IA Division,  
Indira Paryavaran Bhavan,  
Ministry of Environment, Forest and Climate Change,  
Jorbagh Road, Aliganj,  
New Delhi – 110 003.

**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 Environmental Clearance -reg.

**Ref:** MoEF&CC F.No. 23-77/2018-IA(III) dated 01.02.2021.

Sir,

The undersigned is directed to invite your kind attention on the above subject and letter under reference wherein MoEF&CC has accorded environmental clearance to M/s. The Singareni Collieries Company Limited 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 at Village Ayyagaripeta, Mandal Sathupalli, District Khammam, Telangana. Project Proponent has requested Integrated Regional Office to issue certified compliance report. This project was monitored on 30.04.2021. Monitoring report is enclosed herewith for your information and further necessary action.

This issue with the approval of Regional Officer, IRO, MoEF&CC, Hyderabad.

Yours faithfully

(Dr. E. Arockia Lenin)  
Scientist C  
[arockia.lenin@gov.in](mailto:arockia.lenin@gov.in)

**Copy to**

1. Dr. Shruti Rai Bharadwaj, Scientist E, Monitoring Cell, IA Division, Indira Paryavaran Bhavan, Ministry of Environment, Forest and Climate Change, Jorbagh Road, Aliganj, New Delhi – 110 003.
2. The Member Secretary, Telangana State Pollution Control Board, Paryavaran Bhavan, A-3, Industrial Estate, Sanathnagar, Hyderabad-500 018, Telangana
3. The General Manager (Environment), M/s. Singareni Collieries Company Ltd., Kothakudam Collieries -507 101, Bhadrachalam Road Rly. Station, Bhadradri Kothakudam District, Telangana State (gm\_env@scclmines.com)

**(Dr. E. Arockia Lenin)**  
Scientist C

**डॉ. इ. आरुकिया लेनिन**  
**DR. E. AROCKIA LENIN**  
वैज्ञानिक 'सी'  
**SCIENTIST 'C'**  
पर्यावरण, वन एवं जलवायु परिवर्तन संचालक  
Ministry of Environment, Forest & Climate Change  
राज्य स्तरीय कार्यालय, हैदराबाद-500 004.  
State Level Regional Office, Hyderabad-500 004.

**Government of India**  
**Ministry of Environment, Forests & Climate change**  
**Integrated Regional Office, Hyderabad-500004, Telangana**

**MONITORING REPORT**

**PART - I**

1.	Project Type: River-valley / Mining / Industry / Thermal / Nuclear / Other (Specify)	Coal Mining
2.	Name of the Project	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)
3.	Clearance Letter (s) / OM No. and date	F.No.23-77/2018-IA (III), Dated 01.02.2021.
4.	Location	
	a. District (s)	Khammam
	b. State (s)	Telangana
	c. Latitude / Longitude	N 17 <sup>o</sup> 11'28.4" to 17 <sup>o</sup> 12'42.87" E 80 <sup>o</sup> 46'44.99" to E 80 <sup>o</sup> 49'26.53"
5.	Address for correspondence /	S.Venkata Chary
6.	Address of concerned Project Chief Engineer (with Pin Code & Telephone / Telex / Fax Numbers)	Project Officer S.C.Co. Ltd, Post: Sathupalli, Dist: Khammam, T.S. 507 303 oc_spl@scclmines.com 08761 - 282734, +9194911 44156 08761 - 282736
7.	Salient features	
	a. Of the Project	(a) Date of Opening
	b. Of the Environmental Management Plan	03.06.2005 (as JVR OC - I Project) 2007 (as JVR OC - I Expansion Project)
		(b) Total Life of the project as per EMP
		Completed
		Seams
		(a) No. of Seams Present
		3 (B, Index and A)
		(b) Seams being worked
		3 (B, Index and A)
		Depth
		(a) Minimum Depth
		10.28 m.
		(b) Maximum Depth
		150 m.
		(c) Present working depth
		130 m.

		Reserves	
		(a) Total Extractable Reserves	57.830 MT (Revised Estimates as per MP)
		(b) Reserves already Extracted	54.545 MT
		(c) Coal production during last 6 months	0.307MT
		Over Burden	
		(a) Total OB	170 M.Cum.( revised anticipated)
		(b) OB extracted since inception	169.858 M.Cu.m
		(c) OB removed in last 6 months	(including top soil) 0.161 M.Cu.m
		(d) Stripping Ratio(planned)	3.13 (As per revision)
		Top Soil	
		(a) Total Topsoil	5.60 M.Cu.m.
		(b) Topsoil extracted since inception	4.080 M.Cu.m.
		(c) Top Soil stored in temporary stock yard	0.413 M.Cu.m.
		Land Requirement	
		(a) Total Requirement	544.81 Ha.
		(b) Forestland Involved	380.52 Ha.
		(c) Non-forestland	164.29 Ha.
		Activity wise Land Requirement	As per EMP Present Status
		a) Quarry Area(Including Drains)	371.02 Ha. 371.02 Ha.
		b) External OB Dumps	130.39 Ha. 130.39 Ha.
		c) Infrastructures	18.14 Ha. 18.14 Ha.
		d) Road diversion	15.26 Ha. 15.26 Ha.
		e) Colony/township (To be acquired)	10.00 Ha. 10.00 Ha.
		f) Total	544.81 Ha. 544.81 Ha.
8.	Breakup of the Project affected population with enumeration of those losing houses/dwelling units only, agricultural land only, both dwelling units & both dwelling units & agricultural land & landless laborers/artisan a. SC, ST / Adivasis b. Others		
9.	Financial Details		
	a. Project costs as originally planned & subsequent revised estimates and the	131.06 Crores	(as per project authority)

	b. Allocation made for environmental management plans, with item wise break up (Capital & Recurring)	Rs. 831.74 Lakhs Recurring cost: Rs. 14.53 per ton (as per project authority)												
	c. Benefit cost ratio/ internal rate of environmental management	IRR – 100% - 51.85%												
	d. Whether (c) includes cost of environmental management as shown in (b) above	Yes												
	b. Actual expenditure incurred on the Environmental Management Plan so far	<table border="1"> <thead> <tr> <th>S.No</th> <th>Year</th> <th>Amount (Rs.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2018-2019</td> <td>138262294</td> </tr> <tr> <td>2</td> <td>2019-2020</td> <td>113302670</td> </tr> <tr> <td>3</td> <td>2020-2021</td> <td>14059473</td> </tr> </tbody> </table> (as per project authority)	S.No	Year	Amount (Rs.)	1	2018-2019	138262294	2	2019-2020	113302670	3	2020-2021	14059473
S.No	Year	Amount (Rs.)												
1	2018-2019	138262294												
2	2019-2020	113302670												
3	2020-2021	14059473												
10.	Forest land requirement													
	a. The status of approval for diversion of Forestland for non-forestry use	380.52 ha												
	b. The Status of clearing felling	-												
	c. The status of compensatory Afforestation if any	-												
11.	The status of clear felling in non-forest areas (such as submergence area of reservoir, Approach roads), if any with quantitative information	-												
12.	Status of construction (Actual and/or Planned)	-												
13.	a. Date of commencement (Actual and/or Planned)	03.06.2005: JVR OC-1 2007: JVR Expansion Project												
	b. Date of completion (Actual and/ or Planned)	Completed.												
14.	Reasons for the delay if the project is yet to start	-												
15.	Dates of site visits a. The dates on which the Project was monitored by Integrated Regional Office on previous occasions, if any	19.07.2019												
16.	b. Date of site visit for this monitoring Report	30.04.2021												

## Project Background-JVR Opencast Project-1

### **Environmental clearances:**

- a. Ministry of Environment, Forest and Climate Change vide letter no. J-11015/2402003-IA.II(M) dated 16.09.2004 accorded environmental clearance to M/s. Singareni Collieries Company Ltd for Sathupally Opencast Project-I for the production of coal at the capacity of 0.7 MTPA in ML area of 410.58 ha. Subsequently, this project was renamed as Jalagam VengalRao Opencast-I coal mining project.
- b. MoEF&CC vide letter no. J-11015/301/2007-IA.II(M) dated 17.07.2007 granted environmental clearance to for Jalagam VengalRao Opencast-I project (expansion at the capacity of 0.7 MTPA to 2.0 MTPA with peak production of 2.50MTPA and increase in lease area from 410.58 ha to 547.08 ha) of M/s. Singareni Collieries Company Ltd located at Ayyagaripeta, Mandal Sathupalli, District Khammam, Andhrapradesh (presently in the state of Telangana).
- c. MoEF&CC has accorded environmental clearance to M/s. The Singareni Collieries Company Limited 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 at Village Ayyagaripeta, Mandal Sathupalli, District Khammam Telangana.

### **Forest clearances:**

- d. The total land requirement of the project is 544.81 ha. Out of this 380. Ha is forest land. Forest clearances have been obtained from MoEF&CC for diversion of forest land of 244.02 and 135.05 ha vide letters no. 8-129/2003-FC dated 02.02.2005 and 8-56/2008-FC dated 03.07.2012.

### **Consent for Establishment & Consent for Operation:**

- e. Project proponent has obtained Consent for Operation for environmental clearance (production capacity of 2.5 MTPA) vide CFE No.35/PCB/CFE/RO-KGM/HO/2007 dated 27.09.2007 and Consent Order No.16082281186 dated 03.10.2016 and valid up to 30.06.2021. Consent for Operation for environmental clearance (of 2.50 MTPA to 5.00 MTPA capacity) has not been obtained. It was informed that an application has been submitted to TSPCB for CFO.

**Ground water withdrawal permission:**

- f. District Ground Water Authority, Khammam, Telanagana for withdrawal of water vide Memo no.1309/Hg. II (I)/06 dated 06.07.2007. However, approval from Central Ground Water Authority has not been obtained as stipulated.

**R&R status:**

- g. It was informed that initially there was a proposal to acquire Vengala Rao Nagar Colony which is located 500m from the project. Since permission from DGMS has been obtained for controlled blasting within 300m and upto 125m of Vengalrao Nagar Colony and Market Yard. Accordingly controlled blasting was carried out safely using NONELs without evacuation of colony. As of now coal extraction has been completed. Hence, the proposal to acquiring said land has been dropped.

**Implementation of wildlife conservation plan:**

- h. Wildlife conservation plan has been prepared in consultation with state forest department for an amount of Rs. 2.57 Crores vide no. 136./20016/A3 dated 07.05.2020.

**Implementation of Environmental Protection measures:**

- i. This company has environmental policy duly approved by Board of Directors. A separate environment management department has been set up and functioning under the control of General Manager (Environment).
- j. Ambient air, water, noise qualities and other parameters have been monitored by third party recognized laboratory regularly. One continuous online AAQ system has been installed near at mine office building.
- k. Necessary PPEs were provided to workers including outsourced workers engaged in mining activities.
- l. Till 2020, Greenbelt of 322.90 ha was developed with native species consisting of 3-tier plantation of width not less than 7.5 m was developed within the mine lease area.
- m. Solar power unit (Phase-I) of 37 MW is under construction in Kothagudem area

**Utilization of fly ash:**

- n. Fly ash has not been used for external dump of overburden, backfilling or stowing of mine. It was informed that no thermal power plant is located within 50 km from the mine lease area. Hence, it is not applicable to this project.

**Project Monitoring by IRO, MoEF&CC: -**

- o. This project was monitored on 19.07.2019 by IRO, Chennai for certified compliance report. Again, this project was monitored on 30.04.2021 by IRO, Hyderabad to reissue certified compliance report, as requested by project authority. The status of compliances stipulated in the EC conditions in the vide letter no. of MoEF&CC is submitted in Part II.

**Pending Court cases and show cause notices:**

- p. There are two cases pending in Hon'ble NGT(SZ), Chennai pertaining to JVR Opencast mine projects i.e. (i) OA 174 of 2020, (ii). OA 20 of 2021

**Recommendations of Joint Committee constituted by Honorable NGT in the matter of O.A. 174 of 2020 and O.A. 20 of 2021**

1. 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
2. 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.
3. 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.

4. 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.
5. 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.
6. 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
7. 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.
8. Presently no violation has been observed in the mode of coal transport. Project authority shall expedite and complete the erection of railway siding and conveyor belt well in advance. No coal transport shall be made by road beyond 31.12.2021.
9. 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.
10. 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.

11. 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.
12. No violation has been observed on the alleged Forestry clearance accorded.
13. Project authority shall ensure regular calibration of Seismographs Minimate used for monitoring the vibrations.

#### **Observed Non/ Partial Compliances**

**Condition no. v:** Approval from Central Ground Water Authority has not been obtained as stipulated.

**Condition no.iv:** Consent for Operation for environmental clearance (of 2.50 MTPA to 5.00 MTPA capacity) has not been obtained. It was informed that an application has been submitted to TSPCB for CFO.

#### **Additional Recommendations by IRO, MoEFCC:**

- i. PP shall increase number ambient air quality monitoring stations in core zone area
- ii. PP shall replace old sprinklers, rain guns and install additional sprinklers, mobile water tanker to mitigate fugitive emission on the coal transportation road.
- iii. PP shall upgrade capacity & technology for the present ETP, which is not sufficient for expansion project.
- iv. PP shall develop more ponds in and around the mine lease area and in affected villages for augmentations of ground water resources.
- v. PP shall install waste segregation dust pins as per Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules 2016.
- vi. PP shall obtain permission from Central Ground water Authority.
- vii. PP shall discharge the excess mine water to pond only after treatment and monitoring water quality analysis
- viii. PP shall utilize the topsoil as stipulated.

## PART-II

**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 Environmental Clearance - reg.

**Ref:** MoEF&CC F.No. 23-77/2018-IA(III) dated 01.02.2021.

### Standard Conditions

#### (a) Statuary compliance

S.No	EC Conditions	Compliance Status
(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.	<b>Complied</b> Forest clearance has been accorded by MoEF&CC for diversion of 244.02 and 130.50 ha of forest lands vide letters No.8-129-/2003/-FC dated 02.02.2005 and 8-56-/2008/-FC, dated 03.07.2012.
(ii)	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	<b>Complied</b> It was submitted that approval from National Board for Wildlife is not applicable to this project as Wildlife conservation plan has been prepared in consultation with state forest department. Approval of the same is yet to be obtained.
(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	<b>Being complied</b> Implementation of wildlife conservation plan is under progress. It was informed that Wildlife conservation plan has been prepared in consultation with state forest department at Rs. 2.57 Crores vide no. 136./20016/A3 dated 07.05.2020.

	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.	<b>Partly complied</b> Project proponent has obtained Consent to Establish and Consent to Operate for earlier environmental clearance (production capacity of 2.5 MTPA) vide CFE No.35/PCB/CFE/RO-KGM/HO/2007 dated 27.09.2007 and Consent Order No.16082281186 dated 03.10.2016 and valid up to 30.06.2021. It was submitted that application has been submitted to TSPCB for CFE and CFO for latest Environmental clearance.
(v)	The project proponent shall obtain the necessary permission from the Central Ground Water Authority.	<b>Partly Complied</b> Permission has been obtained from District Ground Water Authority, Khammam, Telanagana for withdrawal of water vide Memo no.1309/Hg. II (I)/06 dated 06.07.2007. However, approval from Central Ground Water Authority has not been obtained as stipulated.
(vi)	Solid/ hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.	<b>Being complied</b> It was informed that solid/hazardous wastes such as used oil and ETP sludge were disposed off with PCB authorized vendors and as per Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules 2016.

(vii)	<p>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, PM2.5, SO2 and NOx. 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.</p>	<p><b>Being complied</b></p> <p>One continuous online AAQ system has been installed near at mine office building. Seven Ambient Air Quality Monitoring Station were established both in Core and buffer Zone i.e., Project Office, ii. Workshop, iii. Pit Head CHP, iv. Kistaram village, v. Sathupalli town, vi. Vengatapuram village, vii. Pallewada village. Parameters of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> were monitored at every fortnight through MoEF&amp;CC recognized laboratory. As per the report, monitored parameters were within prescribed limits. In addition, Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc were being carried out once in six months through MoEF&amp;CC recognized laboratory. As per the report, monitored parameters were within prescribed limits.</p> <p>Half yearly compliance reports were submitted regularly to regional office</p>
(viii)	<p>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</p>	<p>Please refer condition no. vii.</p>

	Office and to the CPCB/SPCB.	
(ix)	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/PM2.5) 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.	<b>Being complied</b> Transportation of coal has been carried out through bypass road by tarpaulin covered vehicles. Water spraying arrangements on haul road, wagon loading, loading and unloading area were provided to mitigate the fugitive emission. As informed, 28 KL (4 No's), 20 KL (5 No's), 15 KL (2 No's) and 12 KL Water Tanker (3 No's) were engaged for dust suppression on daily basis. As per the report, parameters of monitored ambient air quality were within prescribed limits.
(x)	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.	<b>Being complied</b> Transportation of coal has been carried out through bypass road by tarpaulin covered trucks. It was informed that transportation of coal through the existing bypass only, village has been avoided.
(xi)	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall	<b>Being complied</b> It was informed that all the vehicles engaged in mining and allied activities were allowed only after verifying 'PUC'

	operate only after obtaining ' PUC' certificate from the authorized pollution testing centres.	certificate from the authorized pollution testing centers.
(xii)	Coal stock pile/crusher/feeder and breaker material transfer points shall in variably 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.	<b>Being Complied</b> Water spraying arrangement was provided at Coal stock pile/crusher/feeder and breaker material transfer points. Belt-conveyors were covered with GI sheets to avoid air borne dust. Side cladding all along the conveyor gantry was provided with dust suppression system. Drills are wet operated only. It is recommended that Crushing unit shall be covered with GI sheet additionally to reduce the dust emission during crushing of coal.
(xiii)	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.	<b>Being complied</b> Water spraying arrangements has been provided at Coal handling plant. However, it is recommended that crushing unit shall be covered with GI sheet additionally to reduce the dust emission during crushing of coal.
(xiv)	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.	<b>Being complied</b> ETP has been provided with for workshop with oil and grease trap. Monitoring of ETP effluents were carried out by third party. As per the report, monitored effluents were within prescribed limits. As informed, ETP sludge was disposed off with PCB authorized vendor.

(xv)	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. Il(M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be refer red in this regard for its compliance.	<b>Complied</b> Monitoring data has been uploaded on its company's website and displayed at the project site at a suitable location.
(xvi)	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.	<b>Complied</b> Ground water levels and quality were monitored at nineteen existing wells and seven piezometers. As submitted, Monitoring of ground water levels were being carried out four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons. Monitoring report were submitted to regional office along with half yearly compliance report.
(xvii)	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.	<b>Complied</b> Monitoring of water quality upstream and downstream of water bodies were carried out once in three months and record of monitoring data were submitted to the Regional Office once in six months.
(xviii)	Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting	<b>Being Complied</b> As submitted, Ground water has not been withdrawn for mining operations. Mine

	shall be implemented for conservation and augmentation of ground water resources.	<p>sump water were pumped out and settled in settling ponds developed at the surface of mine lease area. After siltation, water has been reused for mining operations.</p> <p>Admin and other office buildings were connected with rain water harvesting structure.</p> <p>PP shall develop more ponds in and around the mine lease area and in affected villages for augmentations of ground water resources.</p>
(xix)	<p>Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps &amp; 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 utilized for dust suppression and</p>	<p><b>Complied</b></p> <p>As submitted, Catch drains of 17240m (length) and siltation ponds were provided for prevent the run off of and flow of sediments to streams.</p> <p>Garland drains were provided around the external dump and quarry area about 13.00 km (length). The drains and settling ponds were being regularly de-silted and maintained properly. Toe Wall of 1760 m length has been constructed around the external and Internal dump yards.</p> <p>Drains/settling ponds were de silted as on the date of site visit.</p> <p>The collected water has been settled in settling pond and after siltation, reused for dust suppression in the mine area, on haul roads and for green belt development.</p>

	<p>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.</p>	
(xx)	<p>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).</p>	<p><b>Complied</b></p> <p>Mine sump water has been allowed to be settled in settling pond first, after siltation, the supernatant water has been reused for mining operations. As informed, the excess water from the sump was discharged into Kistaram tank.</p> <p>The project proponent has agreed to meet the water requirement of nearby village(s) in case the village wells go dry due to de-watering of the mine.</p>
(xxi)	<p>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.</p>	<p><b>Being complied</b></p> <p>ETP has been provided with for workshop with oil and grease trap. Monitoring of ETP effluents were carried out by third party. As per the report, monitored effluents were within prescribed limits. As informed, ETP sludge was disposed off with PCB authorized vendor.</p>
(xxii)	<p>The water pumped out from the</p>	<p><b>Complied</b></p>

	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	It was submitted that mine sump water from the mine has been collected and sent to settling pond. After settling siltation, water has been reused for dust suppression, fire fighting, and green belt development. The drains were de-silted and maintained properly after every monsoon.
(xxiii)	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.	<b>Being complied</b> It was submitted that garland and catch drain were provided based on the surface drainage plan including surface water conservation plan for the area of influence affected by mining operations. Project proponent has submitted that there were no diversions of natural water courses involved for the project. Embankment shall be constructed as per direction of DGMS guidelines or any other authority as prescribed by the law, if required.
(xxiv)	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	It was submitted that no river were located within 5 km of mine lease area.

	management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.	
(xxv)	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.	<p><b>Complied</b></p> <p>Necessary personal protective equipments (PPE) like ear plugs/muffs were provided to mine workers. Noise level were monitored at four locations. i.e., i. Site Office, ii. Base Workshop, iii. Kistaram village iv. Sathupally town.</p> <p>Project Proponent shall monitor noise level at least one location in core area.</p>
(xxvi)	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.	<p><b>Being complied</b></p> <p>Control blasting techniques were practiced. As informed, Regular monitoring for recording the blast induced ground vibrations in terms of Peak Particle Velocity (PPV) were carried out. It was submitted that recorded PPV were found to be below the permissible limits. Necessary steps are being taken to limit the PPV within the permissible limits</p>

(xxvii)	Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.	Agreed to abide by this condition
(xxviii)	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).	<b>Complied</b> Mining operations are being carried out as per Directorate General Mines Safety (DGMS) guidelines.
(xxix)	No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.	<b>Complied</b> It was submitted that mining operations were carried out after obtaining forest clearance only. Forest clearance has been accorded by MoEF&CC for diversion of 244.02 and 130.50 ha of forest lands vide letters No.8-129-/2003/-FC dated 02.02.2005 and 8-56-/2008/-FC, dated 03.07.2012.
(xxx)	Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.	<b>Being complied</b> It was submitted that Solar power unit (Phase-I) of 37 MW is under construction in Kothagudem area
(xxxi)	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	<b>Being complied</b> Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey was carried out during 2019. The details were submitted to Regional Office of

	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).	Ministry vide letter no.ENV/KGM/403, 404 &406/290, dated 12.09.2020.
(xxxii)	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.	<b>Agreed to comply</b> Project proponent has agreed to implement the requirements as stipulated.
(xxxiii)	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	<b>Agreed to comply</b> Project proponent has agreed to implement the requirements as stipulated.

	shall be submitted to the MOEFCC/RO.	
(xxxiv)	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.	Fly ash has not been used for external dump of overburden, backfilling or stowing of mine. It was informed that no thermal power plant is located within 50 km from the mine lease area. Hence, it is not applicable to this project.
(xxxv)	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 stabilized 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	<b>Being Complied</b> The topsoil has been stored at earmarked site. As informed, 0.413 M.Cu.m of top soil has been stored and will be used for land reclamation. Further, it was submitted that about 225.133Ha of quarry area has been backfilled till Sep-2020 with 130.785 M.Cu.m. Information was being submitted along with half yearly reports to regional office of MoEF&CC along with six monthly compliance report.

	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	
(xxxvi)	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.	It was informed that no grazing land were located within the mine lease area.
(xxxvii)	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.	<b>Being complied</b> Implementation of wildlife conservation plan is under progress. It was informed that Wildlife conservation plan has been prepared in consultation with state forest department for an amount of Rs. 2.57 Crores vide no. 136./20016/A3 dated 07.05.2020.
(xxxviii)	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	<b>Being complied</b> As submitted, Greenbelt of 322.90 ha was developed till 2020. Greenbelt consisting of 3-tier plantation of width not less than 7.5m was developed all along the mine lease

	native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.	area. The green belt comprising of native species, (endemic species should be given priority) were being developed all along the major approach/ coal transportation roads.
(xxxix)	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 & it's RO on six-monthly basis.	<b>Being complied</b> Adequate illumination were provided in all mine locations as per DGMS standards and monitored weekly. The report on the same was being submitted to Regional office of ministry regularly.
(xl)	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 .	<b>Being complied</b> As submitted, Occupational health surveillance programme of the workers were carried out as per Mines Act periodically and records are being maintained.
(xli)	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.	<b>Complied</b> Necessary PPEs were provided to workers including outsourced workers engaged in mining activities. As informed, Periodical trainings were given to the mining workers at the time of joining and regular interval.

(xlii)	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.	<p><b>Being complied</b></p> <p>As submitted, Public hearing held on 14.02.2020. Issues raised during public hearing are being implemented by project authority. The details of implementation and the action plan on the issues raised during the public hearing were submitted during site visit.</p>
(xliii)	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-110 13/5712014-IA.1 1 (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'.	<p><b>Agreed to comply</b></p> <p>It was informed that no villages were part of mine lease area. However, PP has agreed and taking necessary precautionary steps for the safety of nearest habitations as per DGMS guidelines.</p>
(xliv)	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	<p><b>Complied</b></p> <p>As submitted, this company has well established environmental policy duly approved by Board of Directors. The environmental policy having standard operating procedures with proper checks and balances and to bring into focus any infringements/deviation/ violation of the environmental/ forest/ wildlife norms/conditions.</p>

	norms/conditions.																											
(xiv)	The company shall have defined system of reporting infringements/deviation /violation of the environmental/forest/wildlife norms /conditions and/or shareholders/stake holders.	<b>Complied</b> It was submitted that this company has well established environment reporting system for monitoring and implementations of environmental stipulations.																										
(xlv)	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.	<b>Complied</b> A separate environment management department has been provided and functioning under the control of General Manager. The members of environment cell are under., <table border="1"> <tr> <td>SO to General Manager</td> <td>Chairman</td> </tr> <tr> <td>Project Officer</td> <td>Member</td> </tr> <tr> <td>Area Engineer (E&amp;M)</td> <td>Member</td> </tr> <tr> <td>Area Civil Engineer</td> <td>Member</td> </tr> <tr> <td>Area Forest Officer</td> <td>Member</td> </tr> <tr> <td>Area Estates Officer</td> <td>Member</td> </tr> <tr> <td>Project Manager</td> <td>Member</td> </tr> <tr> <td>Project Engineer</td> <td>Member</td> </tr> <tr> <td>Project Surveyor</td> <td>Member</td> </tr> <tr> <td>Project Env. Officer</td> <td>Member</td> </tr> <tr> <td>Area Env. Officer</td> <td>Secretary</td> </tr> <tr> <td>Sr. Hydro Geologist</td> <td>Member</td> </tr> <tr> <td>Area Survey Officer</td> <td>Member</td> </tr> </table>	SO to General Manager	Chairman	Project Officer	Member	Area Engineer (E&M)	Member	Area Civil Engineer	Member	Area Forest Officer	Member	Area Estates Officer	Member	Project Manager	Member	Project Engineer	Member	Project Surveyor	Member	Project Env. Officer	Member	Area Env. Officer	Secretary	Sr. Hydro Geologist	Member	Area Survey Officer	Member
SO to General Manager	Chairman																											
Project Officer	Member																											
Area Engineer (E&M)	Member																											
Area Civil Engineer	Member																											
Area Forest Officer	Member																											
Area Estates Officer	Member																											
Project Manager	Member																											
Project Engineer	Member																											
Project Surveyor	Member																											
Project Env. Officer	Member																											
Area Env. Officer	Secretary																											
Sr. Hydro Geologist	Member																											
Area Survey Officer	Member																											
(xlvii)	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	<b>Being Complied</b> It was submitted that the funds earmarked for environmental protection measures are kept in separate account and not diverted to any other purpose. Details of expenditure are being submitted along with Form-V to the State Pollution Control Board and Regional Office of Ministry.																										

	action plan shall be reported to the Ministry /Regional Office along with the Six Monthly Compliance Report.	
(xlvi)	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	<b>Complied</b> Third party environmental audit was carried out by ICFRE and NEERI. The copy of the report was submitted during site visit.



(Dr. E. Arockia Lenin)

Scientist C

डॉ. इ. आरोकिया लेनिन  
DR. E. AROCKIA LENIN  
वैज्ञानिक 'सी'  
SCIENTIST 'C'

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
Ministry of Environment, Forest & Climate Change  
एकीकृत क्षेत्रीय कार्यालय, हैदराबाद-500 004.  
Integrated Regional Office, Hyderabad-500 004.

**SITE' PHOTOGRAPHS**





**View of JVR OCP**



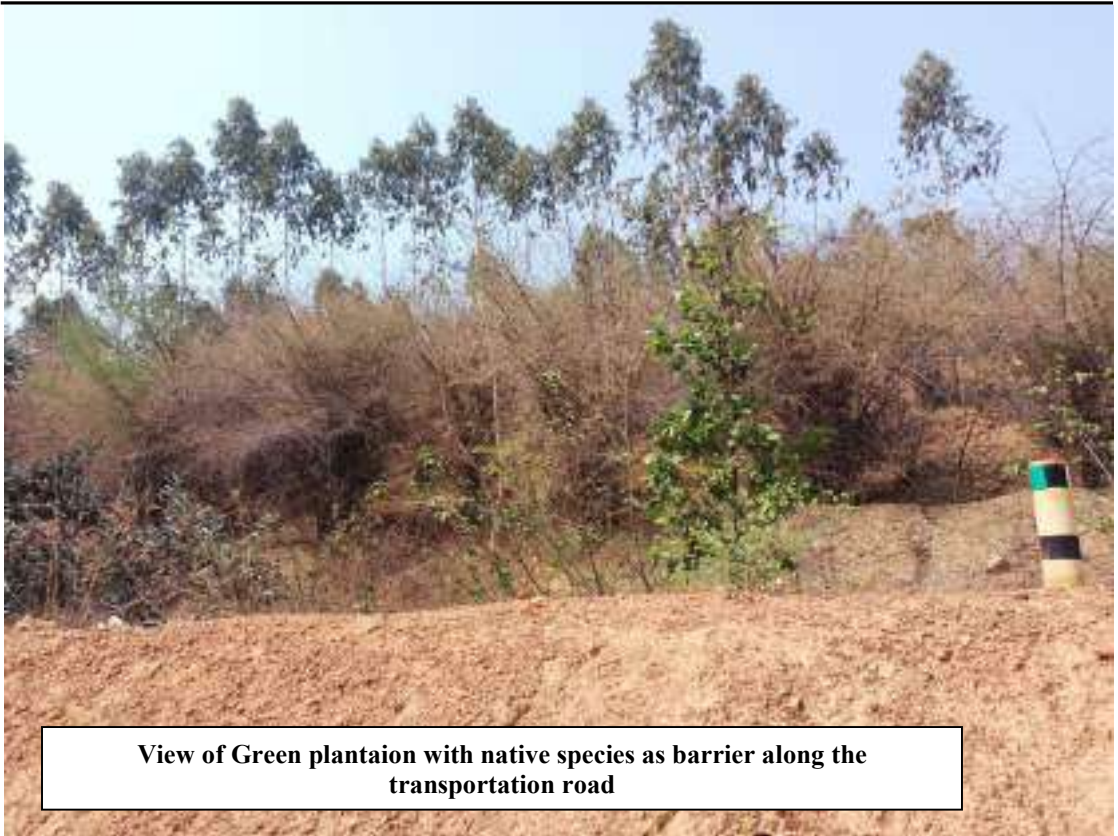
**View of Coal Stock Yard**



**View of Green plantaion with native species including Red sandalwood species on the OB dump**



**View of Green plantaion with native species including Red sandalwood species on the OB dump**



**View of Green plantaion with native species as barrier along the transportation road**





**View of Stone barrier along the base of OB dump**



**View of desilted Catch/Garland drains along the base of OB dump**



**View of transportation road and Green belt development**



**View of active OB dump**



**The Singareni Collieries Company Limited**

(A Govt. Company)

**Kothagudem Area.**

Ref.No.KGM/JVR/AGT/2021/302/647

Dt. 03.07.2021.

To

Dr. E. Arockia Lenin,  
Scientist-C, MoEF&CC,  
Integrated Regional Office,  
Hyderabad-500004.

From:

The Project Officer,  
JVR OC Project -II,  
SCCL,Kothagudem Area.

Sir,

Sub:- Compliance report on inspection of Dr. E. Arockia Lenin, Deputy Director,  
MoEF&CC JVR OCP-II on 30/04/2021 – Reg.

Ref No:- F.No. ENV/IRO-HYD/CCR-11/A/2021/ Dt.23.06.2021.

\*\*\*

With reference to the above cited subject, herewith submitting latest status on the non-compliances of EC Conditions in JVR OC Project -II as per the observations made by RO, MoEF&CC, Hyderabad are as following.

Sl.No.	Observation	Clarification			
Cond. No. xi.	Total area of developed green belt so far was found to be less than the stipulated area which was 790.75 ha. Project proponent shall submit the time bound action plan to be taken in the future to this office.	The Progressive greenbelt development programme of existing JVR OC-II project is as follows.			
		S.No.	Year of plantation	Plantation area in ha.	Progressive plantation area in ha.
		1.	Initial box cut year	0.00	0.00
		2.	1st year to 5th year	48.09	48.19
		3.	6th year to 10th year	113.02	161.21
		4.	11th year to 15th year	281.53	442.74
		5.	16th year to 20th year	0.00	442.74
		6.	21st year to 25th year	0.00	442.74
		7.	26th year to 53rd year (Final year)	348.01	790.75
		Total		790.75	
		The project was commenced on 01.09.2017 and presently 5 <sup>th</sup> year operations are in progress.			
		The stipulated greenbelt development of			

Sl.No.	Observation	Clarification
		<p>790.75 ha of is for entire life of the project and at present 5<sup>th</sup> years operations are in progress.</p> <p>In future, plantation will be continued in the proposed expansion of the project and 1288.86 ha of green belt will be developed over the entire life of the proposed project.</p>
Cond. No. xvi.	Details were not made available for three stage sedimentation tank along with coagulants, monitoring of water quality parameter before discharge in to natural courses.	<p>9 No. of settling ponds including a three stage sedimentation tank are provided to treat the mine discharge water during peak monsoon. Photos of settling ponds are enclosed as Annexure-1.</p> <p>Water quality is being monitored before discharge and the parameters are within the prescribed limits. The latest Water quality reports are enclosed as Annexure-2.</p>

This is for your information and kind perusal please.

Thanking you,

Yours faithfully,



Project Officer,  
JVR OC Project -II

Encl: A/a.

Cc to:

Member Secretary, MoEF&CC, New Delhi- for Information.

GM(Env), SCCL, Corporate.

GM, SCCL, Kothagudem Area.

# Annexure-1

## SETTLING PONDS PROVIDED

### East Side



### North Side



### West Side



## MONITORING OF WATER QUALITY PARAMETERS BEFORE DISCHARGE IN TO NATURAL COURSES

### 1.0 Introduction

To assess the water quality before discharge from mine, samples were collected , analyzed and the water quality results are compared with general standards for discharge of environmental pollutants, Part–A: Effluents (GSR 801) (E).

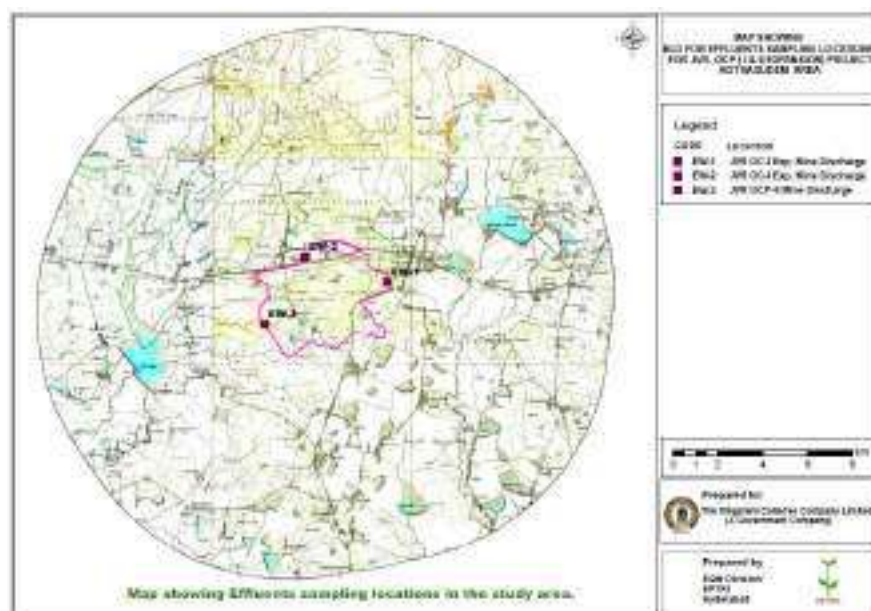
Mine discharge is collected on 28.06.2021 at three different locations at outlets of settling ponds from where water is discharged in to natural courses. The OB dump surface run-off is also channelized through these settling ponds before discharge in to natural courses.

The details of the effluents sampling locations are presented in Table 1.0.

**Table 1 Effluents sampling locations**

Code	Sampling Location	Latitude	Longitude
EW-1	JVR OC-I Exp. Mine Discharge - East Side	17°12'03"	80°49'17"
EW-2	JVR OC-I Exp. Mine Discharge - North Side	17°12'39"	80°47'13"
EW-3	JVR OCP-II Mine discharge- West Side	17°11'02"	80°46'12"

**Fig. 2.0 Map showing the JVR mines effluents**



**Table 2 Physico-Chemical and Biological characteristics of Effluent samples collected at JVR OC mines**

S.No	Test Parameter (s)	Unit	Test Method	Standards			Result		
				Part-A: Effluents (GSR 801) (E)			EW-1	EW-2	EW-3
				Inland surface water	Public sewers	Land for irrigation			
(a)	(b)	(c)							
1	Colour	Pt-co-Scale	2120. B	*	--	*	10	10	15
2	Odour	TON	2150. B	*	--	*	No odour observed	No odour observed	No odour observed
3	Total Suspended Solids	mg/L	2540. D	100	600	200	16	20	12
4	Particle size of suspended solids	mg/L		Shall pass 850 Micron IS sieve	--	--	Pass	Pass	Pass
5	pH	--	4500-H <sup>+</sup> B	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	7.9	7.3	6.8
6	Temperature	°C	2550. B	Shall not exceed 5°C above the receiving water temperature	--	--	25.3	25.0	25.3
7	Oil & Grease	mg/L	5520. B	10	20	10	<1	<1	5.2
8	Ammonical Nitrogen	mg/L	4500-NH <sub>3</sub> -C	50	50	--	BDL	BDL	BDL
9	Total Kjeldahl Nitrogen	mg/L	4500-N <sub>org</sub> -C	100	--	--	BDL	BDL	BDL
10	Free Ammonia	mg/L	4500-NH <sub>3</sub> -D	5.0	--	--	BDL	BDL	BDL
11	Biochemical Oxygen Demand (3 days at 27°C)	mg/L	IS:3025	30	350	100	3	4	3
12	Chemical Oxygen Demand	mg/L	5220. D	250	--	--	20	28	18
13	Arsenic as As	mg/L	3120.B	0.2	0.2	0.2	BDL	BDL	BDL
14	Mercury as Hg	µg/L	3500-Hg.B	0.01	0.01	--	BDL	BDL	BDL
15	Lead as Pb	mg/L	3120.B	0.1	1.0	--	BDL	BDL	BDL
16	Cadmium as Cd	mg/L	3120.B	2.0	1.0	--	BDL	BDL	BDL
17	Hexavalent Chromium as Cr <sup>+6</sup>	mg/L	3500-Cr <sup>+6</sup> .B	0.1	2.0	--	BDL	BDL	BDL

18	Total Chromium as Cr	mg/L	3120.B	2.0	2.0	--	BDL	BDL	BDL
19	Copper as Cu	mg/L	3120.B	3.0	3.0	--	BDL	BDL	BDL
20	Zinc as Zn	mg/L	3120.B	5.0	15	--	BDL	BDL	BDL
21	Selenium as Se	mg/L	3120.B	0.05	0.05	--	BDL	BDL	BDL
22	Nickel as Ni	mg/L	3120.B	3.0	3.0	--	BDL	BDL	BDL
23	Fluoride as F <sup>-</sup>	mg/L	4500-F.C	2.0	15	--	0.841	0.351	0.508
24	Dissolved Phosphates	mg/L	4500-P.D	5.0	--	--	BDL	BDL	BDL
25	Sulphide	mg/L	4500-S <sup>2-</sup> .G	2.0	--	--	BDL	BDL	BDL
26	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/L	5530-D	1.0	5.0	--	BDL	BDL	BDL
27	Bio-assay test	% survival	8010 F,G & H	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	100 % survival of fish after 96 hours in 100 % effluent	90 % survival of fish after 96 hours in 100 % effluent	90 % survival of fish after 96 hours in 100 % effluent
28	Manganese as Mn	mg/L	3120.B	2	2	--	BDL	BDL	BDL
29	Iron as Fe	mg/L	3120.B	3	3	--	0.12	0.14	0.12
30	Vanadium as V	mg/L	3120.B	0.2	0.2	--	BDL	BDL	BDL
31	Nitrate Nitrogen	mg/L	PDA	10	--	--	1.08	1.73	2.11
32	Total residual chlorine	mg/L	4500-Cl-B	1.0	--	--	BDL	BDL	BDL

## 2.0 Results and discussion on Effluent Quality

The effluent analysis results are compared with the tolerance limits for general standards for discharge of environmental pollutants, Part –A: Effluents (GSR 801 (E), presented in the Table: 1.1.

The results are compared with Inland Surface Waters Category. From the results it can be seen that pH values ranged between 6.8 to 7.9 .The fluoride values ranged between 0.351 to 0.841 mg/L, well within the standard limits. The Total Suspended solids, Oil and Grease, Ammonical Nitrogen, Total Kjeldahl Nitrogen, Free ammonia, COD, BOD and Sulphide concentrations for all the collected samples were well within the standard limits.

The concentration of metals like Cadmium (as Cd), Arsenic (as As), Copper (as Cu), Selenium (as Se), Zinc (as Zn), Nickel (as Ni), Iron (as Fe), Mercury (as Hg), Lead (as Pb) and Vanadium (as V) were either below the stipulated limits or below their detection limits at all the locations.

In order to assess the potential effects of pollutants in aquatic biota, bioassay test is considered to be the best. Fish bioassay test enables us to detect the tolerance and toxicity levels of the effluents or toxic chemical substances. The samples analysed for the fish bioassay test has shown no toxic effect on the test organism (*Gambusia affinis*, procured from Department of Fisheries, Government of TS) for 96 hrs and found to be within the prescribed limits (GSR 801 (E) 1986) at all the location.

***From the results it can be seen that the effluents collected in JVR OC mines were meeting the requirements in accordance with the tolerance limits for general standards for discharge of environmental pollutants, Part –A: effluents (GSR 801 (E), Inland Surface Waters Category.***



Signature  
EPTRI  
Lab HOD

@@@@@

Certified Compliance Report -JVR OCP-II



भारत सरकार  
Government of India  
पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय  
Ministry of Environment, Forests & Climate change  
एकीकृत क्षेत्रीय कार्यालय  
Integrated Regional Office

3<sup>rd</sup> floor, Aranya Bhavan,  
Saifabad, Hyderabad-500004,  
Telangana.  
[irohyd.moeffc@gmail.com](mailto:irohyd.moeffc@gmail.com)

File No. ENV/IRO-HYD/CCR-11/A/2021/

23.06 2021

To

The Director & Member Secretary,  
Coal Mining projects, IA Division,  
Indira Paryavaran Bhavan,  
Ministry of Environment, Forest and Climate Change,  
Jorbagh Road, Aliganj,  
New Delhi – 110 003.

**Sub:** 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) –environmental clearance regarding – reg.

**Ref:** MoEF&CC F.No: J-11015/268/2007-IA.II (M) dated 28.03.2010

Sir,

The undersigned is directed to invite your kind attention on the above subject and letter under reference wherein MoEF&CC has accorded environmental clearance to M/s. The Singareni Collieries Company Limited for Jalagam Vengal Rao Opencast Project-II (4 MTPA Normative and 5 MTPA peak) at Village Kommepalli, Mandal Sathupalli, District Khammam, Andhra Pradesh (Presently in the state of Telangana). Project Proponent has requested Integrated Regional Office to issue certified compliance report. This project was monitored on 30.04.2021. Monitoring report is enclosed herewith for your information and further necessary action.

This issue with the approval of Regional Officer, IRO, MoEF&CC, Hyderabad.

Yours faithfully

(Dr. E. Arockia Lenin)

Scientist C

[arockia.lenin@gov.in](mailto:arockia.lenin@gov.in)

**Copy to**

1. Dr. Shruti Rai Bharadwaj, Scientist E, Monitoring Cell, IA Division, Indira Paryavaran Bhavan, Ministry of Environment, Forest and Climate Change, Jorbagh Road, Aliganj, New Delhi – 110 003.
2. The Member Secretary, Telangana State Pollution Control Board, Paryavaran Bhavan, A-3, Industrial Estate, Sanathnagar, Hyderabad-500 018, Telangana
3. The General Manager (Environment), M/s. Singareni Collieries Company Ltd., Kothakudam Collieries -507 101, Bhadrachalam Road Rly. Station, Bhadradri Kothakudam District, Telangana State (gm\_env@scclmines.com)

sd/-

(Dr. E. Arockia Lenin)

Scientist C

डॉ. इ. आरोकिया लेनिन  
**DR. E. AROCKIA LENIN**  
वैज्ञानिक 'सी'  
**SCIENTIST 'C'**

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
Ministry of Environment, Forest & Climate Change  
एकीकृत क्षेत्रीय कार्यालय, हैदराबाद-500 004.  
Integrated Regional Office, Hyderabad-500 004.

**Government of India**  
**Ministry of Environment, Forests & Climate change**  
**Integrated Regional Office, Hyderabad-500004, Telangana**

**MONITORING REPORT**

**PART - I**

1.	Project Type: River-valley / Mining / Industry /Thermal / Nuclear / Other (Specify)	Coal Mining
2.	Name of the Project	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) –environmental clearance regarding
3.	Clearance Letter (s) / OM No. and date	MoEF&CC F.No. J-11015/268/2007-IA.II (M) dated 28.03.2010
4.	Location	
	a. District (s)	Khammam
	b. State (s)	Telangana
	c. Latitude / Longitude	N 17 <sup>o</sup> 10'24" to 17 <sup>o</sup> 12'11" E 80 <sup>o</sup> 47'07" to E 80 <sup>o</sup> 49'11".
5.	Address for correspondence /	S.Venkata Chary
6.	Address of concerned Project Chief Engineer (with Pin Code & Telephone / Telex / Fax Numbers)	Project Officer S.C.Co. Ltd, Post: Sathupalli, Dist: Khammam, T.S. 507 303 oc_spl@scclmines.com 08761 – 282734, +9194911 44156 08761 - 282736
7.	Salient features	
	a. Of the Project	(a) Date of Opening 01.09.2017
	b. Of the Environmental Management Plan	(b) Total Life of the project as per EMP 29 Years(As per 2016 RCE-1)
		Seams
		(a) No. of Seams Present 16 (9 nos. are major, 7 nos. are minor coal seams with limited thickness)

Depth		
(a) Maximum Depth		365.45 m.
(b) Present working depth		90 m.
Reserves		
(a) Total Geological Reserves		251.72 MT 231.17 MT 13.287 MT
(b) Total extractable reserves		225.873 MT 3.546 MT
(c) Reserve already extracted		
(d) Balance reserves		
(e) Coal production during last 6 months		
Over Burden		
(a) Total OB		1033.25 M.Cum(As per 2016 RCE-1)
(b) OB extracted since inception		69.773 M.B.Cum (incl.Top soil)
(c) OB removed in last 6 months		14.838M.B.Cum (incl.Top soil)
(d) Stripping Ratio(planned)		4.32
Top Soil		
(a) Total Topsoil		4.50 MB.Cum.
(b) Topsoil extracted since inception		1.505 MB.Cum.(Including Ex.Dump Area)
(c) Top Soil preserved for future use		1.457 MB.Cum
(d) Top soil removed in last 6 months		0.328 MB.Cum. (0.001 M.B.cm from Quarry area) (0.327 M.B.cm from Ex.Dump area)
(e) Top soil spread in last 6 months		0.010 MB.Cum
Land Requirement		
(a) Total land Requirement		1409.81 Ha.
(b) Forestland		788.22 Ha.

		Involved (c) Non-forestland	621.59Ha.
8.	Breakup of the Project affected population with enumeration of those losing houses/dwelling units only, agricultural land only, both dwelling units & both dwelling units & agricultural land & landless laborers/artisan a. SC, ST / Adivasis b. Others	R&R involved, (Kommepalli Village)	
9.	Financial Details		
	a. Project costs as originally planned & subsequent revised estimates and the	474.64 Crores (as per project authority)	
	b. Allocation made for environmental management plans, with item wise break up (Capital & Recurring)	Rs. 1999.2 Lakhs Recurring cost: Rs. 21.77 per ton (as per project authority)	
	c. Benefit cost ratio/ internal rate of environmental management	IRR – 100% - 19.85%	
	d. Whether (c) includes cost of environmental management as shown in (b) above	Yes	
	b. Actual expenditure incurred on the Environmental Management Plan so far	Year	Amount Rs.
		2018-2019	138262294
		2019-2020	143463202
		2020-2021	215507373
		(as per project authority)	
10.	Forest land requirement		
	a. The status of approval for diversion of Forestland for non-forestry use	788.22 ha	
	b. The Status of clearing felling	-	
	c. The status of compensatory Afforestation if any	-	
11.	The status of clear felling in non-forest areas (such as submergence area of reservoir, Approach roads), if any with quantitative information	-	
12.	Status of construction (Actual and/or Planned)	-	
13.	a. Date of commencement (Actual and/or Planned)	01.09.2017	
	b. Date of completion (Actual and/or Planned)	-	
14.	Reasons for the delay if the project is yet to start	-	
15.	Dates of site visits		

	a. The dates on which the Project was monitored by Integrated Regional Office on previous occasions, if any	19.07.2019
16.	b. Date of site visit for this monitoring Report	30.04.2021

## **Project Background: JVR Opencast Project-II**

### **Environmental clearance:**

- a. Ministry of Environment, Forest and Climate Change vide letter no. J-1015/268/2007-IA.II (M) dated 28.03.2010 accorded environmental clearance for Jalagam Vengal Rao Opencast Project-II (4 MTPA Normative and 5 MTPA peak) in project area of 1409.81 ha) to M/s. Singareni Collieries Company Ltd., located in Village Kommepalli, Mandal Sathupalli, District Khammam, Andhra Pradesh (Presently in the state of Telangana)

### **Forest clearances:**

- b. The total land requirement of the project is 1409.81 ha. Out of this 788.22 Ha is forest land. Forest clearances have been obtained from MoEF&CC for diversion of forest land of 776.20 ha of forest land vide F. No.8-56/2014-FC dated 31.05.2017

### **Consent for Establishment & Consent for Operation:**

- c. Project proponent has obtained Consent for Establishment vide order no.5/PCB/CFE/RO-KGM/HO/2015-570 dated 26.06.2015 and Consent of Operation vide letter no.16082281186 dated 03.10.2016

### **Ground water withdrawal permission:**

- d. District Ground Water Authority, Khammam, Telanagana for withdrawal of water vide Memo no. 4693/Hg.II (2)/2008 dt. 01.11.08.

### **R&R status:**

- e. About 229 families in Kommepalli village were identified as PAFs. An amount of Rs. 17.7969 Crores has been deposited with District Collector; Khammam on 07.08.2018 for distribution to PAFs. All the PAFs have been paid R&R entitlement from 28.08.2018 to 30.08.2018 by RDO, Kallur.PAFs are partially evacuated and relocated in R&R center at Ayyagaripeta of Sathupalli town.

### **Implementation of Environmental Protection Measures:**

- f. This company has environmental policy duly approved by Board of Directors. A separate environment management department has been set up and functioning under the control of General Manager (Environment). Post Project Environmental Monitoring has been carried out through third party agency,

M/s. Environment Protection Training and Research Institute (EPTRI),  
Hyderabad

- g. Ambient air, water, noise qualities have been monitored by third party laboratory regularly. One continuous online AAQ system has been installed near at mine office building.
- h. Green belt has been developed on the over burden of 8.80 ha so far.
- i. ETP has been provided with for workshop with oil and grease trap. Monitoring of ETP effluents were carried out by third party.
- j. Necessary PPEs were provided to workers including outsourced workers engaged in mining activities.
- k. Solar power unit (Phase-I) of 37 MW is under construction in Kothagudem area

**Pending Court cases and show cause notices:**

1. There are two cases pending in Hon'ble NGT(SZ), Chennai pertaining to JVR Opencast mine projects i.e. (i) OA 174 of 2020, (ii). OA 20 of 2021

**Recommendations of Joint Committee constituted by Honorable NGT in the matter of O.A. 174 of 2020 and O.A. 20 of 2021**

1. 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
2. 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.
3. 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.

4. 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.
5. 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.
6. 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
7. 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 imploding Ministry of Coal as a Respondent in the above O.As.

8. Presently no violation has been observed in the mode of coal transport. Project authority shall expedite and complete the erection of railway siding and conveyor belt well in advance. No coal transport shall be made by road beyond 31.12.2021.
9. 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.
10. 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.
11. 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.
12. No violation has been observed on the alleged Forestry clearance accorded.
13. Project authority shall ensure regular calibration of Seismographs Minimate used for monitoring the vibrations.

**Post EC Monitoring by IRO, MoEF&CC:**

1. This project was monitored on 19.07.2019 by IRO, Chennai for certified compliance report. Again, this project was monitored on 30.04.2021 by IRO, Hyderabad to reissue certified compliance report, as requested by project authority. The status of compliances stipulated in the EC conditions in the vide letter no. J-11015/268/2007-IA.II (M) dated 28.03.2010 of MoEF&CC is submitted in Part II.

**Observed Non/Partial compliances**

**Partial compliances**

**Specific conditions**

**Condition no. xi:** the total area of developed green belt so far was found to be less than the stipulated area which was 790.75 ha. Project Proponent shall submit the time bound action plan to be taken in the future to this office.

**Condition no. xvi:** Details were not made available for three stage sedimentation tank along with coagulants, monitoring of water quality parameter before discharge into natural water courses

**Additional Recommendations by IRO, MoEF&CC**

- i. PP shall increase number ambient air quality monitoring stations in core zone area
- ii. PP shall replace old sprinklers, rain guns and install additional sprinklers, mobile water tanker to mitigate fugitive emission on the transportation road.
- iii. PP shall upgrade capacity & technology for the present ETP, which is not sufficient for expansion project.
- iv. PP shall develop more ponds in and around the mine lease area and in affected villages for augmentations of ground water resources. The excess water from mine sump during rainy season may be discharged into those ponds after treatment and quality check.
- v. PP shall install waste segregation dust pins as per Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules 2016.
- vi. PP shall obtain permission from Central Ground water Authority.
- vii. PP shall develop green belt as stipulated
- viii. PP shall utilize the topsoil as stipulated.

## PART II

**Sub:** 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) –environmental clearance regarding – reg.

**Ref:** MoEF&CC F.No. J-11015/268/2007-IA.II (M) dated 28.03.2010

### A. Specific Conditions:-

S. No.	EC conditions	Compliance status
(i)	No mining operation shall be undertaken in the 776.20 ha. of forest land until prior clearance has been obtained under the provisions of FC Act, 1980.	<b>Complied</b> Forest Clearance (Final stage) has been accorded by MoEF&CC for diversion of 776.20ha of forest land vide F. no.8-56/2014-FC dated 31.05.2017. As informed, mining operations were carried out after obtaining clearance only.
(ii)	Topsoil should be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.	<b>Being complied</b> It was submitted that the topsoil of 1.505 Mm <sup>3</sup> were excavated till 31.03.2021, out of total topsoil of 5.5 Mm <sup>3</sup> available. As of now, 0.010Mm <sup>3</sup> has been utilized on the external dump and balance of 1.457 Mm <sup>3</sup> top soils has been stacked separately on earmarked sites. Project proponent has submitted that stacked topsoil shall be used once the active over dump is completed.
(iii)	Adequate safety distance/barrier shall be maintained from the drainage along the ML boundary. Diversion Bathupalli Flood Flow Canal flowing across the lease and	<b>Complied</b> Adequate safety distance/barrier has been provided from the drainage along the Mine Lease boundary. It was submitted that diversion of Bethupally Flood Flow

	its realignment at the boundary of the lease shall be carried out in consultation with the State Flood and Irrigation Department.	canal (NTR canal) for a length of 18.32 km has already been carried out with the approval of the State Irrigation & CAD Department vide G.O. Rt. No.1932 dated 30.12.2005. The diverted canal has been realigned with the original course and retained the existing feeder channels of downstream irrigation tanks.
(iv)	OB shall be stacked at earmarked external OB dumpsite of 411.49 Ha. Within ML area and shall not exceed a maximum height of 90m consisting of 3 benches of 30m each. An estimated 55.28 Mm <sup>3</sup> of OB shall be rehandled from west ext. OB dump to backfill the decoaled void. The ultimate slope of the dump shall not exceed 28°. Slope stability studies shall be carried out and monitoring of the stability of the dumps continuously undertaken and particularly during monsoon and post-monsoon seasons to ascertain its stability. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the MoEF and its Regional office located at Bangalore on a yearly basis.	<b>Being complied</b> As submitted by PP, Over Burden (OB) of 69.773 Mm <sup>3</sup> were excavated till 31.03.2021 and stacked at earmarked external OB dumpsite of 411.49 ha area. The maximum height of +90 m height with each deck of 30 m height with an ultimate slope of below 28° was maintained. Green belt has been developed on the over burden of 8.80 ha so far. National Institute of Karnataka, Surathkal has been awarded to carry out the scientific study of stability & slope of OB dump. Monitoring and management of existing reclaimed dumpsites are being continued till vegetation becomes self sustained. Project proponent has agreed to submit the status of OB dumps, green belt development and other compliance status to regional office of Ministry
(v)	Catch drains and siltation ponds of	<b>Being complied</b>

	<p>appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted and maintained properly.</p> <p>Garland drains of suitable size gradient and length and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide for adequate retention period to allow proper settling of silt material.</p>	<p>Catch drains (3.5 km (length) and Settling ponds (5) were provided to arrest silt and sediment flows from soil, OB and coal dumps.</p> <p>The collected water were settled first, after siltation, the water reused for mining operations</p> <p>The drains was being desilted after monsoon and maintained properly.</p> <p>Garland drains (9.6 km, size: 2mx1m) has been provided around the external over burden dump. PA informed that construction of garland drains have been designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine lease area.</p> <p>Sump has been provided based on the annual rainfall data and designed to have adequate retention period and proper settling of silt material. After settling, the water has been pumped out and reused for mining operation and excess water has been discharged into nearest pond for augmentation of ground water.</p>
(vi)	<p>Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.</p>	<p><b>Complied</b></p> <p>As submitted by PP, retaining wall of 910m has been constructed at the toe of OB dump based on the rainfall data.</p>
(vii)	<p>Crushers at the proposed CHP shall be operated with high efficiency bag filters, water</p>	<p><b>Being Complied</b></p> <p>Water spraying arrangement was provided at Coal stock pile/crusher/feeder</p>

	sprinkling system shall be provided to check fugitive emissions from crushing operation, conveyor system, haulage roads and transfer points.	and breaker material transfer points. Belt-conveyors were covered with GI sheets to avoid air borne dust. Side cladding all along the conveyor gantry was provided with dust suppression system. Drills are wet operated only.  It is recommended that Crushing unit shall be covered with GI sheet additionally to reduce the dust emission during crushing of coal..
(viii)	No coal transportation shall be undertaken by road.	<b>Being complied</b> It was submitted that MoEF&CC has accorded permission to SCCL to transport coal by road with covered tarpaulin up to 31 <sup>st</sup> December,2021 based on the recommendations of 8 <sup>th</sup> EAC(Coal Mining Sector) held on 11.02.2021
(ix)	Drills shall be wet operated only.	<b>Complied</b> Drills are wet operated only.
(x)	Controlled blasting shall be practiced only during day time with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	<b>Complied</b> Controlled blasting was being practiced as per DGMS guidelines.
(xi)	Afforestation shall cover a total area of not less than 790.75 ha. which includes reclaimed external OB dump (411.49 ha), reclaimed topsoil dump, back filled quarry area (296.17 ha), along ML boundary, along roads and along	<b>Partly complied</b> Project authority has set up separate forest division with the experienced retired forest officers. Separate nursery were set up at Sathupalli for the purpose of green belt development. Green belt has been developed along ML boundary, roads,

	<p>service buildings and CHP, and other areas within the lease (83.09 ha) by planting native species in consultation with the local DFO / Agriculture Deptt. The density of the trees should be around 2500 plants per ha.</p>	<p>service buildings and CHP, and other areas within the lease with native species at a density of not less than 2500 nos. of plants/ha as per EMP. As submitted by PP, 14,000 saplings were planted in an area of 8.80 ha (external dump area- 7.30 ha. Avenue Plantation-1.50Ha) against the total area of 790.75 ha.</p> <p>However, the total area of developed green belt so far was found to be less than the stipulated area which was 790.75 ha. Project Proponent shall submit the time bound action plan to be taken in the future to this office.</p>
(xii)	<p>A Progressive Mine Closure Plan shall be implemented by reclamation of quarry area of 296.17 ha which shall be backfilled from the 10<sup>th</sup> year of mining and backfill the void and by rehandling 55.28 Mm<sup>3</sup> OB from the external OB dump and leaving a final mine void of 35 m depth at the final mine closure stage. The back filled quarry area shall be afforested by planting native plant species in consultation with the local DFO / Agriculture Department. The density of the trees shall be around 2500 plants per ha.</p>	<p><b>Agreed to comply</b></p> <p>Project proponent has submitted that progressive Mine Closure Plan will be implemented by reclamation of quarry area which shall be backfilled from the 10<sup>th</sup> year of mining. Aforestation of backfilled area will be carried out by planting the native plant species at a density of not less than 2500 plants/ha in consultation with the local DFO/SCCL Forest Department.</p>
(xiii)	<p>Besides carrying out regular periodic health check up of their</p>	<p><b>Being complied</b></p> <p>It was submitted that Periodical Health</p>

	workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmedabad within a period of one year and the results reported to this ministry and to DGMS.	checkups for occupational diseases and hearing impairment have been carried out by SCCL PME cell for both SCCL and contractual labors. Suspected cases for special occupational diseases and hearing impairment have been referred for consultation of specialists at Main Hospital, SCCL Kothagudem and corporate hospitals at located at Hyderabad. The results are being submitted to Regional office of Ministry and DGMS periodically.
(xiv)	ETP shall also be provided for workshop and CHP waste water. Mine discharge water shall be treated to prescribed standards before discharge into any natural water course.	<b>Being complied</b> ETP has been provided with for workshop with oil and grease trap. Monitoring of ETP effluents were carried out by third party. As per the report, monitored effluents were within prescribed limits. As informed, ETP sludge was disposed off with PCB authorized vendor.
(xv)	Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the MoEF and to the	<b>Complied</b> Ground water levels and quality were monitored at nineteen existing wells and seven piezometers. As submitted, Monitoring of ground water levels were being carried out four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons. Monitoring report were submitted to regional office along with half yearly compliance report.

	Central Pollution Control Board quarterly within one month of monitoring.	
(xvi)	Mine discharge water 28,450 m <sup>3</sup> /d during peak monsoon shall be treated in a three stage sedimentation tank along with coagulants, if required and shall meet standards prescribed especially with respect to pH, As, F and Total Suspended Solids (TSS) before discharge into natural water courses/agriculture.	<p><b>Partly complied</b></p> <p>Mine sump water has been allowed to be settled in settling pond first, after siltation, the supernatant water has been reused for mining operations. As informed, the excess water from the sump was discharged into Kistaram tank.</p> <p>Details were not made available for three stage sedimentation tank along with coagulants, monitoring of water quality parameter before discharge into natural water courses.</p>
(xvii)	No ground water shall be used for the mining/project activities. Additional water required, if any, shall be met by recycling/reuse of the water from the existing activities and from rainwater harvesting measures.	<p><b>Being Complied</b></p> <p>As submitted, Ground water has not been withdrawn for mining operations. Mine sump water were pumped out and settled in settling ponds developed at the surface of mine lease area. After siltation, water has been reused for mining operations. Admin and other office buildings were connected and provided with rain water harvesting structure. .</p>
(xviii)	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring of groundwater level indicates decline in the water table. The project authorities shall meet water requirement of nearby	<p><b>Being Complied</b></p> <p>Five settling ponds and two check dams were constructed in the project area for the augmentation of ground water recharging. As submitted by project authority, the village wells were not dried due to dewatering of the mine. Project Authority has informed that they will</p>

	village(s) in case the village wells go dry due to dewatering of mine.	meet water requirement of nearby village(s) in case the wells go dry due to dewatering of the mine. However, PP shall also develop more ponds in and around the mine lease area and in affected villages for augmentations of ground water resources. The excess water during rainy season may be discharged into those ponds after treatment.
(xix)	For monitoring land use pattern and for post mining land use, a time series of landuse maps, based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for anyone particular season which is consistent in the time series), and the report submitted to MOEF and its Regional Office at Bangalore.	<b>Being complied</b> Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey was carried out during 2019. The details were submitted to Regional Office of Ministry vide letter no.ENV/KGM/403, 404 &406/290, dated 12.09.2020.
(xx)	A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the MoEF 5 years in advance of final mine closure for approval.	<b>Agreed to comply</b> As of now, mining activities are in progress. Project proponent has agreed to implement the requirements as stipulated.
(xxi)	An amount not less than a capital expenditure of Rs. 3625.39 lakhs and a revenue expenditure of Rs. 902 lakhs shall be earmarked and utilized for environmental protection measures, the status of	<b>Being complied</b> As informed by PP, the funds are earmarked for environment protection measures have not been diverted for any other purpose. The following amount has been incurred towards environment

	<p>which shall be uploaded regularly on the company website and also furnished as part of the Monitoring report.</p>	<p>protection measures for last three year.</p> <table border="1" data-bbox="906 297 1321 517"> <thead> <tr> <th>Year</th> <th>Amount Rs.</th> </tr> </thead> <tbody> <tr> <td>2018-2019</td> <td>138262294</td> </tr> <tr> <td>2019-2020</td> <td>143463202</td> </tr> <tr> <td>2020-2021</td> <td>215507373</td> </tr> </tbody> </table> <p>The above expenditure incurred towards Air, water pollution monitoring and control measures, green belt development, OB dump stabilization and Consultancy etc.,</p>	Year	Amount Rs.	2018-2019	138262294	2019-2020	143463202	2020-2021	215507373
Year	Amount Rs.									
2018-2019	138262294									
2019-2020	143463202									
2020-2021	215507373									
(xxii)	<p>The costs for implementation of a Project specific R&amp;R Plan for R&amp;R of one village Kommepalli involving 120 PAFs and land losers from 4 villagers – Kommepalli, Kistaram, Errakunta &amp; Rejerla shall not be less than Rs. 12.40 Crores. The yearly activities undertaken and progress made on R&amp;R along with details of expenditure made on the various activities undertaken under R&amp;R shall be uploaded on the Company's website and updated at least once in six months.</p>	<p><b>Being complied</b></p> <ul style="list-style-type: none"> <li>• It was submitted that 229 families in Kommepalli village has been identified as PAFs.</li> <li>• An amount of Rs. 17.7969 Crores has been deposited with District Collector; Khammam on 07.08.2018 for distribution to PAFs</li> <li>• All the PAFs have been paid R&amp;R entitlement from 28.08.2018 to 30.08.2018 by RDO, Kallur.</li> <li>• PAFs are partially evacuated and relocated in R&amp;R center at Ayyagaripeta of Sathupalli town.</li> <li>• The R&amp;R status were submitted Regional office of Ministry along with half yearly compliance reports.</li> </ul>								
(xxiii)	<p>An amount not less than a capital expenditure of Rs. 27.52 crores and a revenue expenditure of Rs. 584.21 lakhs shall be earmarked and utilized for environmental protection measures, the status of</p>	<p><b>Being complied</b></p> <p>As informed by PP, the funds are earmarked for environment protection measures have not been diverted for any other purpose. The following amount has been incurred towards environment</p>								

	<p>which shall be uploaded regularly on the company website and also furnished as part of the Monitoring report.</p>	<p>protection measures for last three year.</p> <table border="1" data-bbox="847 286 1262 501"> <thead> <tr> <th>Year</th> <th>Amount Rs.</th> </tr> </thead> <tbody> <tr> <td>2018-2019</td> <td>138262294</td> </tr> <tr> <td>2019-2020</td> <td>143463202</td> </tr> <tr> <td>2020-2021</td> <td>215507373</td> </tr> </tbody> </table> <p>The above expenditure incurred towards Air, water pollution monitoring and control measures, green belt development, OB dump stabilization and Consultancy etc.,</p> <p>Details were submitted Regional office of Ministry along with half yearly compliance reports.</p>	Year	Amount Rs.	2018-2019	138262294	2019-2020	143463202	2020-2021	215507373
Year	Amount Rs.									
2018-2019	138262294									
2019-2020	143463202									
2020-2021	215507373									
(xxiv)	<p>The Project Authorities shall carry out a pre-mining socio-economic survey based on the UNDP Human Development Report and monitor the socio-economic status of the adjoining villages to be taken up under CSR once every three years and maintain records thereof and report in their Annual Report, the socio-economic impact of CSR activities. The yearly activities under taken and progress made on CSR along with details of expenditure made on the various activities undertaken under CSR shall be uploaded on the Company's website and updated at least once in six months.</p>	<p><b>Being complied</b></p> <p>Project authority has awarded M/s. Centre for Good Governance, Hyderabad to conduct the study on Pre-mining socio-economic survey based on the UNDP Human Development Report and the socio-economic status of the adjoining villages 2019-20. The report has been submitted to Ministry vide letter no.ENV/KGM/404/552//297 dated 26.09.2020.</p> <p>An amount of Rs. 476.27 lakhs incurred from 2015-2019. The yearly activities under taken and progress made on CSR along with details of expenditure made on the various activities undertaken under CSR will be uploaded on the Company's website and submitted along with half yearly compliance report.</p>								

**B.General conditions:**

(i)	No change in mining technology and scope of working shall be made without prior approval of the MoEF.	<p><b>Complied</b></p> <p>No change in mining technology and scope of the working as stipulated.</p>																										
(ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste shall be made.	<p><b>Complied</b></p> <p>Calendar plan including excavation, quantum of mineral coal has been complied as stipulated and the details provided by project authority are given below.</p> <table border="1" data-bbox="815 779 1420 1227"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="2">Coal (in MT)</th> <th colspan="2">Overburden (M.Cu.M)</th> </tr> <tr> <th>As per EC</th> <th>Actual</th> <th>As per EMP</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>2017-2018</td> <td rowspan="4">5.0</td> <td>0.749</td> <td>14.67</td> <td>7.573</td> </tr> <tr> <td>2018-2019</td> <td>2.955</td> <td>18.08</td> <td>18.071</td> </tr> <tr> <td>2019-2020</td> <td>4.828</td> <td>27.10</td> <td>24.179</td> </tr> <tr> <td>2020-2021</td> <td>4.756</td> <td>27.16</td> <td>19.950</td> </tr> </tbody> </table>	Year	Coal (in MT)		Overburden (M.Cu.M)		As per EC	Actual	As per EMP	Actual	2017-2018	5.0	0.749	14.67	7.573	2018-2019	2.955	18.08	18.071	2019-2020	4.828	27.10	24.179	2020-2021	4.756	27.16	19.950
Year	Coal (in MT)			Overburden (M.Cu.M)																								
	As per EC	Actual	As per EMP	Actual																								
2017-2018	5.0	0.749	14.67	7.573																								
2018-2019		2.955	18.08	18.071																								
2019-2020		4.828	27.10	24.179																								
2020-2021		4.756	27.16	19.950																								
(iii)	Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.	<p><b>Complied</b></p> <p>One continuous online AAQ system has been installed near at mine office building. Seven Ambient Air Quality Monitoring Station were established both in Core and buffer Zone i.e., Project Office, ii. Workshop, iii. Pit Head CHP, iv. Kistaram village, v. Sathupalli town, vi. Vengatapuram village, vii. Pallewada village. Parameters of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> were monitored at every fortnight through MoEF&amp;CC recognized laboratory. As per the report, monitored parameters were within prescribed limits. In addition,</p>																										

		<p>Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc were being carried out once in six months through MoEF&amp;CC recognized laboratory. As per the report, monitored parameters were within prescribed limits.</p> <p>Half yearly compliance reports were submitted regularly to regional office</p>
(iv)	<p>Fugitive dust emissions (PM<sub>10</sub>, PM<sub>2.5</sub>) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, and dump trucks (loading and unloading) points should be provided and properly maintained.</p>	<p><b>Being complied</b></p> <p>Fugitive dust emission were being monitored. As per the report, the emission levels were within prescribed standards. PP shall follow the recommendations given in page no. 9 under ii.</p>
(v)	<p>Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub>) shall be regularly submitted to the Ministry including its Regional Office at Bangalore and to the State Pollution Control Board and the Central Pollution Control Board once in six months.</p>	<p><b>Being complied</b></p> <p>Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>x</sub>) were submitted regularly to Regional Office of Ministry regularly.</p>
(vi)	<p>Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc. should be provided with ear plugs / muffs.</p>	<p><b>Complied</b></p> <p>Necessary personal protective equipments (PPE) like ear plugs/muffs were provided to mine workers. Noise level were monitored at four locations. i.e., i. Site Office, ii. Base Workshop, iii. Kistaram village iv. Sathupally town.</p> <p>Project Proponent shall monitor noise level at least one location in core area.</p>

(vii)	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E), dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.	<b>Being complied</b> ETP has been provided with for workshop with oil and grease trap. Monitoring of ETP effluents were carried out by third party. As per the report, monitored effluents were within prescribed limits. As informed, ETP sludge was disposed off with PCB authorized vendor.
(viii)	Vehicular emissions should be kept under control and regularly monitored. Vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.	<b>Being complied</b> It was informed that all the vehicles engaged in mining and allied activities were allowed only after verifying 'PUC' certificate from the authorized pollution testing centers.
(ix)	Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	<b>Complied</b> As submitted by PP, Environmental laboratory has been established. Post Project Environmental Monitoring has been carried out through external agency M/s. Environment Protection Training and Research Institute (EPTRI), Hyderabad.
(x)	Personnel working in dusty areas should wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers should be undertaken periodically to	<b>Being complied</b> Necessary PPEs were provided to workers including outsourced workers engaged in mining activities. As informed, Periodical trainings were given to the mining workers at the time of joining and regular interval As submitted, Occupational health surveillance programme of the workers were carried out as per Mines Act periodically

	observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof.	and records are being maintained.																										
(xi)	A separate Environmental Management Cell with suitable qualified personnel should be set up under the control of a Senior Executive who will report directly to the Head of the Company.	<p><b>Being complied</b></p> <p>A separate environment management department has been provided and functioning under the control of General Manager. The members of environment cell are under,</p> <table border="1"> <tr> <td>SO to General Manager</td> <td>Chairman</td> </tr> <tr> <td>Project Officer</td> <td>Member</td> </tr> <tr> <td>Area Engineer (E&amp;M)</td> <td>Member</td> </tr> <tr> <td>Area Civil Engineer</td> <td>Member</td> </tr> <tr> <td>Area Forest Officer</td> <td>Member</td> </tr> <tr> <td>Area Estates Officer</td> <td>Member</td> </tr> <tr> <td>Project Manager</td> <td>Member</td> </tr> <tr> <td>Project Engineer</td> <td>Member</td> </tr> <tr> <td>Project Surveyor</td> <td>Member</td> </tr> <tr> <td>Project Env. Officer</td> <td>Member</td> </tr> <tr> <td>Area Env. Officer</td> <td>Secretary</td> </tr> <tr> <td>Sr. Hydro Geologist</td> <td>Member</td> </tr> <tr> <td>Area Survey Officer</td> <td>Member</td> </tr> </table>	SO to General Manager	Chairman	Project Officer	Member	Area Engineer (E&M)	Member	Area Civil Engineer	Member	Area Forest Officer	Member	Area Estates Officer	Member	Project Manager	Member	Project Engineer	Member	Project Surveyor	Member	Project Env. Officer	Member	Area Env. Officer	Secretary	Sr. Hydro Geologist	Member	Area Survey Officer	Member
SO to General Manager	Chairman																											
Project Officer	Member																											
Area Engineer (E&M)	Member																											
Area Civil Engineer	Member																											
Area Forest Officer	Member																											
Area Estates Officer	Member																											
Project Manager	Member																											
Project Engineer	Member																											
Project Surveyor	Member																											
Project Env. Officer	Member																											
Area Env. Officer	Secretary																											
Sr. Hydro Geologist	Member																											
Area Survey Officer	Member																											
(xii)	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should be reported to this Ministry and its Regional Office at Bangalore.	<p><b>Being Complied</b></p> <p>It was submitted that the funds earmarked for environmental protection measures are kept in separate account and not diverted to any other purpose. Details of expenditure are being submitted along with Form-V to the State Pollution Control Board and Regional Office of Ministry.</p>																										
(xiii)	The Regional Office of this Ministry located at Bangalore shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the	<b>Agreed to comply with</b>																										

	Regional Office by furnishing the requisite data / information / monitoring Creports.	
(xiv)	A copy of the same shall be marked to concerned Panchayat / local NGO, if any, from whom any suggestion / representation has been received while processing the proposal.	<b>Being complied</b> As submitted, a copy was EC letter was circulated to all the concerned vide letter no. .KGM/ENV/405/2010/66 dated:06.04.2010 The Environmental Clearance letter has been uploaded on company's website (www. scclmines. com)
(xv)	State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/ Tahsildar's Office for 30 days.	<b>Complied</b> As submitted, SCCL has requested TSPCB to display the EC letter vide letter no.KGM/ENV/405/2010/67 dated 06.04.2010
(xvi)	The Project authorities should advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the Ministry of Environment & Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	<b>Complied</b> Advertisements regarding issuance of environmental clearance letter have been published in the local news paper i.e., i. Daily News paper of vernacular language in "Andhra Jyothi" Khammam Edition ii. English daily News paper "Deccan Chronicle" Vijayawada edition on in 04.04.2010. The Environmental Clearance letter has been uploaded on company's website (www. scclmines. com)
3.	The Ministry or any other competent authority may stipulate	<b>Agreed to comply with</b>

	any further condition for environmental protection.	
4.	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.	Agreed to comply with
5.	The above conditions will be enforced, inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, The Air (Prevention & Control of Pollution) Act, 1981, The Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	<p><b>Complied.</b></p> <p>PA has obtained Consent for Operation from State PCB vide Order No.170421033095 dated 03.01.2018 which is valid up to 31.10.2022. PLI Policy has been taken from the New India Assurance Company Ltd under Public Liability Insurance Act, 1991 vide policy No. 61360136203300000004, valid from 30.04.2020 to 29.04.2021.</p>

*Obange*

(Dr. E. Arockia Lenin)

Scientist C

डॉ. ई. आरॉकिया लेनिन

**DR. E. AROCKIA LENIN**

वैज्ञानिक 'सी'

**SCIENTIST 'C'**

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
 Ministry of Environment, Forest & Climate Change  
 एकीकृत क्षेत्रीय कार्यालय, हैदराबाद-500 004.  
 Integrated Regional Office, Hyderabad-500 004.

**SITE PHOTOGRAPHS**



**View of site vist of the project along with the project officers**



**View of JVR OCP**



**View of JVR OCP**



**View of Coal Stock Yard**



**View of Green plantaion with native species including Red sandalwood species on the OB dump**



**View of Green plantaion with native species including Red sandalwood species on the OB dump**



**View of Green plantaion with native species as barrier along the transportation road**



**View of Green plantaion with native species and setling pond**



**View of Effluent Treatment Plant**



**View of Stone barrier along the base of OB dump**



**View of desilted Catch/Garland drains along the base of OB dump**



**View of transportation road and Green belt development**



**View of active OB dump**



## Controlled Blasting Permisson

Annexure-C

भारत सरकार / Government of India

श्रम एवं रोजगार मंत्रालय

Ministry of Labour & Employment

खान सुरक्षा महानिदेशालय

Directorate General of Mines Safety

Hyderabad क्षेत्र सं 1 / Region no. 1

Phone: +9140 24602507

Fax: +9140 24602504

e-mail:

No. डी.1/जे.भी.आर.ओ.सि /अनुज्ञा/2006/ 1543

Hyderabad, dated the 21<sup>st</sup> August 2006.

प्रेषक

खान सुरक्षा निदेशक,  
हैदराबाद क्षेत्र-1  
गुहाकल्पा, ब्लॉक-2  
एम जे रोड, नागपल्लि,  
हैदराबाद-500001

सेवा में

अभिकर्ता एवं प्रबंधक,  
जलगम भैगलराव मोस्तरिया -1 खदान,  
M/s. सिंगरेनी कालरीज कं. लि.,  
PO: सत्तुपल्ली - 507302,  
खम्मम जिला (AP)

गहोदग,

**विषय:** Exemption under Regulation 170(1A & 1B) of the Coal Mines Regulations, 1957 of condition 1.0 of the permission letter No. H1/SATTUPALLI OCP-I/Perm/2005/1830 dated 27-9-2005, for deep hole blasting using more than 2 kgs. of explosive, within 300m and upto 125m of Jalagam Vengala Rao Nagar Residential Area and Market Yard, not belonging to the Owner at Jalagam Vengala Rao Opencast-I Mine- SCCL.

Please refer to your letter No. KGM/JVR DC-I/AGT/2006/67/1160 dated 6<sup>th</sup> May 2006 seeking permission for relaxation under Reg.170 (1A & 1B) of the Coal Mines Regulations, 1957 for doing deep hole blasting in proximity of Jalagam Vengala Rao Nagar Residential Area and Market Yard, falling within the Danger Zone at Jalagam Vengala Rao Opencast - I Mine of M/s. SCCL.

The matter has since been considered on the basis of the information furnished and shown on the accompanying plans/section(s). By virtue of the powers conferred on the Regional Inspector of Mines (also designated as Director of Mines Safety) under Regulation 170(1A & 1B) of the Coal Mines Regulations, 1957, I hereby permit you to carry out controlled blasting using more than 2kgs. of explosive within the Danger Zone at Jalagam Vengala Rao Opencast - I Mine within 300m and upto 125m of the Jalagam Vengala Rao Nagar Residential Area and Market Yard, not belonging to the owner, subject to the following conditions being complied with:

1. The entire drilling, stemming and blasting operations shall be carried out under the direct charge and supervision of a blasting officer holding First Class Manager's Certificate of Competency who shall be assisted by two Assistant Managers holding Second Class Certificate; one for drilling operations and the other for blasting operations with sufficient number of officials to ensure constant personal supervision for the entire operations.
2. The explosive charge per delay shall be such, so as to limit the vibrations to Peak Particle Velocity (ppv) value of 10mm per second with a frequency more than 8 Hz. However, the charge per delay should not exceed 100Kgs for blasting upto 200m and 50Kgs while blasting upto 125m, at any time. The delay interval shall not exceed 25 milli-second.
3. No secondary blasting shall be done and rock breaker shall be used within the danger zone for dealing with boulders, if any.
4. Initiation shall be arranged according to the direction of the face with respect to the nearest structure in such a way that the propagation of detonating holes or a row of holes through non-electric initiation & stem which should progress away from the structures.

SAM (AP) / 5/10

5. Blasting shall not be carried out in crushed, broken area or sliced ground. Such crushed, broken or sliced ground shall be extracted with rock breakers and excavators.
6. Strict monitoring on movement of strata shall be made while blasting within 60m of all the faults and geological disturbances.
7. It shall be ensured that the burden distance and the length of the stemming column are adequate to prevent the premature release of the gases of detonation. If excessive back break is resulted due to the previous blast, more stemming shall be used in first row of the blast.
8. Burden, spacing, length of stemming column and sub-drilling shall be maintained to the required levels only, which shall not be increased or decreased to avail excess ground vibrations produced and airblast levels caused. The Manager of the mine shall formulate the blast design in consultation with a scientific organization/institute, which shall be implemented as designed for the purpose. Such blast design shall be in accordance with this permission.
9. Effective systems shall be devised and followed to ensure warning and withdrawal of persons before blasting, as per Regulation 170(1) of the Coal Mines Regulations, 1957. While blasting, the Shotfirer and his assistants shall take adequate shelter. It shall be ensured that all the persons, Shotfirer and his assistants or any person is withdrawn from the restricted blasting area and takes shelter beyond 125m of the place of firing of shots.
10. Blasting operations shall be carried out during lean period of day light hours only, which shall be fixed, displayed and publicised in consultation with the elected representatives of the colony and market.
11. Every blast shall be monitored. The details of blasting parameters followed together with the results obtained at point 15m from the nearest house/shop in respect of following shall be maintained and made available at the office of the mine.
  - i) Distance of instrument from nearest blast hole
  - ii) Fly rock distance from the farthest hole
  - iii) ppv value in mm/second and frequency in Htz.
  - iv) Sound level in dB.

A suitable blaster's shelter shall be deployed for positioning of instrument and person making observations.

12. Prior to blasting each hole shall be muffled by old wire rope grid of 1.28m x 1.2m and 25mm Mats, each overlapping by 0.3m and loaded with atleast 4 sand bags each containing not less than 30Kgs of sand so as to ensure that flying rock does not come beyond 10m of the place of blast.
13. The owner(s) of the mine shall indemnify the residents in the event of any loss or damage, which might be caused due to blasting operations or any other cause, whatsoever.
14. Complaint, if any, received from resident of houses not belonging to owner and situated within the danger zone shall be immediately brought to the notice of this Directorate and no blasting shall done unless a fresh written permission is obtained from this Directorate.
15. This permission may be amended/modified or withdrawn at any time should it be considered in the interest of safety.
16. This permission is being granted without prejudice to any other statutory requirements, which may or may become applicable to the mine at any time.
17. If at any time any of the conditions subject to which this permission is granted is violated or not complied with, this permission shall be deemed to have been revoked with immediate effect.

Please acknowledge the receipt of this letter,

भवदीय,  
21/12/06  
(ए वहीर)  
मान सारखा निदेशक,



भारत सरकार / Govt. of India  
 श्रम एवं रोजगार मंत्रालय  
 Ministry of Labour & Employment  
 खान सुरक्षा महानिदेशालय  
 Directorate General of Mines Safety  
 हैदराबाद क्षेत्र सं1/Hyderabad Region No.1.

Registered



संख्या, H1/1191131339/JVROC/Perm107(1B)/2015/ हैदराबाद, दिनांक /09/2015

प्रेषक.  
 खान सुरक्षा निदेशक / The Director of Mines Safety,  
 हैदराबाद क्षेत्र सं1 / Hyderabad Region No.1.

सेवा में,  
 अभिकर्ता / Agent  
 जलगाम वेगलराव खुली खदान,  
 मेसर्स. सिंगरेनी कालरीज कं. लि.,  
 डाक घर: सत्तुपल्ली, 507302, खम्मम जिल्ला ।

(G.M.) KGM  
 C.G.M. (Safety)  
 for strict compliance  
 19/9

विषय: Permission u/r 170(1B) of the CMR, 1957 for conducting controlled blasting within 500 m and upto 100m of Surface Structures like Jinugupalli Village, temple, tomb, PWD road, etc. at Jalagam Vengala Rao Opencast-I Mine of M/s S.C.C.L.

महोदय,

Please refer to your application No.KGM/JVR.OC-1/SUR-1/15/612 dated 13.06.2015 and the subsequent correspondence, plan/sections enclosed therewith on the above subject.

The matter has since been considered in this Directorate. By virtue of the powers conferred on the Chief Inspector of Mines (also designated as Director-General of Mines Safety) under the provisions of Regulation 170(1B) (a) of the Coal Mines Regulations, 1957, and by virtue of the authorization granted to me by the Chief Inspector of Mines (also designated as the Director-General of Mines Safety) under Section 6 (1) of the Mines Act, 1952, I hereby permit you for blasting operations within 500 m but beyond 100m of of Surface Structures like Jinugupalli Village, temple, tomb, PWD road, etc. at Jalagam Vengala Rao Opencast-I Mine of M/s S.C.C.L as shown on enclosed plan No.SCCL/KGM/JVROC-I/R-107/2014/145 dated 16.12.2014, subject to strict compliance of conditions given below and all the conditions mentioned in permission Lr.No. H1/JVROC/Perm/2006/1543 dated 21.08.2006:

- 1.0 Condition No.2: The explosive charge per delay shall be such, so as to limit the vibrations to Peak Particle Velocity (ppv) value of 10mm per second with a frequency more than 8Hz. However, the charge per delay should not exceed 100Kgs for blasting upto 20m and 50Kgs while blasting upto 100m, at any time. The delay interval shall not exceed 25 milli-second.
- 2.0 Condition No.10: Blasting operations shall be carried out during lean period of day light hours only, which shall be fixed, displayed and publicized in consultation with the elected representatives of Jinugupalli Village, Temple and R&B authorities.

G.M. (S) KGM  
 Dhrs  
 SSO  
 24/9/15

म व दी य,  
 ह/-

(एस के मंगोपाध्याय)  
 खान सुरक्षा निदेशक  
 हैदराबाद क्षेत्र सं1

1902  
 18/9/15



संख्या.H1/1191131339/JVROC/Perm107(1B)/2015/2445 हैदराबाद, दिनांक 15/09/2015

आवश्यक कार्रवाई एवं सूचनार्थ प्रेषित

1. निदेशक, (प्रचालन) एवं नामांकित स्वामी, मेसर्स, सिंगरेनी कालरीज कं. लि, डाक घर, वीत्तगूडेम -507101, खम्मम जिल्ला ।
2. मुख्य महाप्रबंधक, वीत्तगूडेम क्षेत्र, मेसर्स, सिंगरेनी कालरीज कं. लि, डाक घर, रूद्रमपुर -507 118, खम्मम जिल्ला ।
3. प्रबंधक, जलगाम वेंगलरॉव खुली खदान, मेसर्स, सिंगरेनी कालरीज कं. लि, डाक घर, रातुपल्ली, 507302, खम्मम जिल्ला ।

23/9/15  
15/9/2015  
खान सुखा निदेशक,  
हैदराबाद क्षेत्र-1

11/23/2015



### Noise Monitoring in nearby Habitation / Villages During Day and Night for one month

#### 1.0 Introduction

Detailed survey on noise environment was carried out in nearby habitation/villages to study the hourly equivalent noise levels as per IS: 4594-1968. To study the ambient noise levels of surrounding villages/habitations around the project, six (6) stations were selected.

The study was carried out continuously for a period of one month from 27<sup>th</sup> April 2021 to 26<sup>th</sup> May, 2021. Noise levels were measured for 24 hours on hourly basis by using Integrated Sound Level Meter in all the six locations.

The details of noise monitoring locations are given in Table 1.1 and Google map showing the noise level monitoring locations are furnished as Fig 1.1. and topo map showing the noise location given in Fig. 1.2

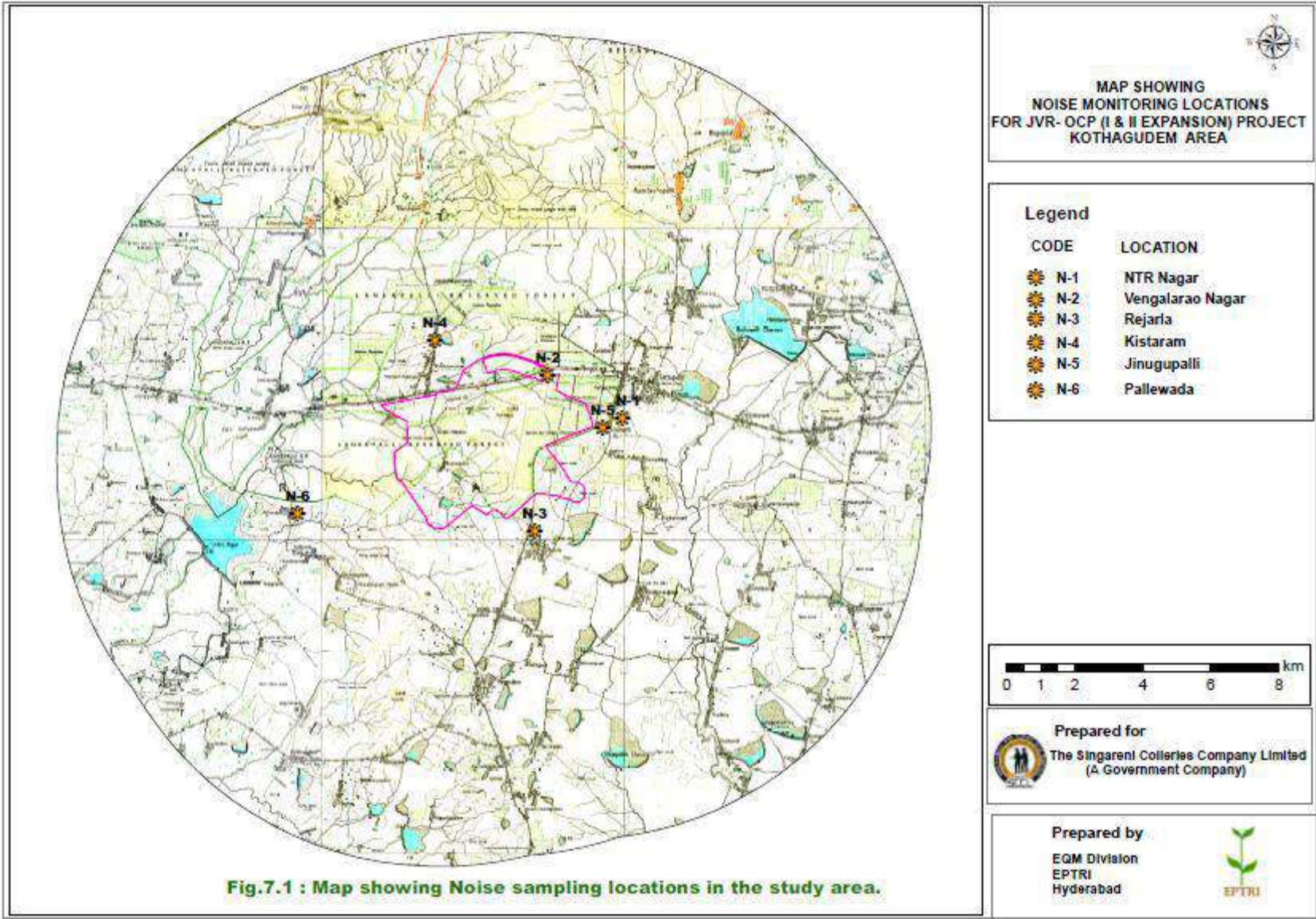
**Table 1.1 Noise monitoring Locations**

Code	Station	Distance	Direction	Latitude	Longitude	Category
N-1	NTR Nagar	0.9	E	17° 12' 01.41"	80° 49' 51.98"	R
N-2	Vengalarao Nagar	0.12	N	17° 12' 43.80"	80° 48' 37.46"	R
N-3	Rejarla	0.82	S	17° 10' 13.42"	80° 48' 24.68"	R
N-4	Kistaram	1.23	NW	17° 13' 16.02"	80° 46' 45.13"	R
N-5	Jinugupalli	0.28	E	17° 11' 52.43"	80° 49' 32.38"	R
N-6	Pallewada	3.15	SW	17° 10' 30.50"	80° 44' 28.70"	R

**Fig.1.1 Google Image of Noise monitoring stations**



**Fig. 1.2 Topo Map showing the Noise Monitoring Location**



**Noise Monitoring Photos**



**Table 1.2 Noise Standards: Noise Pollution  
(Regulation and Control) Rules, 2000**

**Notification: S.O. 123(E), dated 14.2.2000**

Schedule (see rule 3(1) and 4(1))

**Ambient Air Quality Standards in respect of Noise**

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

Note:

1. Day time shall mean from 6.00 a.m to 10.00 p.m.
2. Night time shall mean from 10.00 p.m to 6.00 a.m.
3. Silence zone is an area comprising not less than 100meters around hospitals, educational institutions and courts, religious places or any other area which is declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories the Competent Authority.

\*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

“Decibel” is a unit in which noise is measured.

“A”, in dB (A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is energy mean of the noise level over a specified period.

**Table 1.3 Noise level data**

Date of Sampling	Noise levels in dB (A)													
	NTR Nagar		Vengal Rao Nagar		Rejarla		Kistaram		Jinugupalli		Pallewada		Kistaram	
	(N-1)		(N-2)		(N-3)		(N-4)		(N-5)		(N-6)		(N-4)	
	Leq Day	Leq Night	Leq Day	Leq Night	Leq Day	Leq Night	Leq Day	Leq Night	Leq Day	Leq Night	Leq Day	Leq Night	Leq Day	Leq Night
27-04-2021	46.9	39.7	49.1	34.9	51.8	41.0	51.5	40.9	52.7	43.5	50.3	38.5	51.5	40.9
28-04-2021	51.8	43.0	48.7	36.4	52.1	42.2	50.5	38.5	52.9	43.7	49.6	38.1	50.5	38.5
29-04-2021	51.0	40.9	51.6	40.2	51.7	40.8	51.8	39.4	51.7	41.6	51.7	39.5	51.8	39.4
30-04-2021	50.6	41.8	50.6	39.2	52.9	42.4	51.4	39.1	51.4	41.6	51.0	38.7	51.4	39.1
01-05-2021	51.4	40.8	47.3	38.7	52.4	40.4	51.9	39.5	53.0	43.8	49.6	37.6	51.9	39.5
02-05-2021	50.2	40.0	49.5	38.8	51.8	39.6	51.1	38.8	51.9	43.0	50.3	38.0	51.1	38.8
03-05-2021	49.2	37.3	47.5	37.8	49.8	38.7	51.0	38.3	50.7	40.3	49.3	37.8	51.0	38.3
04-05-2021	49.9	38.8	46.6	37.3	49.7	39.0	50.7	38.0	51.5	43.2	48.7	37.2	50.7	38.0
05-05-2021	50.5	39.4	47.9	39.6	51.6	41.0	49.7	38.6	51.9	42.5	48.8	37.3	49.7	38.6
06-05-2021	52.0	40.0	48.2	35.7	52.2	41.2	51.1	39.3	52.7	42.2	49.7	38.2	51.1	39.3
07-05-2021	50.8	39.5	48.7	36.0	51.5	40.3	50.6	38.7	51.2	41.3	49.7	37.9	50.6	38.7
08-05-2021	52.1	39.2	47.8	35.4	50.8	41.0	49.9	37.9	50.2	41.1	48.9	37.1	49.9	37.9
09-05-2021	50.4	39.3	48.9	36.2	52.0	41.9	51.6	39.2	51.3	40.0	50.3	38.1	51.6	39.2
10-05-2021	49.2	37.3	48.5	35.9	51.7	40.9	50.9	38.4	50.0	39.1	49.7	37.5	50.9	38.4
11-05-2021	51.1	40.0	48.8	36.1	49.5	39.6	52.1	40.0	52.0	40.8	50.5	38.7	52.1	40.0
12-05-2021	46.8	37.2	47.6	35.2	49.0	38.7	49.1	37.6	51.0	38.1	48.4	37.0	49.1	37.6
13-05-2021	50.5	36.7	46.9	34.7	49.1	37.3	48.9	37.4	49.9	39.5	47.9	36.6	48.9	37.4
14-05-2021	51.2	37.2	49.8	37.6	50.2	38.0	49.5	38.1	50.1	38.5	49.7	38.2	49.5	38.1
15-05-2021	50.3	40.0	50.3	38.1	49.6	37.4	50.2	38.4	51.2	39.8	50.3	38.4	50.2	38.4
16-05-2021	48.0	37.7	49.7	37.6	50.4	38.2	48.5	36.8	48.9	38.5	49.1	37.3	48.5	36.8
17-05-2021	49.4	37.5	50.4	38.4	49.8	37.8	47.9	36.4	50.1	39.7	49.2	37.3	47.9	36.4
18-05-2021	49.7	38.9	49.9	38.2	50.1	38.8	48.1	36.3	51.5	40.9	49.0	37.0	48.1	36.3
19-05-2021	51.0	40.7	50.8	38.9	49.0	36.9	50.6	38.9	51.9	39.5	50.7	38.9	50.6	38.9
20-05-2021	49.9	38.8	49.0	37.1	49.6	36.5	49.2	37.6	49.1	38.8	49.1	37.6	49.2	37.6
21-05-2021	50.6	40.1	48.5	36.9	50.0	38.2	48.8	37.3	50.0	39.7	48.7	37.2	48.8	37.3
22-05-2021	49.5	39.1	49.2	36.7	49.5	37.9	50.0	38.5	49.6	39.3	49.6	38.1	50.0	38.5
23-05-2021	50.5	39.8	49.5	37.2	50.9	38.5	50.2	38.4	50.8	39.7	49.9	38.1	50.2	38.4
24-05-2021	49.7	39.5	48.8	36.5	51.3	39.4	48.3	36.7	48.6	38.7	48.6	36.8	48.3	36.7
25-05-2021	49.3	38.7	49.7	37.9	51.9	38.7	49.2	37.3	51.1	40.8	49.5	37.5	49.2	37.3
26-05-2021	50.0	39.3	49.1	37.5	50.3	38.4	49.5	37.4	49.0	38.8	49.3	37.2	49.5	37.4
Min	46.8	36.7	46.6	34.7	49.0	36.5	47.9	36.3	48.6	38.1	47.9	36.6	47.9	36.3
Max	52.1	43.0	51.6	40.2	52.9	42.4	52.1	40.9	53.0	43.8	51.7	39.5	52.1	40.9
Average	50.1	39.3	49.0	37.2	50.7	39.4	50.1	38.2	51.0	40.6	49.5	37.8	50.1	38.2
Limits in dB(A) Leq	55	45	55	45	55	45	55	45	55	45	55	45	55	45

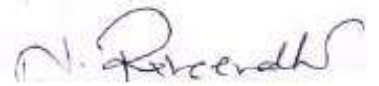
*Note:* 1. Daytime is reckoned in between 6 a.m and 10 p.m  
2. Night time is reckoned in between 10 p.m and 6 a.m

## Observations:

The summary of the ambient noise monitoring results are as follows.

Station	Distance	Direction	Leq Day		Leq Night	
			Min	Max	Min	Max
NTR Nagar	0.9	E	46.8	52.1	36.7	43.0
Vengalarao Nagar	0.12	N	46.6	51.6	34.7	42.0
Rejarla	0.82	S	49.0	52.9	36.5	42.4
Kistaram	1.23	NW	47.9	52.1	36.3	40.9
Jinugupalli	0.28	E	48.6	53.0	38.1	43.8
Pallewada	3.15	SW	47.9	51.7	36.6	39.5
Standards			55		45	

The details of hourly readings for 24 hours period, monitored at six locations are given in the Tables 1.3. Maximum value of Leq Day is 53.0 dB (A) at Jinugupalli (BN5), and minimum is 46.6 dB (A) at Vengalarao Nagar (BN2). Maximum value of Leq Night is 43.8 dB (A) at Jinugupalli (BN5), and minimum is 34.7 dB (A) at Vengalarao Nagar (BN2). From the data collected, it is observed that the noise levels in terms of Leq (day) and Leq (night) are well within the stipulated standards at all the locations.



Signature  
EPTRI  
Lab HOD

\*\*\*

Monitoring of Blast Induced Ground Vibrations and Air Over Pressure

**A Report on Noise and Blast Induced  
Ground Vibrations**

**For**

**The Singareni Collieries Comapny Limited  
( A Government Company)**

**JVR OCP's, Sathupalli, Khammam Dist.Telangana State**

**May 2021 to June 2021**

**By**



**Uttam<sup>®</sup>  
Blastech**  
PRIVATE LIMITED

**The Mining & Excavation Expert**



# 203, Pavani Annexe, # 8-2-276, Road No.02, Banjara Hills,  
Hyderabad - 500034. Website: [www.uttamblastech.com](http://www.uttamblastech.com)

**Monitoring of Blast Induced Ground Vibrations and Noise  
in nearby habitation / villages during blasting period for 1 month at  
JVR OCP, Sathupalli**

**PURPOSE OF STUDY**

Monitoring of Blast induced ground vibrations and noise/ (AOP) air over pressure is carried out in nearby 5 habitation/villages for a period of 1 month at JVP OCP, Sathupalli. Seismographs with Tri axial Geophones and Microphones are used for monitoring Blast induced noise/(AOP) air over pressure and ground vibrations.

At Jalagam Vengal Rao Opencast Project-II, as per the data provided by the blasting department, Controlled Blasting is being conducted with Nonels. Coal is being extracted departmentally and overburden is removed by contractual agencies. Site mixed emulsion explosives are being used for blasting in overburden and low-density explosives are being used in coal with nonels. The present working depth of the working Area at KLP O/L is 55 m and Suhsee is 80 m.

**METHODOLOGY**

- ❖ 5 numbers of monitoring locations were selected around the quarry, which are in close proximity to the habitation / villages.
- ❖ Monitoring was carried out by using 4 numbers of INSTANTEL make and 1 number NOMIS make Seismograph.
- ❖ Trigger Limit of all the 5 Seismographs is kept at 0.508 mm/sec.
- ❖ The readings were recorded during the period of Blasting for one month from 12.05.2021 to 12.06.2021.

**Table No. 1: - PERMISSIBLE PEAK PARTICLE VELOCITY (PPV)**

Permissible Peak Particle Velocity (PPV) at the foundation level of structures in the mining areas in mm/s as per the DGMS Technical Circular No. 7 of 1997 is as follows.

TYPE OF STRUCTURES	DOMINANT EXCITATION		FREQUENCY
	< 8 Hz	8 - 25 Hz	> 25 Hz
<b>A) Buildings/structures not belonging to the owner.</b>			
Domestic Houses /Structures (Kacha, Brick and Cement).	5 mm/sec	10 mm/sec	15 mm/sec
Industrial buildings (RCC and Framed Structure).	10 mm/sec	20 mm/sec	25 mm/sec
Objects of Historical Importance and Sensitive structures.	2 mm/sec	5 mm/sec	10 mm/sec
<b>B) Buildings belonging to the owner with a limited span of life.</b>			
Domestic Houses /Structures (Kacha, Brick and Cement).	10 mm/sec	15 mm/sec	25 mm/sec
Industrial buildings (RCC and Framed Structure).	15 mm/sec	25 mm/sec	50 mm/sec

## SEISMOGRAPHS USED FOR NOISE AND VIBRATION MONITORING

### 1. NOMIS

**NOMIS**  
SEISMOGRAPHS

*Rock-solid machines*

*Unshakable service*

## Mini-SuperGraph II



Our 2015 entry comes complete with the latest in technological features second to none.

#### Features

- Sample rates up to 16k samples per second
- USB connectivity for downloading events to PC
- Thumb Drive with event synchronization
- Standard event memory storage for up to 65k events
- Self trigger (waveform), Bar Graph and Combo modes standard
- Smart Sensor technology included
- All results displayed on one LCD screen with back light
- Included software for automatic downloading & emailing of data (modem required).
- Unique option to name and save setup information
- No wait time between events so consecutive events are not missed
- Quick and easy setup procedures
- Complies with ISEE seismograph standards for 2015
- 2-year warranty on parts and labor



## 2. MINIMATE

# Minimate™

## Low-Cost Vibration and Air Overpressure Monitor

### Range of Applications:

- Blast-monitoring for compliance
- Remote monitoring

The Minimate is a cost-effective solution for day-to-day compliance monitoring of blasting operations, and has become the mini-seismograph of choice for blasting professionals worldwide. With the quality and rugged reliability consistently provided by Instantel, the Minimate is an economical seismograph that everyone can afford.

### Easy to use

The Minimate offers a complete compliance seismograph in a compact package that weighs less than 1.5 kg (3 lbs).

The seven-key tactile keypad and on-board LCD, with a clearly structured, menu-driven interface, give you the complete control you need to quickly and easily prepare the instrument for monitoring.

Recorded events are easily downloaded to a computer via a standard RS-232 interface using Instantel's Blastware® Event Management Software. Blastware also provides the tools you need to manage event files, with the ability to print both event reports and FFT frequency analysis.

For added flexibility, the Minimate can print event reports in the field without a computer by simply connecting it to any Instantel Blastmate® II monitor.

### Versatile

Even with its small size, the Minimate still provides ten continuous, 24-hour days of battery life and the storage capacity for up to 40 blast events. And with Instantel's Auto Record mode, the monitor continues to record for up to twenty seconds, as long as activity periodically remains above the trigger level.

The Minimate package includes an external three-component sealed geophone, which allows the flexibility for both burial and surface-mount installations.

Minimate - Simple, effective blast monitoring from Instantel.



### Key Features

- Small, rugged package for portability and easy setup.
- Easy-to-use keypad with intuitive menu-driven operation.
- Rechargeable gel cell battery with 240 hour capacity (continuous monitoring).
- 1024 Hz sample rate for compliance accuracy from 2 to 250 Hz.
- Non-volatile memory with 40 event storage capacity.
- Auto Record mode continues to record event as long as vibration is above trigger level for up to 20 seconds.
- Ability to print reports directly to Blastmate II or compatible printers without a computer.
- Timer mode allows you to record only when you want to.

 **Instantel®**

On the practical edge of technology

[www.instantel.com](http://www.instantel.com)



### 3. MONITORING LOCATIONS

Sl.No.	Location		Distance from Project mine boundary	Latitude	Longitude	Make of Seismograph
1.	NV 1	Rejarla Village – Near Sattermma Temple	459 meters	17°10'35.1"N	80°48'26.1"E	NOMIS
2.	NV 2	Vengalarao Nagar	1864 meters	17°12'43.80"N	80°48'37.46"E	MINIMATE
3.	NV 3	NTR Nagar/Colony	2609 meters	17° 12'1.41"N	80°49'51.98"E	MINIMATE
4.	NV 4	Jinugupalli Village	2013 meters	17°11'52.43"N	80°49'32.38"E	MINIMATE
5.	NV 5	Rejarla Village – Near Poultry Farm	880 meters	17°10'13.42"N	80°48'24.68"E	MINIMATE

NV 1: At the NV1 the data was collected remotely by using real time monitoring seismograph equipment.

NV2 to NV5: Instanetl Make seismographs were used and are monitored daily at the time of Blasting.



## Monitoring Locations in Google Map





1. NV 1 - Rejarla Village Near Sattemma Temple



2. NV 2 - Vengal Rao Nagar



3. NV 3 - NTR Nagar/Colony



4. NV 4 - Jimugupalli Village



5. NV 5 - Location: Rejarla Near Poultry Farm

## **OBSERVATIONS**

1. Monitoring is carried out during the period of blasting.
2. Total 346 Blasts were monitored during the period from 12-05-2021 to 12-06-2021 with 5 No. of Seismographs kept at 5 different locations.
3. The trigger limit of NOMIS is 0.508 mm/s and trigger limit of MINIMATE Seismograph is 0.508 mm/s, below which readings cannot be recorded.
4. Readings are recorded only at NV1 (Rejarla village near Sattemma Temple) and in the balance four locations no reading were recorded during the above monitoring period.
5. At NV-1 i.e., Rejarla village near Sattemma Temple, minimum and maximum ppv recorded are 0.508 mm/sec and 0.635 mm/sec respectively. The minimum and maximum Air over pressure recorded are 110.9 dBA and 127.3 dBA respectively.
6. Summary of observations is as follows.

Location	Station	Minimum Instrument distance from Blast site (Meters)	No. of Blasts Monitored	PPV (mm/sec)		Air Over Pressure (dBA)	
				Min	Max	Min	Max
NV 1	Rejarla Village - Near Sattemma Temple	521	346	0.508	0.635	110.9	127.3
NV 2	Vengal Rao Nagar	1756	346	NR	NR	NR	NR
NV 3	NTR Nagar/Colony	2730	346	NR	NR	NR	NR
NV 4	Jinugapalli Village	2130	346	NR	NR	NR	NR
NV 5	Rejarla Village - Near Poultry Farm	972	346	NR	NR	NR	NR

### **Note:**

- a. All the above-mentioned blasts ( 346 blasts) are monitored, and the events recorded are triggered above 0.508 mm/sec which was the trigger limit of all the 5 Seismographs used for monitoring noise and blast vibrations at 5 different locations.
- b. Out of all, only 5 blast vibrations are recorded in the range of 0.508 mm/sec to 0.635 mm/sec. with a dominant frequency range of 9.8 Hz to 14.6 Hz.
- c. These 5 Vibration records are compared with DGMS Prescribed limits for type of structures like Domestic Houses / Structures (Kacha, Brick and Cement), and the Dominant frequency range is of 8 to 25 Hz for 5 events.
- d. After analyzing the 5 evens data and comparing with the above DGMS Standards (Table No. 1, Page No. 02), it is observed that the vibrations generated by 346 blasts are well within the permissible limits.

## SUMMARY OF MONITORING DATA

### LOCATION - NV1 - REJARLA VILLAGE NEAR SATTEMMA TEMPLE

Date	Time Hrs. - Min	No. of Blasts Monitored	No. of Holes per Blast	Instrument distance from Blast site (m)	Explosive Charge per Blast (kg)	Ground Vibrations			Air Over Pressure	
						PPV (mm/sec)		Frequency	dB(A)	
						Min	Max	Hz	Min	Max
12-May-21	12:00 - 12:25	11	80-120	521-2403	1250-5150	NR	NR	NR	NR	NR
13-May-21	12:05 - 12:20	13	47-120	533-2391	850-6600	NR	NR	NR	NR	NR
14-May-21	12:05 - 12:22	10	63-120	520-2540	2000-5700	NR	NR	NR	NR	NR
15-May-21	12:04 - 12:15	10	63-120	579-2375	1200-5950	0.635	NR	13.4	110.9	NR
16-May-21	12:05 - 12:21	09	100-120	769-1964	1500-5650	NR	NR	NR	NR	NR
17-May-21	12:07 - 12:23	11	39-120	656-2805	1000-5500	NR	NR	NR	NR	NR
18-May-21	12:07 - 12:22	10	54-120	580-2296	1240-4470	NR	NR	NR	NR	NR
19-May-21	12:05 - 12:20	11	43-120	624-2551	1300-5700	NR	NR	NR	NR	NR
20-May-21	12:07 - 12:25	10	59-120	674-2775	3000-5700	NR	NR	NR	NR	NR
21-May-21	12:08 - 14:30	10	58-120	661-2015	980-6390	NR	NR	NR	NR	NR
22-May-21	12:05 - 12:20	10	70-120	592-1947	1200-6000	NR	NR	NR	NR	NR
23-May-21	12:04 - 12:25	13	52-120	744-2603	1800-6200	NR	NR	NR	NR	NR
24-May-21	15:08 - 15:20	13	40-120	534-2563	420-6400	NR	NR	NR	NR	NR
25-May-21	15:05 - 15:20	12	43-120	667-2673	650-6000	NR	NR	NR	NR	NR
26-May-21	15:07 - 15:25	14	33-120	580-2870	250-5900	NR	NR	NR	NR	NR
27-May-21	15:06 - 15:20	12	47-120	536-2791	240-5800	NR	NR	NR	NR	NR
28-May-21	15:08 - 15:24	11	26-120	579-2309	550-5600	NR	NR	NR	NR	NR
29-May-21	15:04 - 15:17	11	37-120	559-2906	1200-7200	NR	NR	NR	NR	NR
30-May-21	15:05 - 15:19	11	39-120	688-2861	1650-6050	NR	NR	NR	NR	NR
31-May-21	15:07 - 15:22	09	98-120	670-2242	1950-6480	NR	NR	NR	NR	NR
01-Jun-21	15:03 - 15:22	11	41-120	656-2394	1300-6000	NR	NR	NR	NR	NR
02-Jun-21	15:07 - 15:25	10	79-120	606-2866	1050-6400	NR	NR	NR	NR	NR
03-Jun-21	15:03 - 15:12	06	99-120	719-2486	4240-3800	NR	NR	NR	NR	NR
04-Jun-21	15:04 - 15:26	13	35-120	559-2371	2000-6000	NR	NR	NR	NR	NR
05-Jun-21	15:00 - 15:25	11	48-120	518-2336	1790-6300	NR	NR	NR	NR	NR
06-Jun-21	15:00 - 15:20	10	59-120	619-2291	1300-6100	0.508	0.635	9.8	117.3	116.9
07-Jun-21	15:02 - 15:22	08	40-120	598-1885	740-6000	NR	NR	NR	NR	NR
08-Jun-21	15:00 - 15:24	13	37-120	501-2976	1400-6350	NR	NR	NR	NR	NR
09-Jun-21	15:07 - 15:25	12	39-120	513-2597	1500-7200	NR	NR	NR	NR	NR
10-Jun-21	15:02 - 15:23	13	67-120	506-2564	1060-8700	0.635	NR	14.6	117.3	NR
11-Jun-21	15:00 - 15:17	07	51-120	518-2250	3000-6800	NR	NR	NR	NR	NR
12-Jun-21	15:00 - 15:25	14	35-120	714-2233	1460-6600	NR	NR	NR	NR	NR
		346								

Remarks :

1. The Village is at distance of 459 meters from mine boundary.
2. Instrument trigger limit is 0.508 mm/sec.
3. Monitored 346 blasts in one month period. Only 5 events triggered during blasting period.
4. The max. and min. blast induced ground vibrations in ppv is 0.635 mm/sec and 0.508 mm/sec respectively.
5. The maximum and minimum Air over pressure is 127.3 dBA and 110.9 dBA respectively.

## SUMMARY OF MONITORING DATA

### LOCATION - NV2 - VENGALRAO NAGAR

Date	Time Hrs : Min	No. of Blasts Monitored	No. of Holes per Blast	Instrument distance from Blast site (m)	Explosive Charge per Blast (kg)	Ground Vibrations			Air Over Pressure	
						PPV (mm/sec)		Frequency Hz.	dB(A)	
						Min	Max		Min	Max
12-May-21	12.05 - 12.25	11	80-120	2039-3848	1250-5150	NR	NR	NR	NR	NR
13-May-21	12.05 - 12.20	13	47-120	2079-3710	850-6600	NR	NR	NR	NR	NR
14-May-21	12.01 - 12.22	10	63-120	1926-3989	2000-5700	NR	NR	NR	NR	NR
15-May-21	12.04 - 12.20	10	63-120	2040-3873	1200-5950	NR	NR	NR	NR	NR
16-May-21	12.05 - 12.21	09	100-120	2221-3979	1500-5650	NR	NR	NR	NR	NR
17-May-21	13.07 - 12.25	11	50-120	1839-4022	1000-5500	NR	NR	NR	NR	NR
18-May-21	12.05 - 12.22	10	54-120	2051-3847	1240-4470	NR	NR	NR	NR	NR
19-May-21	12.05 - 12.20	11	41-120	1914-3932	1300-5700	NR	NR	NR	NR	NR
20-May-21	12.06 - 12.25	10	50-120	1889-4044	3000-5700	NR	NR	NR	NR	NR
21-May-21	12.08 - 14.30	10	58-120	2165-3841	980-6190	NR	NR	NR	NR	NR
22-May-21	12.05-12.20	10	70-120	2170-3988	1200-6000	NR	NR	NR	NR	NR
23-May-21	12.04-12.25	13	52-120	1971-3994	1800-6200	NR	NR	NR	NR	NR
24-May-21	15.08-15.25	13	40-120	1906-3889	420-6400	NR	NR	NR	NR	NR
25-May-21	15.05-15.20	12	43-120	1964-3994	650-6000	NR	NR	NR	NR	NR
26-May-21	15.02-15.23	14	33-120	1779-3952	250-5900	NR	NR	NR	NR	NR
27-May-21	15.06-15.20	12	47-120	1920-4009	240-5800	NR	NR	NR	NR	NR
28-May-21	15.09-15.22	11	26-120	2013-3884	550-5600	NR	NR	NR	NR	NR
29-May-21	15.04-15.17	11	37-120	1786-3827	1200-7200	NR	NR	NR	NR	NR
30-May-21	15.00 - 15.19	11	30-120	1869-3998	1650-6050	NR	NR	NR	NR	NR
31-May-21	15.00 - 15.22	09	98-120	2048-4017	1950-6480	NR	NR	NR	NR	NR
01-Jun-21	15.00 - 15.22	11	41-120	2011-4038	1300-6000	NR	NR	NR	NR	NR
02-Jun-21	15.00 - 15.25	10	70-120	1804-3903	1050-6490	NR	NR	NR	NR	NR
03-Jun-21	15.04 - 15.20	06	90-120	1937-3984	4240-5800	NR	NR	NR	NR	NR
04-Jun-21	15.00 - 15.26	13	55-120	2004-4056	2000-6000	NR	NR	NR	NR	NR
05-Jun-21	15.00 - 15.17	11	48-120	1992-3999	1790-6700	NR	NR	NR	NR	NR
06-Jun-21	15.00 - 15.22	10	36-120	2103-4098	1800-6100	NR	NR	NR	NR	NR
07-Jun-21	15.02 - 15.25	08	40-120	2196-4027	740-6000	NR	NR	NR	NR	NR
08-Jun-21	15.00 - 15.24	13	57-120	1764-4125	1400-6370	NR	NR	NR	NR	NR
09-Jun-21	15.06 - 15.25	12	30-129	1816-3922	1500-7200	NR	NR	NR	NR	NR
10-Jun-21	15.02 - 15.23	13	67-122	1914-4109	1060-8270	NR	NR	NR	NR	NR
11-Jun-21	15.00 - 15.17	07	51-120	2301-4126	3000-6800	NR	NR	NR	NR	NR
12-Jun-21	15.00 - 15.25	14	35-120	2026-4012	1460-6600	NR	NR	NR	NR	NR
		<b>346</b>								

**Remarks :**

1. The Vengalarao Nagar village is at a distance of 1864 meters from mine boundary.
2. Instrument triggered limit is 0.508 mm/sec.
3. Monitored 346 blasts in one month period. Instrument was not triggered and hence the readings are not recorded.



## SUMMARY OF MONITORING DATA

### LOCATION - NV3 - NTR NAGAR / COLONY

Date	Time Hrs - Min	No. of Blasts Monitored	No. of Holes per Blast	Instrument distance from Blast site (m)	Explosive Charge per Blast (kg)	Ground Vibrations			Air Over Pressure	
						PPV (mm/sec)		Frequency	dB(A)	
						Min	Max	Hz	Min	Max
12-May-21	12:05 -12:25	11	100	2931-3921	3500-5150	NR	NR	NR	NR	NR
13-May-21	12:05 -12:20	13	47-120	3007-3854	850-6600	NR	NR	NR	NR	NR
14-May-21	12:01 - 12:22	10	63-120	2912-4084	2000-5700	NR	NR	NR	NR	NR
15-May-21	12:04 - 12:20	10	63-120	3022-4058	1200-5950	NR	NR	NR	NR	NR
16-May-21	12:05 - 12:21	09	100-120	3097-4147	1500-5650	NR	NR	NR	NR	NR
17-May-21	12:07 - 12:25	11	50-120	3082-4162	1000-5500	NR	NR	NR	NR	NR
18-May-21	12:05 - 12:22	10	54-120	3119-4028	1240-4470	NR	NR	NR	NR	NR
19-May-21	12:05 - 12:20	11	41-120	3171-4014	1300-5700	NR	NR	NR	NR	NR
20-May-21	12:06 - 12:25	10	50-120	2920-4101	3000-5700	NR	NR	NR	NR	NR
21-May-21	12:08 - 14:30	10	58-120	2935-3999	980-6390	NR	NR	NR	NR	NR
22-May-21	12:05-12:20	10	70-120	2988-4129	1200-6000	NR	NR	NR	NR	NR
23-May-21	12:04-12:25	13	52-120	3079-4198	1800-6200	NR	NR	NR	NR	NR
24-May-21	15:05-15:25	13	40-120	3013-4014	420-6400	NR	NR	NR	NR	NR
25-May-21	15:05-15:20	12	43-120	2990-4148	650-6000	NR	NR	NR	NR	NR
26-May-21	15:02-15:25	14	33-120	3248-4045	250-5900	NR	NR	NR	NR	NR
27-May-21	15:06-15:20	12	47-120	2997-4161	240-5800	NR	NR	NR	NR	NR
28-May-21	15:08-15:21	11	26-120	3091-3945	550-5600	NR	NR	NR	NR	NR
29-May-21	15:04-15:17	11	37-120	3203-3983	1200-7200	NR	NR	NR	NR	NR
30-May-21	15:00 - 15:19	11	30-120	3068-4114	1650-6050	NR	NR	NR	NR	NR
31-May-21	15:00 - 15:22	09	98-120	3138-4109	1950-6480	NR	NR	NR	NR	NR
01-Jun-21	15:00 - 15:22	11	41-120	3148-4135	1300-6000	NR	NR	NR	NR	NR
02-Jun-21	15:00 - 15:25	10	70-120	3010-4092	1050-6400	NR	NR	NR	NR	NR
03-Jun-21	15:04 - 15:20	06	90-120	3164-4192	4240-5800	NR	NR	NR	NR	NR
04-Jun-21	15:00 - 15:26	13	55-120	3046-4211	3000-6000	NR	NR	NR	NR	NR
05-Jun-21	15:00 - 15:17	11	48-120	3123-4249	1790-6300	NR	NR	NR	NR	NR
06-Jun-21	15:00 - 15:22	10	36-120	2834-4280	1800-6100	NR	NR	NR	NR	NR
07-Jun-21	15:02 - 15:25	08	40-120	2820-4251	740-6000	NR	NR	NR	NR	NR
08-Jun-21	15:00 - 15:24	13	37-120	3415-4280	1400-6300	NR	NR	NR	NR	NR
09-Jun-21	15:06 - 15:25	12	30-120	2846-4125	1500-7200	NR	NR	NR	NR	NR
10-Jun-21	15:02 - 15:23	13	67-122	3079-4221	1060-8230	NR	NR	NR	NR	NR
11-Jun-21	15:00 - 15:17	07	51-120	3471-4284	3000-6800	NR	NR	NR	NR	NR
12-Jun-21	15:00 - 15:25	14	35-120	2730-4190	1460-6600	NR	NR	NR	NR	NR
		<b>346</b>								

**Remarks :**

1. The NTR Nagar colony is at a distance of 2609 meters from mine boundary.
2. Instrument triggered limit is 0.508 mm/sec.
3. Monitored 346 blasts in one month period. Instrument was not triggered and hence the readings are not recorded.



## SUMMARY OF MONITORING DATA

### LOCATION - NV4 - JINUGUPALLI VILLAGE

Date	Time Hrs. : Min	No. of Blasts Monitored	No. of Holes per Blast	Instrument distance from Blast site (m)	Explosive Charge per Blast (kg)	Ground Vibrations			Air Over Pressure	
						PPV (mm/sec)		Frequency	dB(A)	
						Min	Max	Hz	Min	Max
12-May-21	12.05-12.20	11	80-120	2330-3355	1250-5150	NR	NR	NR	NR	NR
13-May-21	12.05-12.20	13	47-120	2405-3240	850-6600	NR	NR	NR	NR	NR
14-May-21	12.05-12.22	10	63-120	2307-3479	2000-5700	NR	NR	NR	NR	NR
15-May-21	12.04-12.20	10	63-120	2434-3459	1200-5950	NR	NR	NR	NR	NR
16-May-21	12.05-12.21	09	100-120	2498-3465	1500-5650	NR	NR	NR	NR	NR
17-May-21	12.07-12.25	11	50-120	2492-3556	1000-5500	NR	NR	NR	NR	NR
18-May-21	12.05-12.22	10	54-120	2544-3419	1240-4470	NR	NR	NR	NR	NR
19-May-21	12.05-12.20	11	41-120	2564-3408	1300-5700	NR	NR	NR	NR	NR
20-May-21	12.06-12.25	10	50-120	2315-3527	3000-5700	NR	NR	NR	NR	NR
21-May-21	12.08-14.30	10	58-120	2336-3748	980-6390	NR	NR	NR	NR	NR
22-May-21	12.05-12.20	10	70-120	2400-3522	1200-6000	NR	NR	NR	NR	NR
23-May-21	12.04-12.25	13	52-120	2418-3657	1800-6200	NR	NR	NR	NR	NR
24-May-21	15.05-15.25	13	40-120	2424-3407	420-6400	NR	NR	NR	NR	NR
25-May-21	15.05-15.20	12	43-120	2398-3541	650-6000	NR	NR	NR	NR	NR
26-May-21	15.07-15.22	14	33-120	2657-3440	250-5900	NR	NR	NR	NR	NR
27-May-21	15.02-15.25	12	47-120	2403-3554	240-5800	NR	NR	NR	NR	NR
28-May-21	15.08-15.24	11	26-120	2511-3340	550-5600	NR	NR	NR	NR	NR
29-May-21	15.00-15.22	11	37-120	2601-3375	1200-7200	NR	NR	NR	NR	NR
30-May-21	15.00-15.19	11	30-120	2409-3529	1650-6050	NR	NR	NR	NR	NR
31-May-21	15.00-15.22	09	98-120	2566-3505	1950-6480	NR	NR	NR	NR	NR
01-Jun-21	15.00-15.22	11	41-120	2544-3532	1300-6000	NR	NR	NR	NR	NR
02-Jun-21	15.00-15.25	10	70-120	2402-3483	1050-6400	NR	NR	NR	NR	NR
03-Jun-21	15.04-15.20	06	90-120	2559-3583	4240-5800	NR	NR	NR	NR	NR
04-Jun-21	15.00-15.26	13	55-120	2455-3604	2000-6000	NR	NR	NR	NR	NR
05-Jun-21	15.00-15.25	11	55-120	2553-3640	1790-6300	NR	NR	NR	NR	NR
06-Jun-21	15.00-15.22	10	36-120	2232-3672	1800-6100	NR	NR	NR	NR	NR
07-Jun-21	15.02-15.25	08	40-120	2220-3642	740-6000	NR	NR	NR	NR	NR
08-Jun-21	15.00-15.24	13	37-120	2869-3674	1400-6330	NR	NR	NR	NR	NR
09-Jun-21	15.06-15.25	12	30-120	2245-3515	1500-7200	NR	NR	NR	NR	NR
10-Jun-21	15.02-15.23	13	67-122	2477-3616	1060-8230	NR	NR	NR	NR	NR
11-Jun-21	15.00-15.17	07	51-120	2894-3678	3000-6800	NR	NR	NR	NR	NR
12-Jun-21	15.00-15.25	14	35-120	2130-3582	1460-6600	NR	NR	NR	NR	NR
		<b>346</b>								

**Remarks :**

1. The Jinugupalli village is at a distance of 2013 meters from mine boundary.
2. Instrument triggered limit is 0.508 mm/sec.
3. Monitored 346 blasts in one month period. Instrument was not triggered and hence the readings are not recorded.

## SUMMARY OF MONITORING DATA

### LOCATION - NV5 - REJARLA VILLAGE NEAR POULTRY FARM,

Date	Time Hrs. : Min	No. of Blasts Monitored	No. of Holes per Blast	Instrument distance from Blast site (m)	Explosive Charge per Blast (kg)	Ground Vibrations			Air Over Pressure	
						PPV (mm/sec)		Frequency	dB(A)	
						Min	Max	Hz	Min	Max
12-May-21	12.05-12.25	11	89-120	1074-3033	1250-5150	NR	NR	NR	NR	NR
13-May-21	12.05-12.20	13	47-120	1108-3008	850-6600	NR	NR	NR	NR	NR
14-May-21	12.05-12.22	19	63-120	985-3172	2000-5700	NR	NR	NR	NR	NR
15-May-21	12.04-12.20	10	63-120	1094-3005	1200-5950	NR	NR	NR	NR	NR
16-May-21	12.05-12.21	09	100-120	1177-2600	1500-5650	NR	NR	NR	NR	NR
17-May-21	12.07-12.25	11	50-120	982-3433	1000-5500	NR	NR	NR	NR	NR
18-May-21	12.05-12.22	10	54-120	1108-2932	1240-4470	NR	NR	NR	NR	NR
19-May-21	12.05-12.20	11	41-120	987-3054	1300-5700	NR	NR	NR	NR	NR
20-May-21	12.06-12.25	10	50-120	980-3399	3000-5700	NR	NR	NR	NR	NR
21-May-21	12.08-14.30	10	58-120	1136-2663	980-5390	NR	NR	NR	NR	NR
22-May-21	12.05-12.20	10	70-120	987-2602	1200-6000	NR	NR	NR	NR	NR
23-May-21	12.04-12.25	13	52-120	1191-3044	1800-6200	NR	NR	NR	NR	NR
24-May-21	15.05-15.25	13	40-120	1061-3196	420-6400	NR	NR	NR	NR	NR
25-May-21	15.05-15.20	12	43-120	1042-3295	650-6000	NR	NR	NR	NR	NR
26-May-21	15.07-15.23	14	33-120	996-3500	250-5900	NR	NR	NR	NR	NR
27-May-21	15.02-15.25	12	47-120	944-3413	240-5800	NR	NR	NR	NR	NR
28-May-21	15.08-15.24	11	26-120	984-2949	550-5600	NR	NR	NR	NR	NR
29-May-21	15.00-15.23	11	37-120	1118-3533	1200-7200	NR	NR	NR	NR	NR
30-May-21	15.00-15.19	11	30-120	999-3484	1650-6050	NR	NR	NR	NR	NR
31-May-21	15.00-15.22	09	98-120	972-2883	1950-6480	NR	NR	NR	NR	NR
01-Jun-21	15.00-15.22	11	41-120	975-3028	1300-6000	NR	NR	NR	NR	NR
02-Jun-21	15.00-15.25	10	70-120	1091-3494	1050-6400	NR	NR	NR	NR	NR
03-Jun-21	15.04-15.20	06	90-120	1094-3122	6240-5800	NR	NR	NR	NR	NR
04-Jun-21	15.00-15.26	13	55-120	1054-3007	2000-6000	NR	NR	NR	NR	NR
05-Jun-21	15.00-15.25	11	48-120	1007-2976	1790-6300	NR	NR	NR	NR	NR
06-Jun-21	15.00-15.22	10	36-120	1057-2904	1800-6100	NR	NR	NR	NR	NR
07-Jun-21	15.02-15.25	08	40-120	979-2544	740-6000	NR	NR	NR	NR	NR
08-Jun-21	15.00-15.24	13	37-120	1035-3599	1400-6330	NR	NR	NR	NR	NR
09-Jun-21	15.00-15.25	12	30-129	1022-3257	1500-7200	NR	NR	NR	NR	NR
10-Jun-21	15.02-15.23	13	67-122	980-3196	1050-8230	NR	NR	NR	NR	NR
11-Jun-21	15.00-15.17	07	51-120	1018-2859	3000-6800	NR	NR	NR	NR	NR
12-Jun-21	15.00-15.25	14	35-120	1037-2877	1460-6600	NR	NR	NR	NR	NR
		<b>346</b>								

**Remarks :**

1. The Rejarla village near poultry farm is at a distance of 880 meters from mine boundary.
2. Instrument triggered limit is 0.508 mm/sec.
3. Monitored 346 blasts in one month period. Instrument was not triggered and hence the readings are not recorded.

**Summary of overall Blast induced ground Vibrations Recorded Above The Trigger Limit (0.508 mm/sec)**

**NV 1: Rejarla - Near Sattermma Temple**

Sl.No.	Date	Blast Time	Blasting Location	No of Holes	MC	Distance from Blasting Location	PPV	Dominant Frequency	Air over Pressure	Frequency	Event No.
					D	Meters		Hz	dB(A)	Hz	
1	15-05-2021	12:12	Sushee O/L Area	100	50	1942	0.635	13.4	110.9	9.4	236
2	06-06-2021	15:10	Sushee O/L Area	100	35	1912	0.508	11.1	116.3	13.4	2542
3	06-06-2021	15:17	Sushee O/L Area	100	60	2215	0.508	18.9	113.3	14.6	2544
4	06-06-2021	15:10	KLP O/L Area	81	50	867	0.635	9.8	116.9	* 23.2	2543
5	10-06-2021	15:17	KLP O/L Area	120	40	521	0.635	14.6	127.3	11.6	3363

It is observed that the blast induced ground vibrations are within the stipulated standards. Summary of observations is as follows.

Station	Instrument distance from Blast site (m)	PPV (mm/sec)		Air Over Pressure dB(A)	
		Min	Max	Min	Max
Near Sattermma Temple, Rejarla	501-2976	0.508	0.635	110.9	127.3
Vengalarao Nagar	1756-4126	NR	NR	NR	NR
NTR Nagar/Colony	2730-4284	NR	NR	NR	NR
Jinugupalli Village	2130-3748	NR	NR	NR	NR
Rejarla Village	972- 3599	NR	NR	NR	NR

\*\*\*\*\*

**CLARIFICATIONS TO THE ISSUES RAISED BY THE PUBLIC ON PROJECT  
PROPONENT**

**JALAGAM VENGALA RAO OPENCAST MINE (I&II Expansion) including integrated  
COAL WASHERY  
PUBLIC HEARING HELD ON 14/02/2020)**

S.No.	Issues raised by Public	Clarification given by Project Proponent
1.	<p><b>Sri SK. Johnny, Outsourcing employee of Maha Laxmi OBR Company, NTR Nagar, Sathupalli</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He expressed his happiness for getting employment in Maha Laxmi OBR company due to mines of SCCL.</li> <li>➤ He told that he is not opposing the project, but he expressed some apprehensions on the proposed project.</li> </ul> <p>He stated that he is living in NTR Nagar of Sathupalli and informed that their houses are getting cracks due to blasting activities of SCCL mines and requested to solve this issue.</p>	<p>Controlled blasting with nonels is being carried out as per the DGMS permissions to limit the ppv with in the permissible limits. Shot holes are being muffled when ever workings are reached close proximity to any dwellings. Regular monitoring is being carried out by recording the blast induced ground vibrations in terms of Peak Particle Velocity (PPV), which are well within the permissible limits. Steps are being taken to limit the ppv with in the permissible limits.</p>
	<p><b>Sri Ch. Bharath, R/o. Rejerla</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He stated that Jelugupalli water tank is polluted due to discharges from SCCL coal mines and informed that the water is in red color and requested for testing of pH of the tank water. He also requested for testing of Air, Water and Noise by the officials of the government.</li> <li>➤ He informed that they have lost about 1000 acres of forest land due to coal mining of SCCL in this area and he</li> </ul>	<p>SCCL is taking up various mitigation measures in order to minimize the pollution due to mining operations. Quality of surface water is being monitored regularly and PH values are within the limits. Calcium hydroxide is being mixed in the let out water to increase the pH value, if the values are low. Jinugupalli Tank will be acquired for mining operations within one year.</p> <p>Post Project Environmental Monitoring is being carried out through external agency M/s. Environment Protection Training and Research Institute (EPTRI), Hyd, which is a CPCB, recognized and NABL accredited laboratory and an independent registered society by the State Government.</p> <p>SCCL has handed over equivalent non-forest land to forest department for the diverted forest land and also made payment to state forest department to raise</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
	<p>questioned the SCCL management that how they are going to restore the forest?</p> <ul style="list-style-type: none"> <li>➤ He also questioned that how they will treat the waste generated from the proposed coal washery?</li> <li>➤ He stated that there may be radioactive material exist in coal deposits which may affect the DNA of local people which leads to health issues.</li> </ul>	<p>and maintain compensatory afforestation.</p> <p>Regarding plantation, another land is to be given to the forest department in case of forest land is utilized for development of greenbelt. due to non-availability of government land, we are giving funds as compensation so as to develop plantation in other areas by the forest department.</p> <p>In addition to the plantation at project area, SCCL has developed around 5 km of avenue plantation in Sathupalli, Kistaram and Rejarla villages. Further 80 ha of gap plantation was done in forest land between mine boundary and R&amp;B Road beyond mandate and 52 ha of plantation in safety zone area of 136.50 ha forest land diverted for JVR OC-I Expn.</p> <p>SCCL will continue plantation activities and distribution of fruit bearing plants in surrounding villages.</p> <p>Unsalable rejects from washery produced will be accommodated in OB Dumps.</p> <p>Radioactive material does not exist in coal deposits.</p>
	<p><b>Sri Durga Prasad, Sathupalli</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He stated that Environment is polluted due to coal mining activity and further informed that SCCL is not disclosing the pollution control measures taken up by them.</li> <li>➤ He questioned SCCL that how they are spending the Royalty fund in this area?</li> <li>➤ He told that temperature is increased in Sathupalli area due to coal mining of SCCL and requested to inform the measures to be taken for control of high temperatures.</li> <li>➤ He requested for formation of new Committee at District level and also requested for Village Level Committee/Society to discuss environmental issues and to provide awareness to the public.</li> </ul>	<p>All the details of environment parameters are uploaded regularly on the company website as part of the half yearly monitoring report.</p> <p>DMF fund is being deposited to the District Collector as per MMDR Act- 2015. So far an amount of 100.69 crores of Rupees was deposited up to May, 2020.</p> <p>Post Project Environmental Monitoring is being carried out through external agency M/s. Environment Protection Training and Research Institute (EPTRI), Hyderabad, which is a CPCB, recognized and NABL accredited laboratory and an independent registered society by the State Government.</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
	<ul style="list-style-type: none"> <li>➤ He requested SCCL to provide AC or Air Cooler to each house to face the high temperatures.</li> <li>➤ He requested the management to take necessary measures to control air pollution in this area.</li> </ul>	<p>The matter is not within the perview of SCCL</p> <p>All the necessary measures are being taken at the project to prevent environmental pollution. Environmental monitoring is being taken up through EPTRI which is a govt. organization and necessary action will be taken up in case of any lapses.</p>
	<p><b>Sri P. Jeevan Kumar, R/o. Kommepalli</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He welcomed the project as the coal is the raw material for production of power which helps in national development, besides he also requested to protect the environment.</li> <li>➤ He stated that Environment is polluted due to opencast coal mining activity.</li> <li>➤ He requested to conduct awareness programmes and form the Committees which consist of experts and scientists to protect environment.</li> <li>➤ He told that earlier, this area is full of greenery, water tanks and crops and there were wild animals in this forest area. But, it was degraded due to mining activity in forest area. He requested SCCL to develop thick greenbelt, construction of area hospital (for human and animals) in their area as they have given their lands for national development.</li> <li>➤ He told that earlier, earthquakes were occurred in Khammam area and informed that there are chances of occurring earthquakes and requested to conduct study to find the facts.</li> <li>➤ He requested SCCL to construct new house for the people of Kommepalli Village and provide 10 acres of land for graveyard and grazing of their domestic animals.</li> </ul>	<p>SCCL has been putting up all-out efforts in protecting the environment which will be continued in expansion phase of the project only.</p> <p>EIA/EMP report is prepared to identify and evaluate the potential impacts of the project on the environmental system and to formulate, implement and monitor the environmental protection measures. All the mitigative measures will be implemented to prevent environment pollution.</p> <p>Environmental monitoring is being taken up through an expert agency EPTRI which is a CPCB, recognized and NABL accredited laboratory and an independent registered society by the State Government. Further, there is an Area Environmental Committee to monitor the environmental parameters of JVROC and other mines.</p> <p>SCCL has developed around 5 km of avenue plantation in Sathupalli, Kistaram and Rejarla villages, 80 ha of gap plantation was done in forest land between mine boundary and R&amp;B Road beyond mandate and 52 ha of plantation in safety zone area of 136.50 ha forest land diverted for JVR OC-I Expn. SCCL will continue plantation activities and distribution of fruit bearing plants in surrounding villages.</p> <p>Mining operations are carried out after obtaining necessary permissions from concerned authorities only. Earth quakes are not caused due to coal mining.</p> <p>Proposed expansion does not involve any R&amp;R. For the existing JVR OCP-II, R&amp;R was already implemented as per LARR Act, 2013.</p> <p>All the necessary measures will be taken at</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
	<ul style="list-style-type: none"> <li>➤ He requested SCCL to help them for establishing small scale industries in their area and also requested to fulfill all promises made by SCCL.</li> </ul>	<p>the project to prevent environmental pollution.</p>
	<p><b>Sri Y.Chenna Keshava Reddy, Environmentalist, NGO</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He requested to do justice for the land losers.</li> <li>➤ He stated that Central Government and State Government both have stake in SCCL and asked that how they have helped the local people using CSR funds?</li> <li>➤ He requested for proper disposal of waste in dump yards and provide safety measures.</li> <li>➤ He requested to spend the DMF &amp; CSR funds in project affected villages and give details of expenses and future plans for utilization of these funds in affected villages.</li> <li>➤ He also requested to avoid pollution problems to the public by implementing necessary control measures.</li> <li>➤ He requested not to exceed the depth of the coal excavation limits as per rules.</li> <li>➤ He informed that DMF fund will be deposited to the District Collector.</li> <li>➤ He requested for proper compensation to farmers for crop loss and also give compensation for damaged houses due to coal mines through CSR funds.</li> <li>➤ He recommended for Environmental Clearance as the coal reserves are national property.</li> </ul>	<p>Compensation will be paid for the land properties as per LARR Act, 2013.</p> <p>An amount of Rs. 9.10 crores was spent under CSR so far. The CSR expenditure is made for laying of roads, construction of Drains, Sanitation, Education, Drinking Water Supply etc., in Sathupalli and surrounding villages.</p> <p>Proper solid waste disposal is carried out in dump yards as per the EIA/EMP with adequate safety measures.</p> <p>DMF fund is being deposited to the District Collector as per MMDR Act- 2015. So far an amount of 100.69 crores of Rupees was deposited.</p> <p>All the necessary control measures are being taken to avoid pollution, which will be continued.</p> <p>Depth of the coal excavation limits will be as per the EIA /EMP report only.</p> <p>DMF fund is being deposited to the District Collector as per MMDR Act- 2015. So far an amount of 100.69crores of Rupees was deposited.</p> <p>Controlled blasting with nonels is being carried out as per the DGMS permissions to limit the ppv with in the permissible limits. Shot holes are being muffled when ever workings are reached closer proximity to any dwellings. Regular monitoring is being carried out by recording the blast induced ground vibrations in terms of Peak Particle Velocity (PPV), which are well below the permissible limits. Steps are being taken to limit the ppv with in the permissible limits.</p> <p>Environmental clearance is essential, in order to meet the power requirement of southern states and thereby to reduce the burden on forex reserves due to import of coal .</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
	<p><b>Sri Hussain Naidu, NGO, Suryapet</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He told that earthquakes do not occur due to mining.</li> <li>➤ He informed that coal reserves will be extracted by drilling and blasting operations and provide rubber mat on blasting area to avoid fly rocks and fugitive emissions.</li> <li>➤ He further informed that air pollution can be controlled by following norms of CPCB.</li> <li>➤ He requested to develop the plantation with indigenous species.</li> <li>➤ He told that Rs. 90 per ton of extracted coal is to be deposited to DMF fund and requested SCCL to utilize these funds in 10 Kms radius of the project in pollution affected villages.</li> <li>➤ He welcomed the proposed expansion project.</li> </ul>	<p>Controlled blasting with Nonels is being done to avoid fly rock. Wherever the workings have approached closer to residential areas, muffling of shot holes is being done using old-conveyor belts pieces with sand bags over it , to prevent flyrock.</p> <p>Pollution parameters are being monitored by EPTRI, Hyderabad which is also a Government Organization and Pollution levels are within the CPCB norms.</p> <p>In addition to the plantation at project area, SCCL has developed around 5 km of avenue plantation in Sathupalli, Kistaram and Rejarla villages. Further 80 ha of gap plantation was done in forest land between mine boundary and R&amp;B Road beyond mandate and 52 ha of plantation in safety zone area of 136.50 ha forest land diverted for JVR OC-I Expn.</p> <p>SCCL will continue plantation activities and distribution of fruit bearing plants in surrounding villages</p> <p>DMF fund is being deposited to the District Collector as per MMDR Act- 2015. So far an amount of 100.69 crores of Rupees was deposited.</p>
	<p><b>Sri T. Nageswara Rao, Sathupalli</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He stated that water in nearby water tanks are polluted due to mine discharge and water has acidic nature as observed by them. He requested to take necessary measures in this regard.</li> <li>➤ He told that temperatures are rising in Sathupalli area due to coal mining activities which is causing metabolic changes in people. ]</li> </ul>	<p>Post Project Environmental Monitoring is being carried out through external agency M/s. Environment Protection Training and Research Institute (EPTRI), Hyderabad, which is a CPCB, recognized and NABL accredited laboratory and an independent registered society by the State Government. Accordingly, mitigative measures are being taken if required.</p> <p>Rise in temperatures are not due to coal mining activities, which depends on various other factors. However, SCCL has developed around 5 km of avenue</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
	<ul style="list-style-type: none"> <li>➤ He requested SCCL for taking necessary pollution control measures for protection of environment and this process should be done continuously.</li> <li>➤ He stated that due to degradation of forest, monkeys are coming to residential area and making nuisance to the general public and he demanded SCCL to find a solution for this.</li> <li>➤ He requested for renovation of roads in Lankapalli area and also tarpaulins must be provided to coal transporting lorries.</li> <li>➤ He expressed that due to blasting activity by SCCL, Carbon particles are emitting into the atmosphere which is carcinogenic.</li> <li>➤ He requested SCCL to use latest technology to combat sound pollution due to blasting operations.</li> </ul>	<p>plantation in Sathupalli, Kistaram and Rejarla villages, 80 ha of gap plantation was done in forest land between mine boundary and R&amp;B Road beyond mandate and 52 ha of plantation in safety zone area of 136.50 ha forest land diverted for JVR OC-I Expn. SCCL will continue plantation activities and distribution of fruit bearing plants in surrounding villages.</p> <p>All the necessary pollution control measures for protection of environment are being taken and will be continued in expansion phase also.</p> <p>SCCL has developed 80 ha of gap plantation in forest land between mine boundary and R&amp;B Road beyond mandate and 52 ha of plantation in safety zone area of 136.50 ha forest land diverted for JVR OC-I Expn. SCCL is also planting fruit bearing plants in dump plantation.</p> <p>Sathupalli to Penuballi road repair works will be taken up and an amount of Rs. 9.2crores is approved by the competent authority for repairs of road.</p> <p>Ensuring provision of tarpaulins on loaded coal transporting tippers before sending outside.</p> <p>Pollution parameters are being monitored by EPTRI, Hyderabad which is also a Government Organization and Pollution levels are within the CPCB norms.</p> <p>Controlled blasting with nonels, the most advanced blasting technology is being practiced in Sathupapilly coal mines to combat sound pollution due to mining operations.</p>
	<p><b>Sri Krishna Rao, MPTC, Jaganadhapuram</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He stated that SCCL has started dumping of overburden material in 100 meter distance from their houses in Jaganadhapuram village and requested SCCL to shift their houses first then carry mining operations as they are facing dust pollution.</li> <li>➤ He requested SCCL to appoint environmental officer for each project affected village for monitoring of environment protective measures.</li> </ul>	<p>Rehabilitation and resettlement of PDFs is under process. In the mean time SCCL will take all measures to prevent dust problem.</p> <p>Environmental protective measures are monitored at project level. One Environment officer is authorized in JVROC.II Project</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
	<ul style="list-style-type: none"> <li>➤ He requested to provide mobile water tankers for development of plantation and also provide mineral water plant in each village.</li> <li>➤ He requested for proper compensation and permanent jobs in SCCL to the land losers and outsourcing jobs for daily wage workers who depended on agriculture activity.</li> <li>➤ He requested SCCL for digging of bore wells and provide water facility to animals as the coming season is summer.</li> <li>➤ He stated that SCCL is giving 2 guntas of land for construction of houses to the land losers, which is not sufficient. He requested SCCL to give 5 guntas of land for each land loser as they are having domestic animals.</li> </ul>	<p>R.O.Plants will be installed</p> <p>Compensation will be paid for the land properties as per LARR Act, 2013. About 746 jobs in off loading and other contractual operations were provided and further Skill development programmes will be conducted to improve the job opportunities for unemployed local youth. With the proposed expansion and establishment of coal washery further 200-300 jobs will be created and local unemployed youth will get more opportunity.</p> <p>Boreholes will be provided as per the representation from the public representatives. 46nos of Bore wells were already provided for project affected villages of JVROC, up to 2019.</p> <p>There is no R&amp;R for the proposed expansion. For the other mines of Sathupalli R&amp;R is being implemented as per LARR Act, 2013.</p>
	<p><b>Sri Raja, Rejerla</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He stated that they are facing dust nuisance due to mining operations and coal transportation vehicles, this is causing health problems to them and this will be affected on future generations.</li> <li>➤ He requested for renovation of Penuballi to Sathupalli road and also provide tarpaulins properly without any openings to coal transporting lorries.</li> <li>➤ He told that cracks are being developed to their houses due to blasting operations of the mine.</li> <li>➤ He stated that no development activities are taken up by SCCL in Rejerla village so far.</li> </ul>	<p>In core as well as buffer zone, pollution parameters are being monitored by EPTRI, Hyderabad which is also a Government Organization and Pollution levels are within the CPCB norms.</p> <p>Sathupalli to Penuballi road repair works will be taken up and an amount of Rs. 9.20crores is approved by the competent authority for repairs of road.</p> <p>To prevent any cracks in nearby houses, controlled blasting techniques are being adopted since beginning of mining operations and regular monitoring is being carried out by recording the blast induced ground vibrations in terms of Peak Particle Velocity (PPV), which are well below the permissible limits.</p> <p>An amount of Rs. 9.10 crores was spent under CSR so far. The CSR expenditure is made for laying of roads, construction of</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
		Drains, Sanitation, Education, Drinking Water Supply etc., in Sathupalli and surrounding villages which includes Rejerla Village.
	<p><b>Sri Apparao, Kistaram village</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He told that SCCL have acquired 40 guntas of land from a farmer in 2015 and they have given compensation for 39 guntas only and they have approached the court for compensation and also stated that the court has given order for giving compensation to balance 1 gunta of land, but, till now SCCL management has not given the compensation.</li> </ul> <p>He told that cracks are being developed to their houses due to blasting operations of the mine and also causing fugitive dust pollution.</p> <ul style="list-style-type: none"> <li>➤ He told that Mango gardens are not ripening due to pollution caused by SCCL.</li> </ul>	<p>Compensation will be paid for the land properties as per LARR Act, 2013.</p> <p>Controlled blasting with nonels is being carried out as per the DGMS permissions to to limit the ppv with in the permissible limits. Shot holes are being muffled when ever workings are reached closer proximity to any dwellings. Regular monitoring is being carried out by recording the blast induced ground vibrations in terms of Peak Particle Velocity (PPV), which are well below the permissible limits. Steps are being taken to limit the ppv with in the permissible limits.</p>
	<p><b>Sri SK. Mustafa, Kommepalli</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He told that the youth in the area are educated and highly qualified. He requested the management to provide proper jobs in SCCL as per their qualifications to the youth in this area.</li> </ul>	<p>About 746 jobs in off loading and other contractual operations were provided and further Skill development programmes will be conducted to improve the job opportunities for unemployed local youth. With the proposed expansion and establishment of coal washery further 200-300 jobs will be created and local unemployed youth will get more opportunity.</p>
	<p><b>Sri Viswanadh Reddy, Rejerla</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He stated that earlier, this area is having about 1000 acres of forest area which as degraded due to coal mining activity.</li> <li>➤ Earlier, this area is having cold atmosphere and now become hot place due to increase of temperatures which are due to degradation of forest area.</li> </ul>	<p>SCCL has handed over equivalent non-forest land to forest department for the diverted forest land and also made payment to state forest department to raise and maintain compensatory afforestation.</p> <p>Rise in temperatures is not due to coal mining activities, which depends on various other factors. However, SCCL has developed around 5 km of avenue plantation in Sathupalli, Kistaram and Rejarla villages, 80 ha of gap plantation</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
	<ul style="list-style-type: none"> <li>➤ Due to blasting operations, smell is causing and leads to lungs problems and skin problems to this area people.</li> <li>➤ SCCL has not taken up plantation in Rejerla village.</li> <li>➤ He questioned the SCCL about the development in this area for past 13 years and he demanded for development before going for expansion.</li> <li>➤ He told that SCCL officials are not responding to their representations properly.</li> <li>➤ He told that tarpaulins should be provided properly without any openings to coal transporting lorries and steel coverings may be provided for effective control of dust pollution.</li> <li>➤ He requested SCCL to develop plantation and also stated that SCCL should take safety measures for plants survival.</li> <li>➤ He stated that ground water is depleting in their area and water tanks are also polluting due to mine discharge water thereby affecting domestic animals.</li> <li>➤ He stated that he is opposing the proposed project and requested not to permit for expansion.</li> </ul>	<p>was done in forest land between mine boundary and R&amp;B Road beyond mandate and 52 ha of plantation in safety zone area of 136.50 ha forest land diverted for JVR OC-I Expn. SCCL will continue plantation activities and distribution of fruit bearing plants in surrounding villages.</p> <p>In core as well as buffer zone, pollution parameters are being monitored by EPTRI, Hyderabad which is also a Government Organization and Pollution levels are within the CPCB norms.</p> <p>SCCL has developed around 5 km of avenue plantation in Sathupalli, Kistaram and Rejarla villages.</p> <p>An amount of Rs. 9.10 crores was spent under CSR so far. The CSR expenditure is made for laying of roads, construction of Drains, Sanitation, Education, Drinking Water Supply etc., in Sathupalli and surrounding villages. The CSR activities will be continued.</p> <p>CSR activities are being formulated basing on the representations only.</p> <p>Ensuring provision of tarpaulins on loaded coal transporting tippers before sending outside.</p> <p>SCCL developed thick plantation within the project area. In addition 80 ha of gap plantation is done in the forest land between mine boundary and R&amp;B Road beyond mandate and 52 ha of plantation done in safety zone area of 136.50 ha forest land diverted for JVR OC-I Expn.</p> <p>The phreatic surface water levels are monitored at 27 observation wells around the mine four times in a year around the mine up to 10 km radius distance. The data presented by the PP indicated that water levels are 3.20 m to 12.85 m in pre-monsoon during 2017 and 2.9 m to 11.85 m in winter seasons during 2018.</p>

S.No.	Issues raised by Public	Clarification given by Project Proponent
	<p><b>Sri Shankar Reddy, Rejerla</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He stated that one committee should be formed comprising of two officials from collectorate, one member from state PCB and two members nominated from their villages and the committee should visit the project affected villages to collect the samples of air, water and send to authorized laboratories for testing.</li> <li>➤ He told that this public hearing is conducting for violation of environmental clearance for JVR OC-I project, with this every one can understand how SCCL is violating the rules for protection of environment.</li> <li>➤ He stated that he is opposing the proposed project.</li> </ul>	<p>SCCL will extend co-operation for collection of samples.</p> <p>Public hearing for JVR OC-I project is also conducted on the same day for expansion of the project from 2.50 Mtpa to 5.00Mtpa under violation category as it exceeded EC production capacity since 2007-08.</p>
	<p><b>Sri Banoth Nandu Naik, NTR Nagar, Sathupalli</b> has expressed the following:</p> <ul style="list-style-type: none"> <li>➤ He stated that there are 631 No. of houses existing in NTR Nagar colony of Sathupalli and they are facing dust nuisance and their houses are getting cracks due to blasting operations of SCCL.</li> <li>➤ He also told that they have given many representations to the District Collector and officials of SCCL for construction of new houses, hospitals and requested to provide free medical facilities and mineral water plants.</li> <li>➤ He requested to provide employment to them.</li> </ul>	<p>Blasting is being done as per the guidelines of DGMS authorities and following controlled blasting techniques by using nonels, muffled blasting using belts, sand bags, etc to control ground vibration and noise. The values are well within the limits.</p> <p>SCCL has already provided about 746 jobs in off loading and other contractual operations and further employment opportunities will be created in future with the proposed expansion and establishment of washery.</p>

  
 Project Officer,  
 Jalagam Vengala Rao Opencast Mine (I&II Expansion)

**Issues raised during Public Hearing  
and assurance given along with the financial provisions**

<b>S. No.</b>	<b>Issues raised</b>	<b>Commitment</b>	<b>Time line</b>	<b>Monetary provision in Rs. lakhs</b>
1.	Requested the management to take necessary measures to control air pollution in this area and to protect environment.	Air pollution control measures like mist spraying at CHP, water spraying along the haul roads, plantation, ensuring covering of trucks with tarpaulin, etc. are being implemented. Further, environmental monitoring is being taken up through EPTRI which is a government organization. It is also proposed to transport coal by rail mode from the mine to RCHP within 2 years.		
2	Requested to control surface water pollution and Stated that Jeenugupalli water tank and other nearby tanks are polluted due to mine water discharge and informed that the water shall be tested for pH and suitable measures shall be taken.	SCCL is taking up various mitigation measures in order to minimize the pollution due to mining operations. Quality of surface water is being monitored regularly and PH values are within the limits. Occasionally, slaked lime is being mixed in the let out water to increase the pH value if the pH values are found low. However, it is proposed to acquire the Jeenugupalli tank in the expansion project for which another tank will be created as a substitute.	Every Year	887.00
3.	Requested to take proper steps to prevent effect of blast vibrations on dwellings of nearby areas and latest technology shall be used to combat sound pollution due to blasting operations.	Controlled blasting with nonels is being carried out as per the DGMS permissions to limit the PPV within the permissible limits. Muffled blasting is being carried out whenever the workings are in close proximity to any dwellings. Regular monitoring is being carried out by recording the blast induced ground vibrations in terms of Peak Particle Velocity (PPV), which are well below the permissible limits.	-	-

<b>S. No.</b>	<b>Issues raised</b>	<b>Commitment</b>	<b>Time line</b>	<b>Monetary provision in Rs. lakhs</b>
4.	Stated that CSR and DMFT funds should be spent for development of surrounding villages of the project only.	An amount of Rs.9.10 Crores was spent on various development works like laying of roads, construction of drains, sanitation, education, drinking water supply, etc., in Sathupalli and surrounding villages as part of CSR. An amount of Rs.84.31 crores has been deposited under DMFT with the district authorities.	Every Year	As per Requirement
5.	Requested SCCL to develop thick plantation and to distribute fruit bearing plants to nearby villagers and to take steps for their survival.	SCCL has developed around 5 km of avenue plantation in Sathupalli, Kistaram and Rejarla villages. In addition to this, fruit bearing plants were also distributed freely to the surrounding villagers. SCCL will continue plantation activities and distribution of fruit bearing plants.	Every Year	5.0
6.	Requested to provide employment to local unemployed youth in the contractual operations.	About 746 jobs in off loading and other contractual operations were provided and further Skill development programmes will be conducted to improve the job opportunities for unemployed local youth. With the proposed expansion and establishment of coal washery further 200-300 jobs will be created and local unemployed youth will get more opportunity.	Every Year	3.00
7.	Requested SCCL to provide school in the area.	An amount of Rs.81.60 Lakhs was spent for developing education infrastructure in the existing schools under CSR activities. SCCL will continue to extend necessary cooperation for development of education infrastructure as per the requirement.	Every Year	As per Requirement
8.	Requested to provide medical facilities and to construct hospital in the area.	Regular Medical Camps are being conducted in the surrounding villages. So far about 27,482 persons were treated and SCCL has spent an amount of Rs. 40.00 Lakhs	Once in every quarter	2.00

S. No.	Issues raised	Commitment	Time line	Monetary provision in Rs. lakhs
		for conducting these medical camps. SCCL will continue to conduct medical camps in future also and offer necessary medical aid to the nearby villages.		
9.	Requested for de-siltation and beautification of nearby tanks in Sathupalli surroundings.	An amount of Rs.50 lakhs has been spent for de-silting of Kistaram and Rejerla tanks of Sathupalli. However, de-silting of nearby tanks will be continued in future also.	As per the requirement	200.00
10.	Requested for water sprinkling on roads for dust suppression.	Water sprinkling with mobile water tankers is being carried out throughout the year on coal transportation roads near ML boundary area and CC roads of villages in downwind direction.	Every Year	10.00
11.	Requested SCCL to provide purified drinking water in the surrounding Villages.	SCCL will establish 13 RO Plants in and around Sathupalli town.	1-3 years	117.00
12.	Requested to repair the V.M.Banjara-Sathupalli road as the roads are damaged due to plying of coal transport lorries. Also requested to take up Y-Junction widening.	Repair works will be taken up as per the request.	1-3 years	900.10

\*\*

  
**Project Officer**  
**JVR OC-I & OC-II**  
**STPL, Kgm Area**

Government of Telangana  
Roads & Buildings Department

From  
Smt. M.B Hemalatha, B.Tech.  
Executive Engineer (R&B),  
Division: Sathupally.

To  
The General Manager,  
SCCL, Kothagudem Area,  
Kothagudem,  
Bhadradi Kothagudem District.  
Date: 29-06-2021.

Lr.No: EE/R&B/SPL/TS/TO/2021-22,

Sir,

Sub: -Effectiveness report of road and vegetation along Sathupalli-VM Banjara-for coal transport- Reg.

Ref: - 1. Minutes of 10<sup>th</sup> Meeting of the Expert appraisal committee (Coal for Environmental Appraisal of Coal Mining Projects held on 22<sup>nd</sup> March, 2021.

2. Letter no. KGM/CVL/R&B/1772, dated 25-06-2021.

@@@

With reference to the subject cited, SCCL has requested for issue of effectiveness report of road and vegetation along Sathupalli-VM Banjara as sought by MoEF&CC while reviewing the proposal for grant of Environment Clearance for JVR OC Mine (I&II Exp.) at Sathupalli.

In this context, it is to inform that the existing road from Sathupalli-VM Banjara for a distance of 16 Km is catering the needs of general public as well as coal transportation. Coal being transporting from Sathupalli to Rudrampur by road mode since 2006.

Further, SCCL has been funding the repairs. Recently, SCCL has also sanctioned an amount of Rs.9.20 Cr. for taking up the repairs and improvements to the road out of which Rs.4.60 Cr. was already deposited and work is in progress. In addition, SCCL is carrying out good plantation along the coal transport road.

The details of works taken up for maintenance and strengthening of the road with the funds provided by SCCL are given hereunder:

1) Improvements to Khammam - Devarapally road from km 78/0-79/6 in Khammam district.

In view of this, this is to certify that the existing road is in good condition. This information is being provided in connection with obtaining Environment clearance for the proposed JVR OC Mine (I & II Exp.) from MoEF&CC, GoI.

  
Executive Engineer (R&B)  
Division: Sathupalli

# VEGETATION ALONG COAL TRANSPORTATION ROAD

## SATHUPALLI - PENUBALLI ROAD



# PENUBALLI to RUDRAMPUR ROAD (NH-30)



### Fund allocated for green belt development with timeline.

Year/Stage		Plantation Area			Total Plantation		Actual Plantation up to 2020-21	FUND PROVISION
		Back filling	External Dump	Safety Zone and Others	Yearly	Cumulative		
Existing Plantation	Up to 2021-22	10.18	42.07	51.53	103.78	103.78	199.7	
5th Year	2022-23	0	56.86	3.9	60.76	164.54		Rs. 30.00 Lakhs per Year
6 <sup>th</sup> to 10 <sup>th</sup> Year	2023-28	123.66	156.94	1.14	281.74	446.28		
11 <sup>th</sup> to 15 <sup>th</sup> Year	2028-33	0	141.94	4.56	146.5	592.78		
16 <sup>th</sup> to 20 <sup>th</sup> Year	2034-38	137.23	0	0	137.23	730.01		
21 <sup>th</sup> to 25 <sup>th</sup> Year	2038-43	110.21	0	0	110.21	840.22		
26 <sup>th</sup> to 28 <sup>th</sup> Year	2045-46	0	0	23.05	23.05	863.27		
Post Closure	Post Closure	150.47	109.24	165.88	425.59	1288.86		
	<b>Total</b>	<b>531.75</b>	<b>507.05</b>	<b>250.06</b>	<b>1288.86</b>	<b>1288.86</b>		

Note :

1. Plantation schedule is as per the approved Mining plan including Mine Closure Plan of JVR OC Mine(I&II Expansion).
2. Actual plantation carried out up to 2020-21 is 199.70 ha, which includes 190.90 ha in JVR OC-I Expn and 8.80 ha in JVR OCP-II .
3. In addition 132.00 ha of additional plantation has been carried out, which includes 80.80 ha of Gap Plantation in Forest Land between Mine Boundary and R&B Road (Beyond mandate) and 52.00 ha of plantation in Safety Zone Area of Forest Land (136.50 ha) diverted for JVR OC-I Expn.
4. As per the RCE, 2019 , approved by board vide minute No. 548.5.21, on 13.03.2019, Rs. 40.00 Lakhs of fund provision is made towards environment capital cost for green belt development. In addition, revenue fund provision of Rs. 30.00 Lakhs per annum is made for Post project environmental monitoring and Green belt development.  
Out of the Rs.30.00 Lakhs revenue fund provision, Rs. 25 Lakhs will be spent towards green belt development and remaining Rs. 5.00 Lakhs will be spent for post Project Environment Monitoring.
5. Approval for any further fund requirement beyond the estimations will obtained, if necessary.

## EMP Capital Cost

A - 29  
RCE-II of JVR OC-II  
Annexure No.RCE 2.7  
Base Date:February 2019

### ENVIRONMENT RELATED COSTS - DIRECT COST

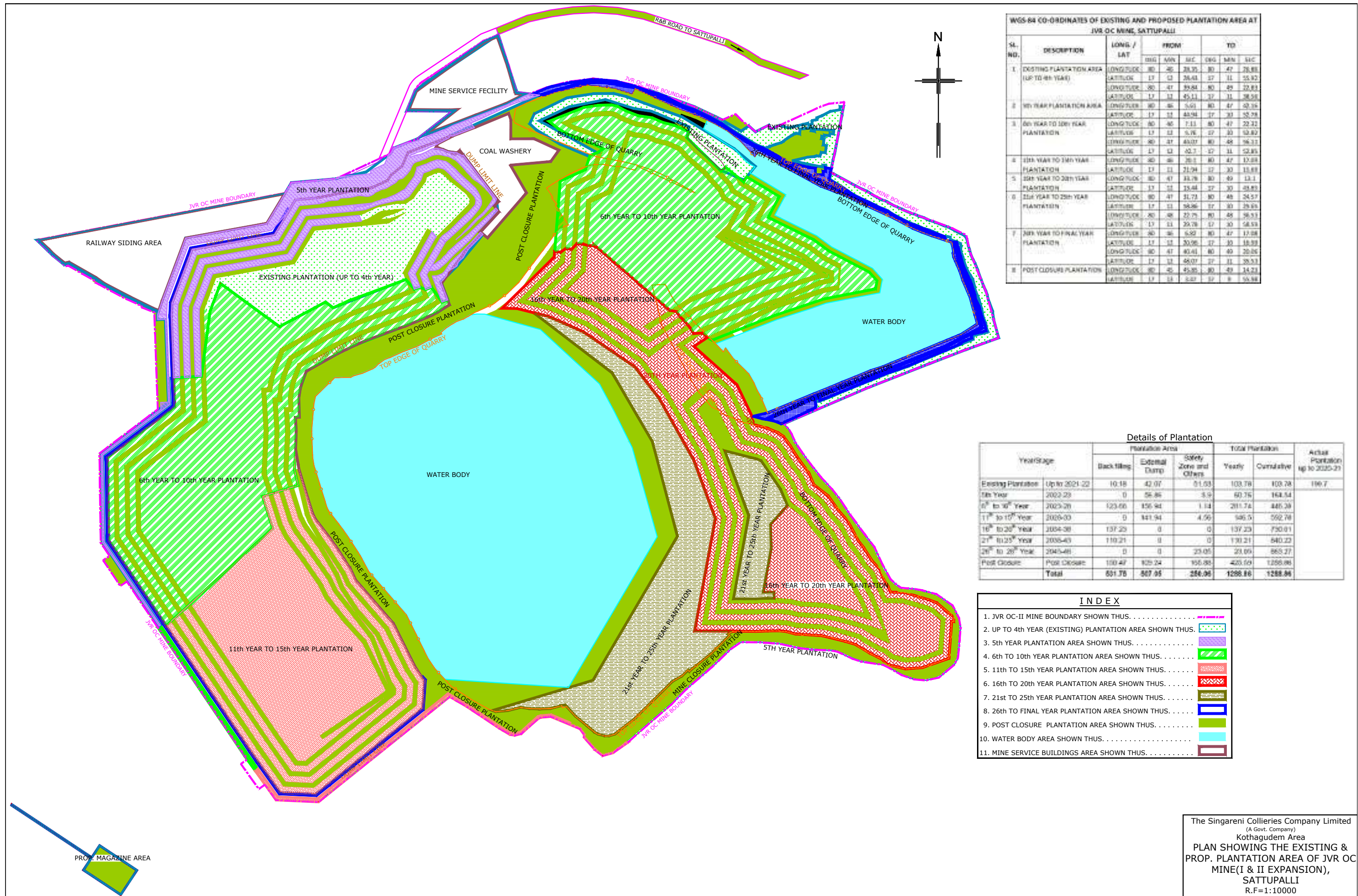
SL. NO.	ITEM	Total Capital	Rs Lakhs						
			Phasing in Years						
			Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	
<b>A</b>	<b>Pollution Abatement and Monitoring</b>								
1	Pollution Abatement Cost	20.00	10.00	10.00					
2	Effluent Treatment/Oil & Grease Traps	0.00							
3	Construction of Settling Tanks	0.00							
4	Construction of rain water harvesting Structures	0.00							
5	Pollution monitoring Facilities	20.00	10.00	10.00					
6	Env. Baseline Data Generation & Preparation of EMP	20.00	20.00						
7	Public Hearing, CFE Fees and other statutory clearances	25.00	25.00						
8	Green Belt Development around Quarry, Service Buildings etc., and over the Reclaimed Area and OB Dumps	40.00	20.00	20.00					
9	Construction of engineering structures on OB dumps slopes & Bio-Reclamation	20.00	10.00	10.00					
10	Construction of Toe Walls, Rock Filled Dams	20.00	10.00	10.00					
11	Scientific studies and miscellaneous	15.00	10.00	5.00					
	<b>Sub-Total (A)</b>	<b>180.00</b>	<b>0.00</b>	<b>115.00</b>	<b>65.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

## EMP Revenue Cost

A - 63  
RCE-II of JVR OC-II  
Annexure No.RCE 5.0  
Base Date:February 2019

### EMP REVENUE COST

Sl. No.	Description	Total Cost (Rs)	Cost per Tonne (Rs)
1	Wages	42213385	4.22
2	Stores	31308536	3.13
3	Power	500000	0.05
4	General Administration	6332008	0.63
5	Post Project Environment Monitoring & Green Belt Development	3000000	0.30
6	Interest On Working Capital	2323491	0.23
7	Interest On Loan	11257	0.001
8	Depreciation	2995000	0.30
Total		88683677	8.87



WGS-84 CO-ORDINATES OF EXISTING AND PROPOSED PLANTATION AREA AT JVR OC MINE, SATTUPALLI

Sl. NO.	DESCRIPTION	LONG / LAT	FROM			TO		
			DEG	MIN	SEC	DEG	MIN	SEC
1	EXISTING PLANTATION AREA (UP TO 4th YEAR)	LONGITUDE	80	40	28.75	80	47	26.85
		LATITUDE	17	13	36.63	17	11	55.82
		LONGITUDE	80	47	39.64	80	49	22.83
2	5th YEAR PLANTATION AREA	LONGITUDE	80	46	5.63	80	47	57.36
		LATITUDE	17	13	45.13	17	11	28.59
		LONGITUDE	80	46	43.94	80	47	35.78
3	6th YEAR TO 10th YEAR PLANTATION	LONGITUDE	80	46	7.13	80	47	22.32
		LATITUDE	17	13	5.78	17	10	10.82
		LONGITUDE	80	47	43.07	80	48	36.33
4	11th YEAR TO 15th YEAR PLANTATION	LONGITUDE	80	46	25.1	80	47	17.88
		LATITUDE	17	13	21.04	17	10	15.88
		LONGITUDE	80	47	33.78	80	49	13.1
5	16th YEAR TO 20th YEAR PLANTATION	LONGITUDE	80	47	18.64	80	48	48.83
		LATITUDE	17	13	18.64	17	10	48.83
		LONGITUDE	80	47	31.73	80	48	24.57
6	21st YEAR TO 25th YEAR PLANTATION	LONGITUDE	80	47	38.96	80	48	29.86
		LATITUDE	17	13	38.96	17	10	29.86
		LONGITUDE	80	48	22.75	80	48	36.53
7	26th YEAR TO FINAL YEAR PLANTATION	LONGITUDE	80	47	29.78	80	49	13.1
		LATITUDE	17	13	29.78	17	10	13.1
		LONGITUDE	80	47	40.61	80	49	20.86
8	POST CLOSURE PLANTATION	LONGITUDE	80	46	55.07	80	47	28.53
		LATITUDE	17	13	55.07	17	11	28.53
		LONGITUDE	80	46	45.85	80	49	14.23
		LATITUDE	17	13	53.37	17	9	36.88

Details of Plantation

Year/Stage	Plantation Area	Total Plantation			Actual Plantation up to 2025-21	
		Backfilling	External Dump	Safety Zone and Others		
Existing Plantation	Up to 2021-22	10.18	42.07	51.63	103.78	103.78
5th Year	2022-23	0	58.86	3.9	60.76	164.54
6 <sup>th</sup> to 10 <sup>th</sup> Year	2023-28	123.66	156.94	1.14	281.74	446.28
11 <sup>th</sup> to 15 <sup>th</sup> Year	2028-33	0	141.94	4.56	146.5	592.78
16 <sup>th</sup> to 20 <sup>th</sup> Year	2034-39	137.23	0	0	137.23	730.01
21 <sup>th</sup> to 25 <sup>th</sup> Year	2039-43	110.21	0	0	110.21	840.22
26 <sup>th</sup> to 29 <sup>th</sup> Year	2043-46	0	0	23.05	23.05	863.27
Post Closure	Post Closure	100.47	105.24	155.83	425.69	1288.96
<b>Total</b>		<b>501.78</b>	<b>867.95</b>	<b>286.95</b>	<b>1288.68</b>	<b>1288.96</b>

INDEX

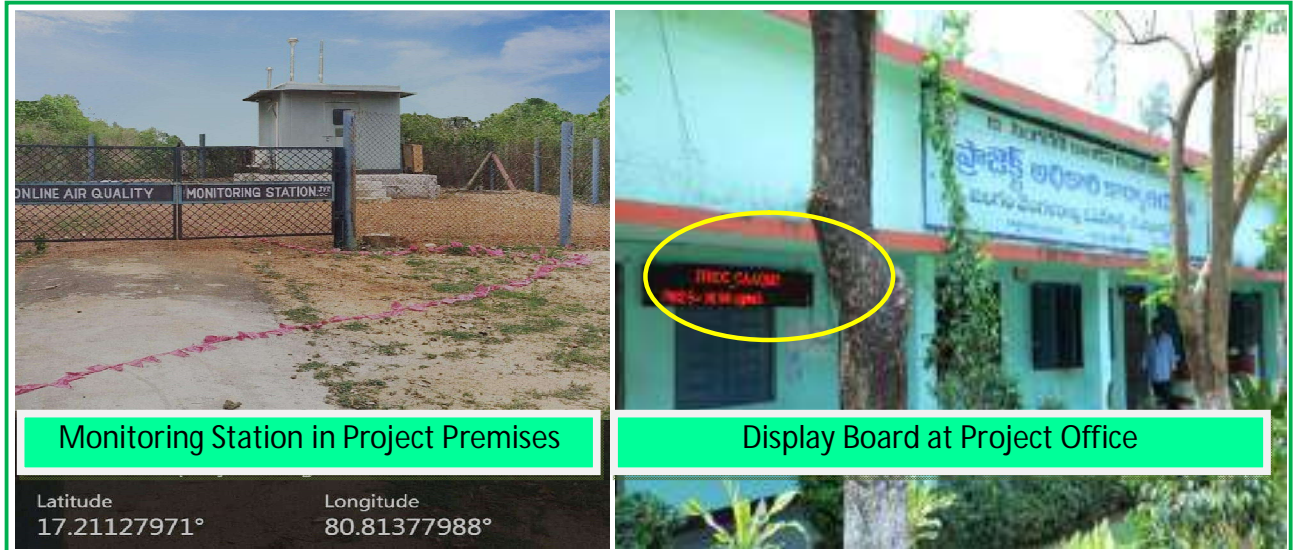
1. JVR OC-II MINE BOUNDARY SHOWN THUS.....	
2. UP TO 4th YEAR (EXISTING) PLANTATION AREA SHOWN THUS.....	
3. 5th YEAR PLANTATION AREA SHOWN THUS.....	
4. 6th TO 10th YEAR PLANTATION AREA SHOWN THUS.....	
5. 11th TO 15th YEAR PLANTATION AREA SHOWN THUS.....	
6. 16th TO 20th YEAR PLANTATION AREA SHOWN THUS.....	
7. 21st TO 25th YEAR PLANTATION AREA SHOWN THUS.....	
8. 26th TO FINAL YEAR PLANTATION AREA SHOWN THUS.....	
9. POST CLOSURE PLANTATION AREA SHOWN THUS.....	
10. WATER BODY AREA SHOWN THUS.....	
11. MINE SERVICE BUILDINGS AREA SHOWN THUS.....	

The Singareni Collieries Company Limited  
 (A Govt. Company)  
 Kothagudem Area  
**PLAN SHOWING THE EXISTING & PROP. PLANTATION AREA OF JVR OC MINE(I & II EXPANSION), SATTUPALLI**  
 R.F=1:10000

## Annexure-H

### 1. Details of CAAQMS:

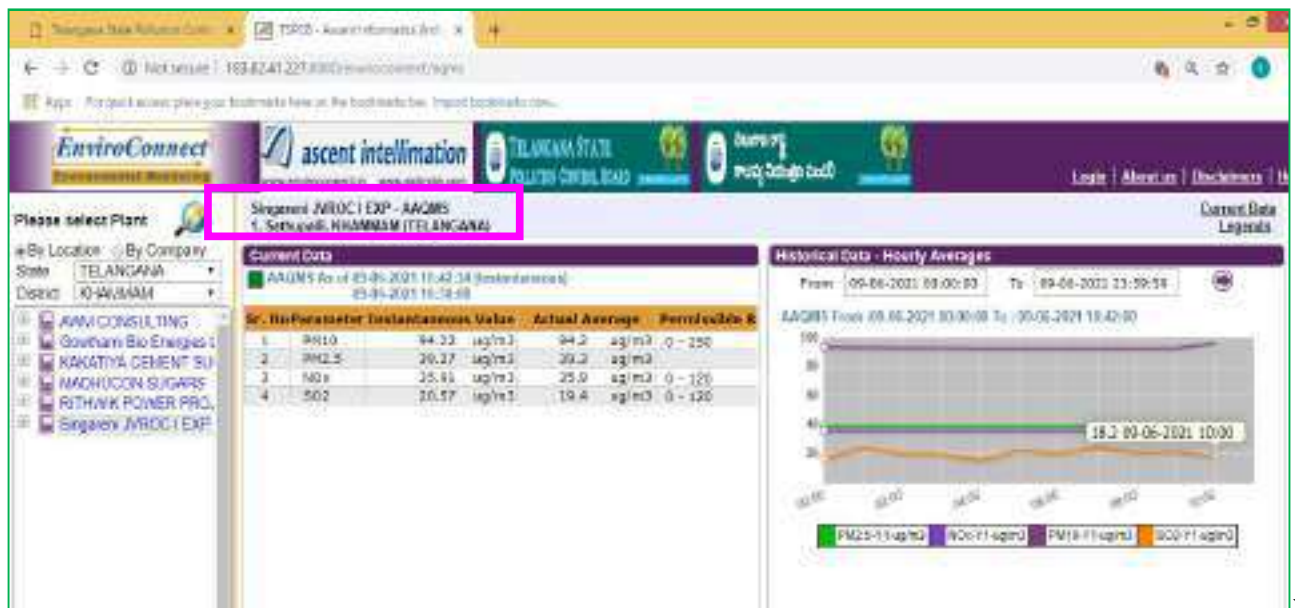
Location : Project Premises of the Project  
Established on : January, 2018



One CAAQMS has been established in the project premises and connected to TSPCB and CPCB websites for real-time monitoring ambient air.

### 2. Web Page of TSPCB- Showing data of JVR OC Mine

Connected to TSPCB server : in February, 2018



<http://183.82.41.227:8080/enviroconnect/aqms>

**Annexure-I**

Sathupalli town to M.Banjar Road Repair Works



Rs.4.60 Crores Cheque deposited to R&B Department

**भारतीय स्टेट बैंक**  
**State Bank Of India**

(2094) PUJDRAMPUR BRANCH  
NO. 1, CHURCHMAN LANE, CIVIL SUPPLY BANGALAYAM,  
PUJDRAMPUR, B. KOTHAKUDDEM - 787 112  
Tel: 91 246285 - ITS CODE : SBIN0020942

शुद्ध रकम में ही भरना है (Payable only in words)

0 0 0 0 0 0 0 0 0 0

0 D M M Y Y Y Y

TO THE ORDER OF THE EXECUTIVE ENGINEER (R&B), DIVISION-SATHIPALLI, को या उसके आवेग पर OR ORDER

10 RUPEES FOUR CRORES SIXTY LAKH ONLY

अथा करे ₹ 46000000.00

62100750345

For THE SINGARENI COLLIERIES COMPANY LIMITED

VALID UP TO 750 LACS AT NON-HOME BRANCH

CC ACCOUNT  
Prefix:  
2109100001

\*46000001.00

MULTI-CITY CHEQUE Payable at Par at All Branches of SBI

AUTHORISED SIGNATORY AUTHORIZED SIGNATORY  
Please sign above

953309 507002545 000013 30

\*\*



## **Impact Assessment and its mitigation measures w.r.t. proposed road route on receptors for environment parameters as per Ambient Air Quality standards.**

### **5.1 Impact Assessment on air quality due to coal transportation**

It is proposed for expansion of existing JVR OCP-II project from 5 Mtpa to 10 Mtpa by amalgamation with adjacent JVR OC-I Expn. At present coal is being transported by road mode from pit head CHP, Sathupalli to RCHP, Kothagudem by Road for a length of 52 km. To eliminate road transport, construction of 54.1 km railway has been taken up. Railway line and associated works will be completed by the end of Year 2021.

### **5.2 Air Quality Monitoring**

The following methodology is adopted to predict the impact assessment for additional coal transportation from the project with respect to proposed road route on receptors for environment parameters as per Ambient Air Quality standards.

### **5.3 Monitoring of Existing Scenario:**

- In order to understand the present air quality at loading, unloading and transportation route, a network of air quality monitoring locations have been identified.
- The Villages/locations are identified near the project and also along the coal transportation route.
- Monitoring is carried out for existing air quality parameters  $PM_{10}$ ,  $PM_{2.5}$ ,  $NO_x$  and  $SO_2$ .
- The ambient air quality data represents the coal transportation activity from the existing JVR OCP-II Project of 5 MTPA capacity.

### **5.4 Prediction of pollution from additional coal transportation :**

- The air quality modeling studies were carried out to predict the ground level concentration (GLCs) for additional coal transportation of 5.00 Mtpa due to proposed expansion.
- AERMOD Air Dispersion Model is used to predict the GLCs of air emissions in and around the mine site due to vehicular transportation of coal from mine to CHP.
- Total ground level concentrations are predicted and compared with National Ambient Air Quality standard notified issued vide GSR 826 (E), dated 16th November 2009.

### **5.5 Existing ambient air quality**

In order to understand the present air quality at loading, unloading and transportation route, a network of air quality monitoring locations have been identified for air quality survey. The data has been collected for one month from 23<sup>rd</sup> April - 22<sup>nd</sup> May 2021.

The details of monitoring locations are given in the **Fig. 5.1** and **Table 5.5**.

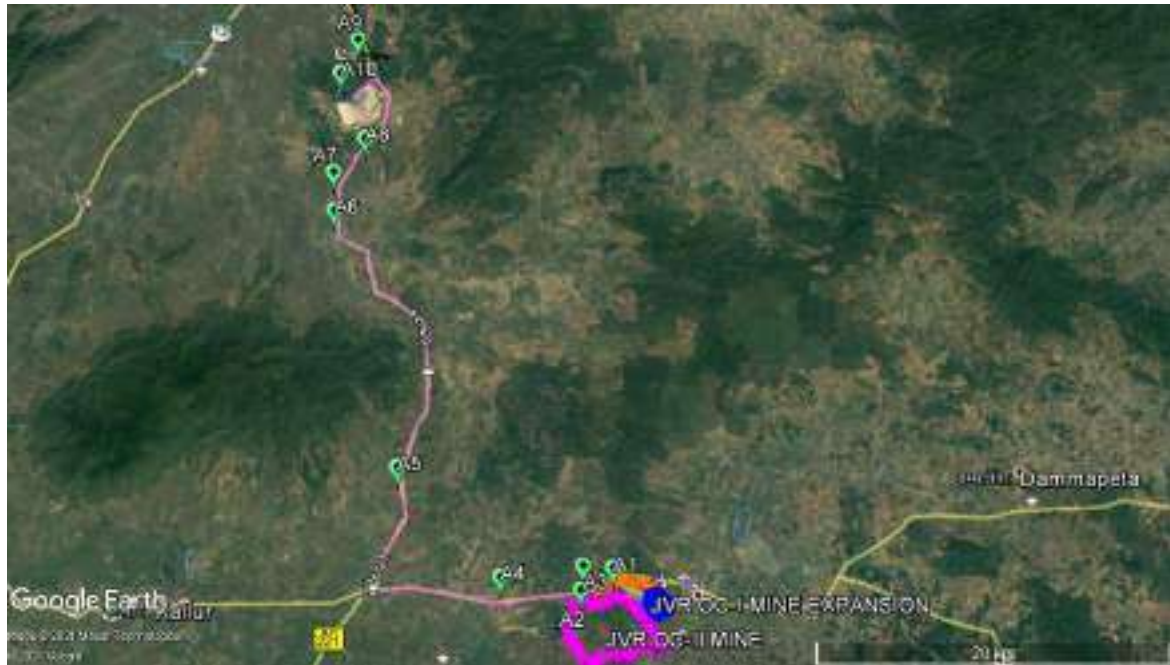


Figure 5.1 Google map showing ambient air quality monitoring locations

Table 5.1 List of AAQ monitoring locations

Code	Locations	Distance w.r.t to coal transportation Road (km)	Direction	Latitude	Longitude
A1	JVR OC-I	0.78	S	17°12'28.24"N	80°47'34.12"E
A2	JVR OC-II	1.0	S	17°11'48.77"N	80°46'32.02"E
A3	Kistaram	0.18	N	17°12'31.90"N	80°46'36.11"E
A4	Lankapalli	0.2	N	17°12'11.33"N	80°43'58.08"E
A5	Uppalachalaka	0.19	W	17°15'30.61"N	80°40'38.55"E
A6	Chandrugonda	0.2	W	17°23'26.91"N	80°38'29.41"E
A7	Tippanapalli	0.31	W	17°24'39.08"N	80°38'26.89"E
A8	Penagadapa	0.4	E	17°25'42.95"N	80°39'27.21"E
A9	Rampur	0.5	W	17°28'51.43"N	80°39'11.00"E
A10	Rudrampur CHP	2.0	W	17°27'47.96"N	80°38'37.23"E

### Ambient Air quality Monitoring Photos





## 5.6 Summary of air quality data

The summarized ambient air quality results at the selected air quality locations along the coal transportation route are furnished in **Table 5.6 & 5.7**.

**Table 5. 2 Summarized Ambient Air Quality levels in the study area (Particulate Matter)**

Locations	$\mu\text{g}/\text{m}^3$					
	PM <sub>10</sub>			PM <sub>2.5</sub>		
	Min.	Max.	Avg.	Min.	Max.	Avg.
JVR OC-I	96	112	104.6	37.2	43.5	40.8
JVR OC-II	118	146	129.6	45	63.9	52.6
Rudrampur CHP	201	222	209.3	66.3	74.6	69.7
<b>Coal mine Standards</b>	<b>250</b>			<b>NS</b>		
Kistaram	60	80	69.6	25.1	34.6	30.2
Lankpalli	53	68	60.3	21.8	27.9	24.9
Uppalachalaka	52	66	59.3	21.3	26.7	24
Chandrugonda	55	69	64.8	23.6	31	28.1
Tippanapalli	54	65	59.1	22	27.2	24.7
Penagadapa	51	68	58.6	20.8	28.6	24.2
Rampur	49	64	57.5	20	26.8	23.7
<b>NAAQ Standards</b>	<b>100</b>			<b>60</b>		

**Table 5. 3 Summarized Ambient Air Quality levels in the study area (Gaseous pollutants)**

Locations	$\mu\text{g}/\text{m}^3$					
	SO <sub>2</sub>			NO <sub>2</sub>		
	Min.	Max	Avg.	Min.	Max.	Avg.
JVR OC-I	13	14.4	13.7	19.1	21.8	20.3
JVR OC-II	13.4	14.8	14.1	19.6	22.4	21.1
Rudrampur CHP	13.8	15.7	14.9	20.6	23.8	22
<b>Coal mine Standards</b>	<b>120</b>			<b>120</b>		
Kistaram	12.1	13.8	12.8	17.6	20.4	18.9
Lankpalli	12.2	13.1	12.7	18.2	19.6	18.7
Uppalachalaka	12.5	13.5	13	18.3	20.3	19.2
Chandrugonda	12	13.6	13	17.3	20	19.1
Tippanapalli	12.6	13.6	13.2	18.5	20.5	19.5
Penagadapa	12.6	13.9	13.3	17.9	19.6	18.7
Rampur	12.8	13.6	13.2	18.8	20.1	19.4
<b>NAAQ Standards</b>	<b>80</b>			<b>80</b>		

### Particulate Matter $\leq 10 \mu\text{m}$ size (PM<sub>10</sub>)

The PM<sub>10</sub> concentration in the study area varies between 49  $\mu\text{g}/\text{m}^3$  to 222  $\mu\text{g}/\text{m}^3$ . Minimum concentration was observed at Rampur Village, and maximum concentration was observed at Rudrampur CHP.

### Particulate Matter $\leq 2.5 \mu\text{m}$ size (PM<sub>2.5</sub>)

The PM<sub>2.5</sub> concentration in the study area varies between 20  $\mu\text{g}/\text{m}^3$  to 74.6  $\mu\text{g}/\text{m}^3$ . Minimum concentration was observed at Rampur Village, and maximum concentration was observed at Rudrampur CHP.



### **Sulphur dioxide (SO<sub>2</sub>)**

The SO<sub>2</sub> concentration in the study area varies between 12 µg/m<sup>3</sup> to 15.7 µg/m<sup>3</sup>. Minimum concentration was observed at Chandrugonda Village, and maximum concentration was observed at Rudrampur CHP.

### **Nitrogen dioxide (NO<sub>2</sub>)**

The NO<sub>2</sub> concentrations in the buffer zone were between 14.4 and 23.8 µg/m<sup>3</sup>. Minimum concentration was observed at JVR OC-I Village, and maximum concentration was observed at Rudrampur CHP.

## **5.7 Impact on Air Quality**

The air pollution in the project study area arises mainly from the vehicles used for transportation of men, materials and coal. The main air pollutants like particulate matter, CO and NO<sub>x</sub> are released from the transportation operation.

AERMOD Air Dispersion Model is used to predict the ground level concentration of air emissions in and around the mine site due to vehicular transportation of coal from mine to CHP. Predicted GLCs are compared with National Ambient Air Quality standard notified vide GSR 826 (E), dated 16th November 2009.

An emission factor is a representative value that attempts to relate the quantity of pollutant released in the atmosphere and activity associated with the release of the pollutant. These factors are usually expressed as the weight of pollutant divided by a unit weight, volume, distance or duration of the activity emitting the pollutant. The parameters that are most likely to influence the particulate emissions are measure of source activity, properties of the material being disturbed and climatic parameters.

United States Environmental Protection Agency (USEPA) has developed emission factors for coal mining operation, published through AP - 42 (1998). Based on these emission factors, National Pollution Inventory (NPI), Australian Government, also developed emission factors for Suspended Particulate Matter (TSP) and Particulate Matter (PM<sub>10</sub>) and published the Emission Estimation Technique Manual (EET Manual) for mining and the version 3.1 is updated in January 2012.

## **5.8 Particulate Matter emission calculation due to truck movement**

When a vehicle travels on an unpaved road, the force of the wheels on the road surface causes pulverization of the surface material, particles are lifted and dropped from the rolling wheels and the road surface is exposed to strong air currents in turbulent shear, with turbulent wake behind the vehicle continue to act on the road surface after the vehicle has passed. Various types of road surfaces and vehicle characteristics are likely to have an impact on the particulate emission from unpaved roads. The particulate emission is mainly depending on the weight of the vehicle and silt content on the road surface.

## **5.9 Emissions due to coal transport**

Carrying capacity of truck used for Coal	:	27 T
Type of source	:	Line
Truck Speed	:	40 KMPH
Distance travelled per trip	:	51.7 km
No. of trips to be made to achieve 14706 T/day	:	545 Trips/day
Total travelling distance of all trucks	:	28177 (Load)+ 28177 (Empty) km



As per the USEPA (1998) and NPI EET Manual 2012 the emission factor for PM<sub>10</sub> is:

$$EF_{PM_{10}} = k \cdot (s/12)^{0.8} \cdot (W/3)^{0.4} / (M/0.2)^{0.3}$$

EFPM<sub>10</sub> = emission factor in Kg per vehicle per km (Kg/VKT)

k = 0.733 for PM<sub>10</sub>

s = Silt content of road surface (2%)

W = Vehicle gross mass in Tonnes 14 T (Tare) + 27 (Coal) = 41 Tonnes

M = Moisture content (10%)

Total Km travelled by all coal Tippers with load = 28177 Km

$$EFPM_{10} = 0.733 \cdot (2/12)^{0.8} \cdot (41/3)^{0.4} / (10/0.2)^{0.3} = 0.1539 \cdot 28177 = 4336$$

Total Km travelled by all coal Tippers with empty = 28177 Km

$$\text{Empty} = EFPM_{10} = 0.733 \cdot (2/12)^{0.8} \cdot (14/3)^{0.4} / (10/0.2)^{0.3} = 0.1001 \cdot 28177 = 2820.51$$

Total emissions due to coal transport = 7156.51 Kg/day.

### 5.10 Dumping of Coal

The USEPA uses the same equation for unloading coal as it does for loading coal

Coal to be dumped in a day = 14706 T

Emission factor = 0.0104

Emissions from coal dumping = 0.0104 \* 14706 = 152.94 kg/day

Source type: Area

### 5.11 Wind Erosion of Coal Dump (Stock Yard)

Dumping of coal in the coal stock yard is required to be carried as an alternate arrangement at the surface, when the bunker/pre-weigh bin is full. Wind provides the mechanical energy for particle movement. A certain minimum wind velocity, often called threshold wind velocity, is responsible for air borne dust from the dumps. For long term emission estimations, average soil moisture content or the number of rainy days, silt content of the dumping material, wind speed are influencing parameters. As per the USEPA (1998) and NPI EET Manual 2012 the emission factor for PM<sub>10</sub> for wind erosion of dump is:

$$EF = 1.9 \cdot (s/1.5) \cdot 365 \cdot ((365-p)/235) \cdot (f/15) / 365$$

EF = emission factor for TSPM kg/ha/Year

Taking

s = silt content in exposed area of the coal heap will be around 2%

p = number of days when rain fall > 0.25 mm is 80 days

f = At JVR OCP 0.6% of time that wind speed is > 5.40 m/sec at mean height of the dump

$$EFTSPM = 1.9 \cdot (2/1.5) \cdot 365 \cdot ((365-80)/235) \cdot (0.6/15) / 365 = 0.12 \text{ Kg/ha/day}$$

$$EFPM_{10} = 50\% \text{ of TSPM} = 0.12 \times 0.5 = 0.06$$

Total area of coal stock yards = 1 ha

Emissions due to wind erosion of coal stock yard = 0.06 x 1 = 0.06 Kg/day

### 5.12 Loading

As per the USEPA (1998) and NPI EET Manual 2012

The emission factor for PM<sub>10</sub> for loading on to the trains is: EFPM<sub>10</sub> = 0.00017 kg/T

Loading of Coal per day is 14706 T

Emissions due to loading to Train = 14706 \* 0.00017 = 2.50 kg/day

Source type: Area

### 5.13 Gaseous emission calculation due to truck movement

The gaseous emissions arise mainly from the vehicles used for transportation of men, material, coal and other commercial purpose. The main pollutants like CO and NO<sub>x</sub> are



released from the transportation operations. The sources generating these pollutants are mainly vehicular movements along the roads. The line source emission rate for the main area is derived from the following equation.

**Total Emissions = Emission Factor x No. of Vehicles x Velocity**

Total Coal requirement: 14706 TPD

Carrying capacity of truck: 27 Tonnes/Truck

Transport Time: 24 hours

No. of trips required to achieve 14706 Tonnes/day: 545/24 hrs = 23 Trucks/hr.

Truck speed: 40 kmph

**Table 5. 4 Modeling Inputs and emission factor calculation**

S.No.	Vehicle Type	No. of Vehicles/hr.	Emission factor g/km (ARAI)	
			CO	NOx
1	Heavy Vehicles (Trucks)	46	3.92	6.50
<b>Input values in Modeling (g/s)</b>			2.05	3.4
<b>Total Emissions=Emission factor x No. of Vehicles x Velocity</b>				
CO : Total emission = 3.92 x 46 x 40 = 7213/3600 =2.003				
NOx : Total emission = 6.50 x 46 x 40 = 11960/3600=3.32				

The source input value for gaseous emission is given for expansion in production of 5.0 MTPA . To assess the impact on Air quality based on traffic from the coal transportation CO and NOx are the important pollutants emitting from the traffic and transportation.

**5.14 Summary of Emissions**

The summary of emissions for peak rated production capacity from different mining activities (without EMP) envisaged are summarized and the multiplying factor for control measures was applied. After applying the control factor for each activity the dust emission in grams/sec is given in **Table 5.2**.

**Table 5.5 Emission details**

Activity	Operation Coal/OB	Unit	Emission Factor	Day Activity	Emissions kg/day	Control Method	% of Control	Emissions After control	Source wise emissions	
									kg/day	g/s
Transport	Coal (Load)	km Travelled	0.1539	28177	4336.4	Water sprinkling	70	1301	2147	24.85
	Empty	km Travelled	0.1001	28177	2820.5		70	846		
Dumping	Coal	Tons	0.0104	14706	152.94		75	38	38.0	0.4425
Loading	Coal	Tons	0.00017	14706	2.50002		70	1	1.0	0.0086
Wind erosion	Coal yard	Area in ha	0.0642	1	0.06	No Control	0	0.06	0.06	0.0007
Total PM <sub>10</sub> Emissions in Kg/day without any control measure						<b>7312.46</b>	After Taking Control Measures in Kg/day			
<b>Total 31.93 grams/sec</b>										

Modeling for PM<sub>2.5</sub> parameter is done by considering the PM<sub>2.5</sub> emissions as 50% of the PM<sub>10</sub> emissions.





### 5.15 Simulation Model for Prediction – (AERMOD)

Line source Modeling is done using existing traffic volume. The existing ground level concentration of the on-going coal transportation by road will indicate the impact in the surrounding environment modeling area with the help of AERMOD software.

AERMOD model which is a steady-state dispersion model designed for short-range dispersion of air pollutant emissions from different sources. It is used to predict the ground level concentrations (GLCs) of PM<sub>10</sub>, CO, HC & NO<sub>x</sub> due to the JVR OC-II project. The GLCs were predicted on 24 hourly average basis and the line source concentrations are shown in the form of isopleths.

In order to estimate the Ground Level Concentrations due to the emission from the traffic, EPA approved Air Dispersion Model (AERMOD) has been used. It provides option to model emissions from a wide range of sources that are present at a typical line source. The basis of the model is the road line steady state Gaussian Plume Equation.

AERMOD model with the following options has been used to predict the Ground Level Concentrations (GLCs) due to the existing source of emissions.

### 5.16 Line source details

Line source modelling is used to predict the Ground Level Concentrations (GLCs) due to fugitive emissions emitted from the movement of vehicles, loading and unloading of coal.

### 5.17 Model predictions

The air quality modeling studies were conducted to assess the contribution of coal transportation activity in JVR OC Mine (I & II Expansion) towards air pollution and predict the GLCs after commencement of the project. The inputs used to run the model are vehicle details, emission details, and twenty-four hourly mean meteorological data.

The air quality data prior to commencement of expansion project was used to understand the traffic impact. The incremental rise in pollutant concentrations due to expansion of mining activities was arrived at using modeling studies and the same were added to back ground levels of PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>2</sub> concentrations monitored during April - May 2021 to estimate predicted GLCs after commencement of the project. The back ground pollution levels, incremental rise in concentration due to coal transportation activities and predicted GLCs are furnished in **Table 5.3** and **5.4**. The isopleths of the same are given in **Fig 5.2 to 5.13**.

**Table 5.6 Predicted concentration at the Monitoring locations**

Locations	PM <sub>10</sub> (µg/m <sup>3</sup> )			PM <sub>2.5</sub> (µg/m <sup>3</sup> )		
	Present Conc. levels for 5 Mtpa coal production in JVR OCPII	Incremental rise in Conc. for additional 5 Mtpa due to expansion	Predicted GLCs for Proposed 10 Mtpa	Present Conc. levels for 5 Mtpa coal production in JVR OCPII	Incremental rise in Conc. for additional 5 Mtpa due to expansion	Predicted GLCs for Proposed 10 Mtpa
JVR OC-I	112	1.57	113.57	43.5	0.44	43.94
JVR OC-II	146	5.17	151.17	63.9	1.67	65.57
Kistaram	80	1.24	81.24	34.6	0.52	35.12
Lankpalli	68	1.85	69.85	27.9	0.59	28.49



Uppalachalaka	66	1.48	67.48	26.7	0.80	27.5
Chandrugonda	69	2.00	71.00	31	0.93	31.93
Tippanapalli	65	1.97	66.97	27.2	1.19	28.39
Penagadapa	68	5.10	73.10	28.6	2.55	31.15
Rampur	64	1.70	65.70	26.8	0.87	27.67
Rudrampur CHP	222	1.31	223.31	74.6	0.69	75.29

Table 5.7 Predicted concentration at the Monitoring locations

Locations	NO <sub>2</sub> (µg/m <sup>3</sup> )		
	Present Conc. levels for 5 Mtpa coal production in JVR OCPII	Incremental rise in Concentraion for additional 5 Mtpa due to expansion	Predicted GLCs for Proposed 10 Mtpa
JVR OC-I	21.8	0.027	21.83
JVR OC-II	22.4	0.071	22.47
Kistaram	20.4	0.025	20.43
Lankpalli	19.6	0.030	19.63
Uppalachalaka	20.3	0.036	20.34
Chandrugonda	20	0.037	20.04
Tippanapalli	20.5	0.496	21.00
Penagadapa	19.6	0.116	19.72
Rampur	20.1	0.040	20.14
Rudrampur CHP	23.8	0.031	23.83

### 5.18 Interpretation of air quality data

The contribution to existing pollution levels by increase of coal transportation activity from JVR OC mine (I & II Expansion) to RCHP, Kothagidem is given in **Table 5.8**.

Table 5.8 Contribution of additional coal transportation to existing pollution levels

Locations	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	NO <sub>2</sub> (µg/m <sup>3</sup> )	CO (ppm)
Existing scenario (Highest Conc. recorded in the villages)	80	34.6	20.4	1.0
<b>Predicated pollution from coal transportation</b>				
Locations	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	NO <sub>2</sub> (µg/m <sup>3</sup> )	CO (µg/m <sup>3</sup> )
Area source (loading)	0.566	0.282	0.426	0.244
Line source	5.20	2.60	0.113	0.111
Area source (Unloading)	1.56	0.78	1.26	0.671
<b>NAAQ Standards</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>1.7</b>

In the line source (vehicular movement) modeling, the PM<sub>10</sub> concentration during coal transportation, loading and unloading of coal is 5.20 µg/m<sup>3</sup>, 0.566 µg/m<sup>3</sup> and 1.56 µg/m<sup>3</sup> respectively which is predicted addition to the baseline value.

PM<sub>2.5</sub> concentration during coal transportation, loading and unloading of coal is 2.60



$\mu\text{g}/\text{m}^3$ ,  $0.566 \mu\text{g}/\text{m}^3$  and  $1.56 \mu\text{g}/\text{m}^3$  respectively.

Similarly NO<sub>x</sub> concentrations during coal transportation, loading and unloading of coal is  $0.113 \mu\text{g}/\text{m}^3$ ,  $0.426 \mu\text{g}/\text{m}^3$  and  $1.26 \mu\text{g}/\text{m}^3$  respectively which is predicted addition to the baseline value.

Even CO concentrations during coal transportation, loading and unloading of coal is  $0.111 \mu\text{g}/\text{m}^3$ ,  $0.244 \mu\text{g}/\text{m}^3$  and  $0.671 \mu\text{g}/\text{m}^3$  respectively which is the predicted addition to the baseline value.

The predicted ground level concentrations from air quality impact prediction modeling and the present air quality data are used to understand the overall scenario. From the interpretation of data, it is evident that there is a marginal increase in the pollution levels due to coal transportation from JVR OC Mine (I&II Expansion), Sathupalli to RCHP, Kothagudem. However the pollution levels are well within the stipulated standards. Hence the impact of pollutants due to coal transportation by road mode from JVR OC Mine (I&II Expansion), Sathupalli to RCHP, Kothagudem is insignificant.



Figure 5. 2 Predicted 24- hourly average GLCs of PM<sub>10</sub> (µg/m<sup>3</sup>) (Line source)

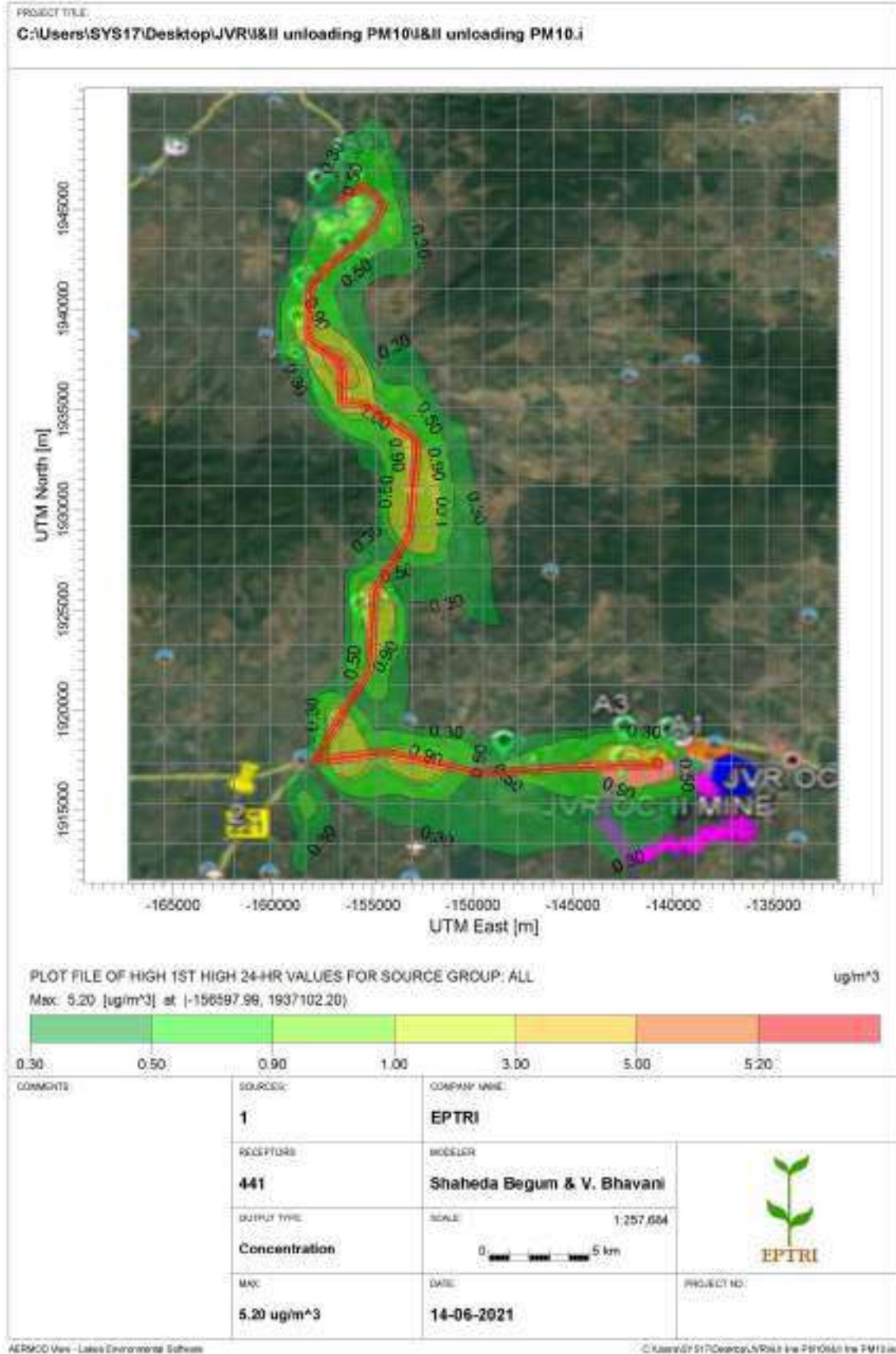




Figure 5. 3 Predicted 24- hourly average GLCs of PM<sub>2.5</sub> (µg/m<sup>3</sup>) (Line source)

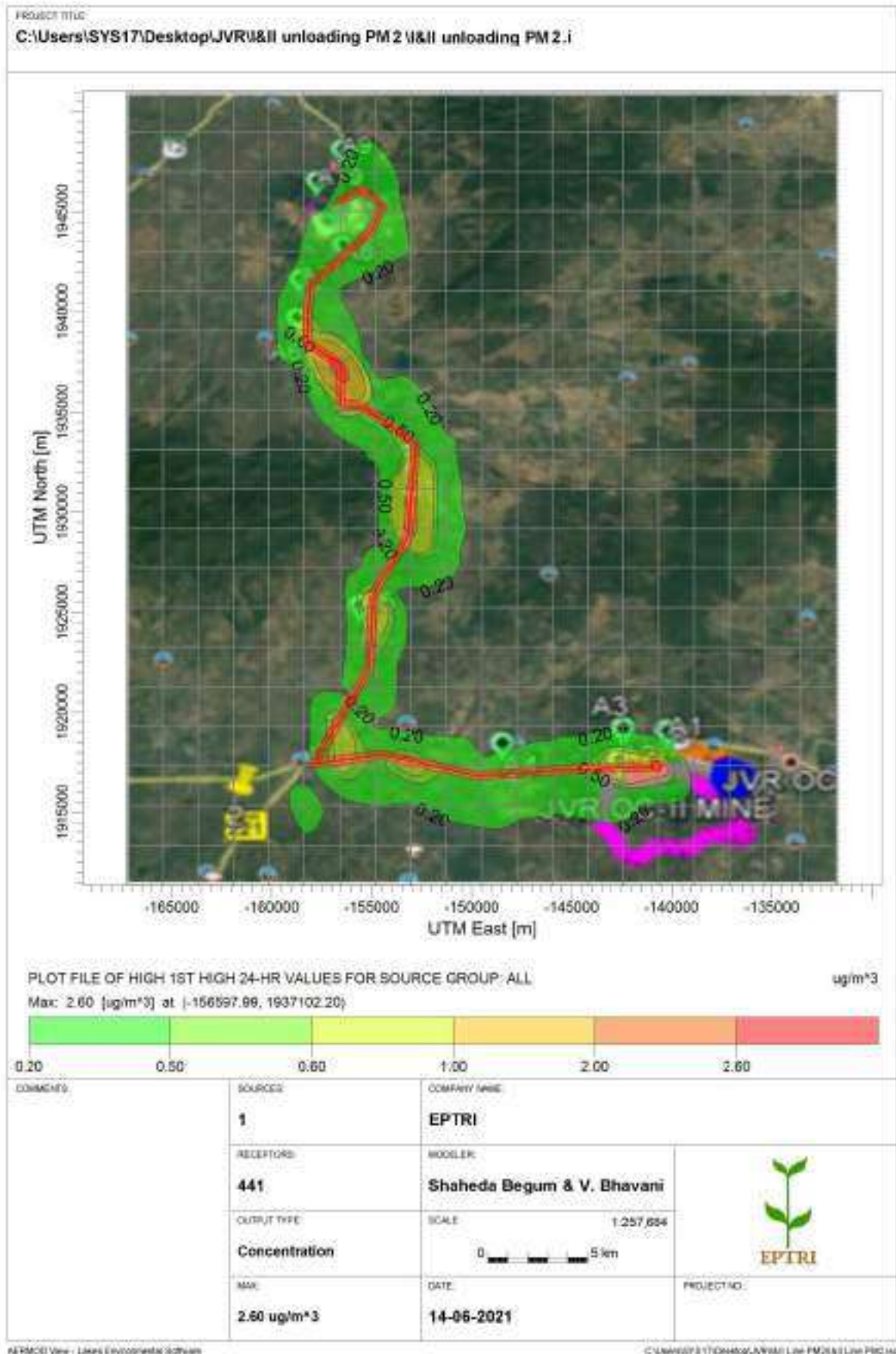




Figure 5. 4 Predicted 24- hourly average GLCs of NOx ( $\mu\text{g}/\text{m}^3$ ) (Line source)

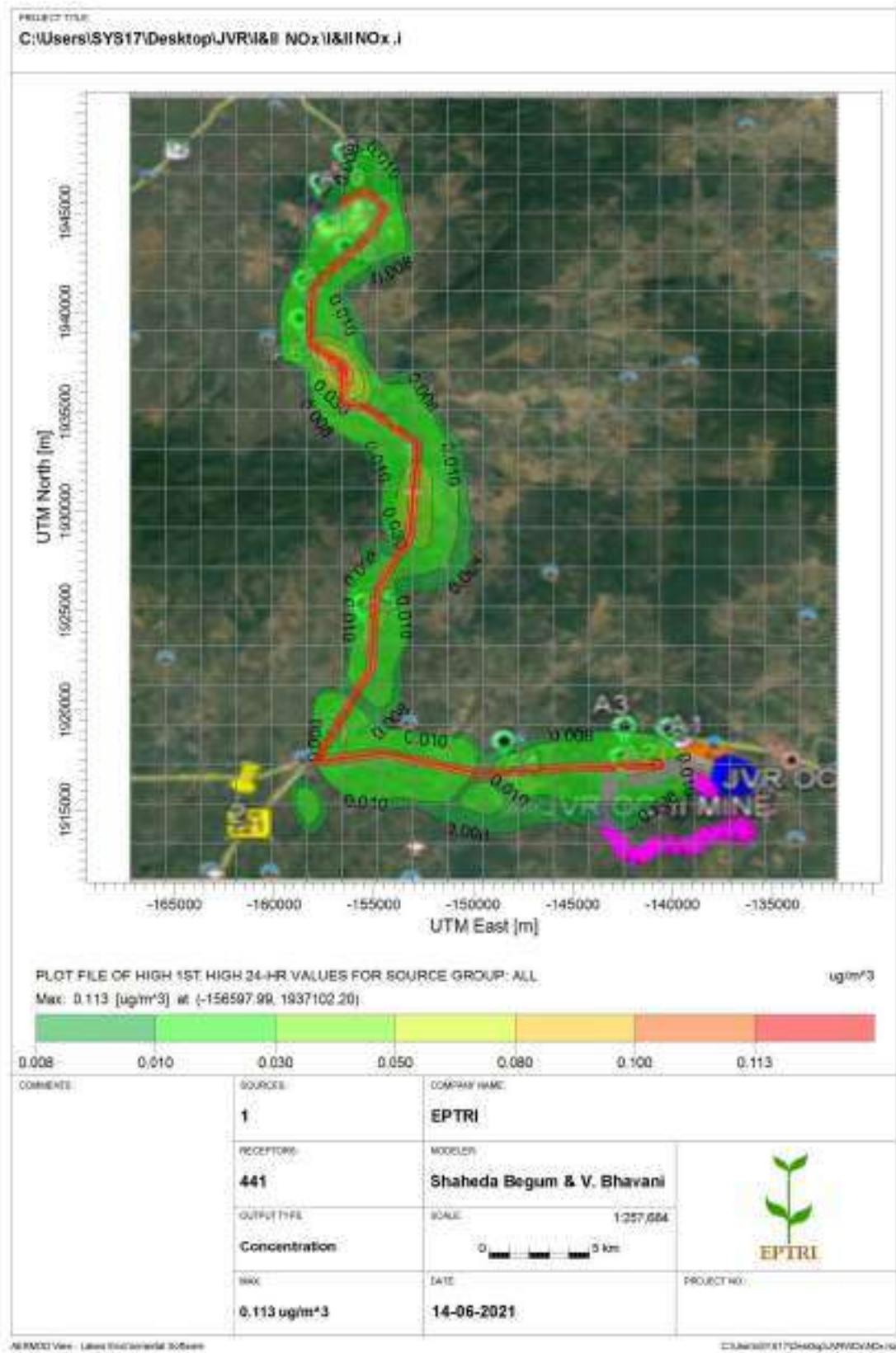




Figure 5. 5 Predicted 24- hourly average GLCs of CO ( $\mu\text{g}/\text{m}^3$ ) (Line source)

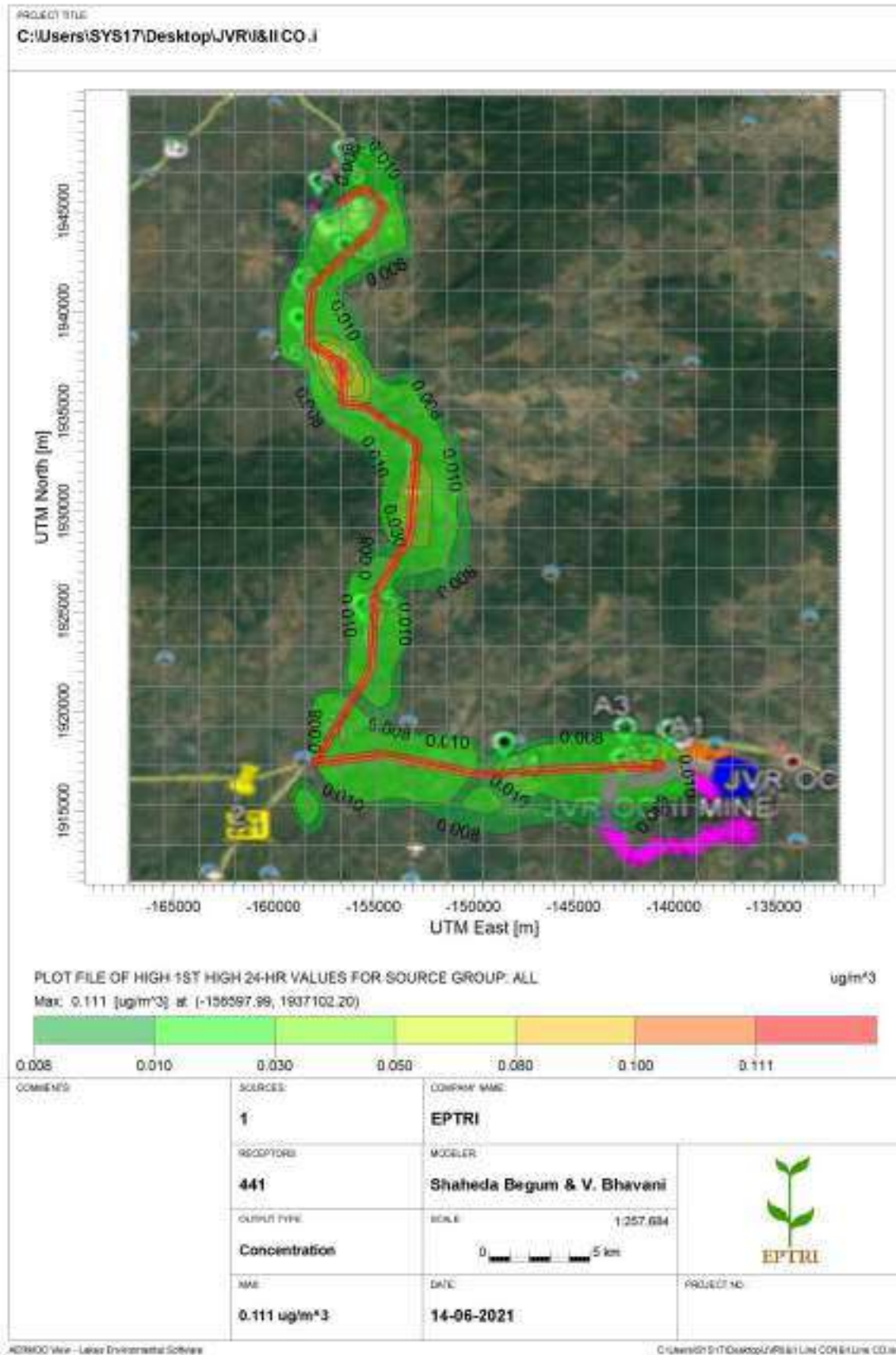




Figure 5.6 Predicted 24- hourly average GLCs of PM<sub>10</sub> (µg/m<sup>3</sup>) (Unloading Area)

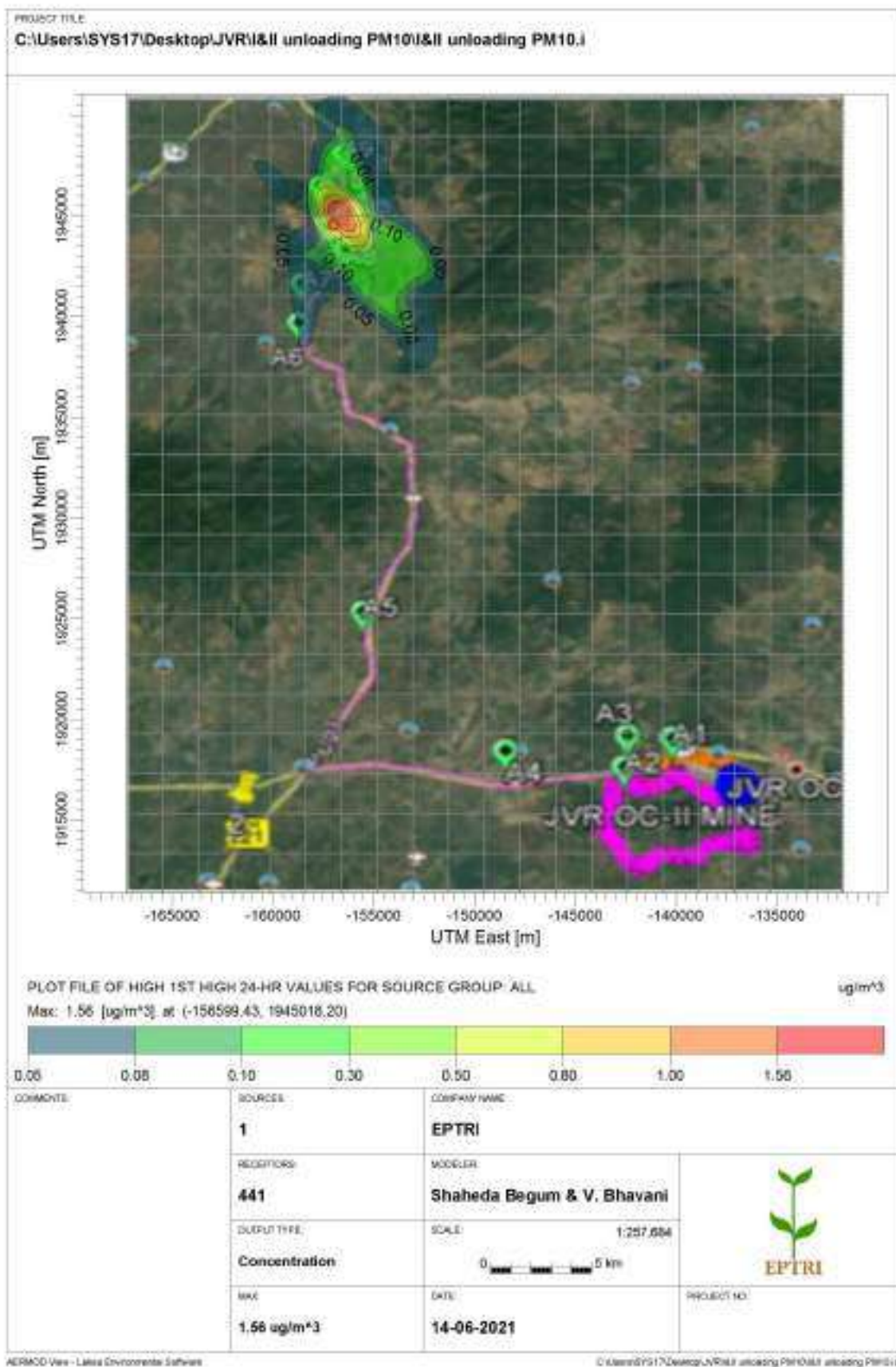




Figure 5.7 Predicted 24- hourly average GLCs of PM<sub>2.5</sub> (µg/m<sup>3</sup>) (Unloading Area)

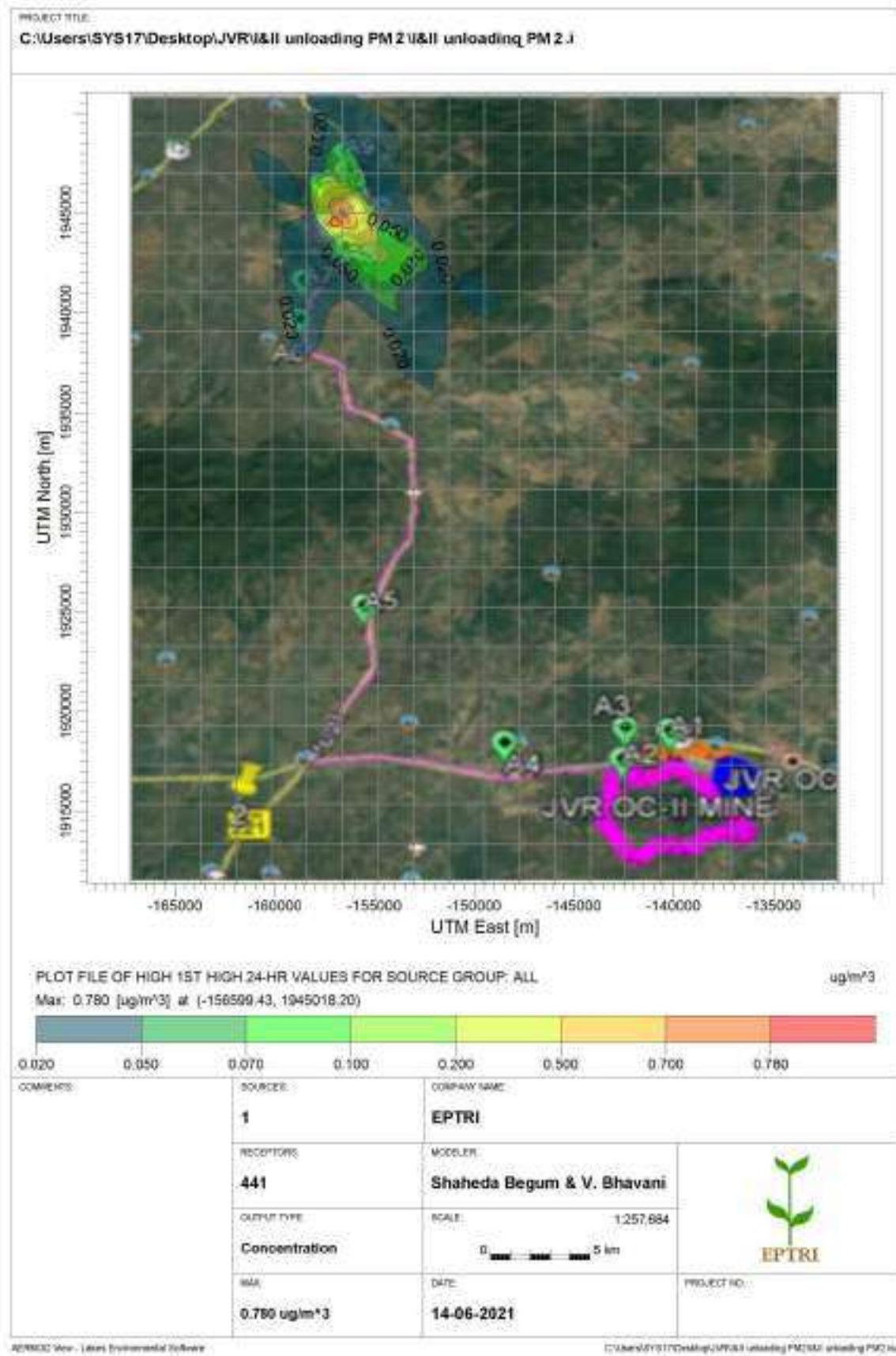
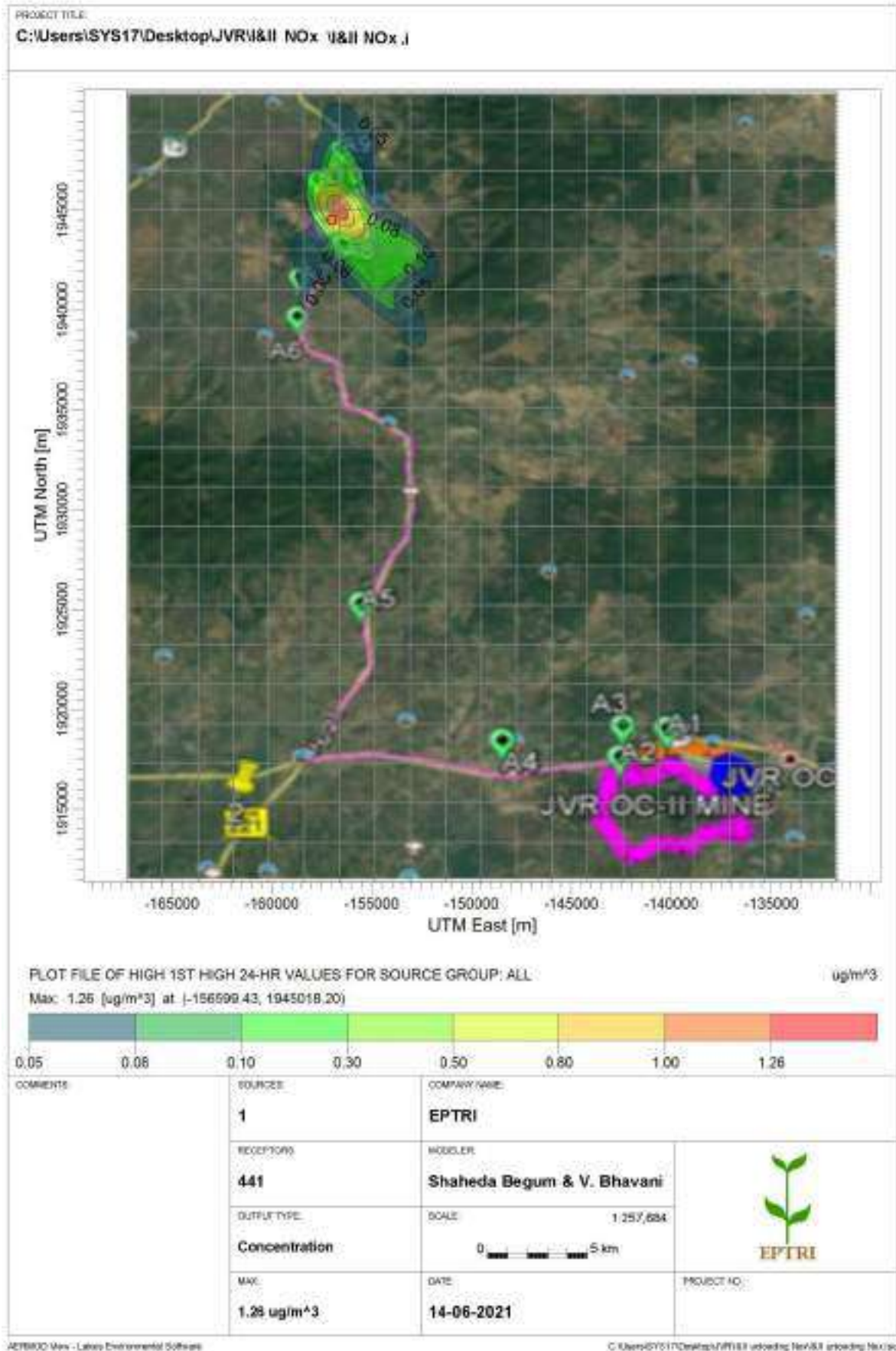




Figure 5. 8 Predicted 24- hourly average GLCs of NOx ( $\mu\text{g}/\text{m}^3$ ) (Unloading Area)



**Figure 5.9 Predicted 24- hourly average GLCs of CO ( $\mu\text{g}/\text{m}^3$ ) (Unloading)**

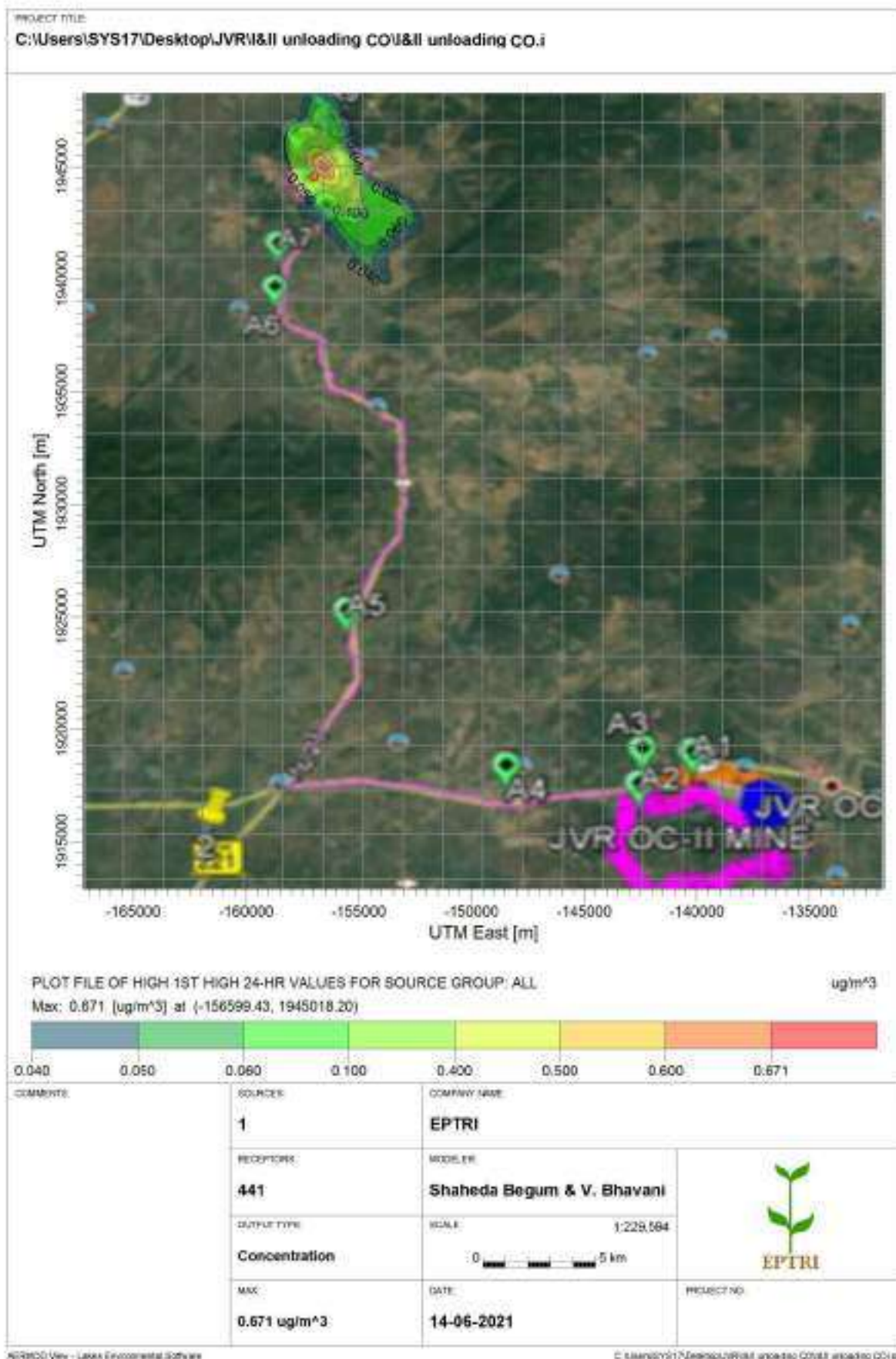




Figure 5. 10 Predicted 24- hourly average GLCs of PM<sub>10</sub> (µg/m<sup>3</sup>) (Loading Area)

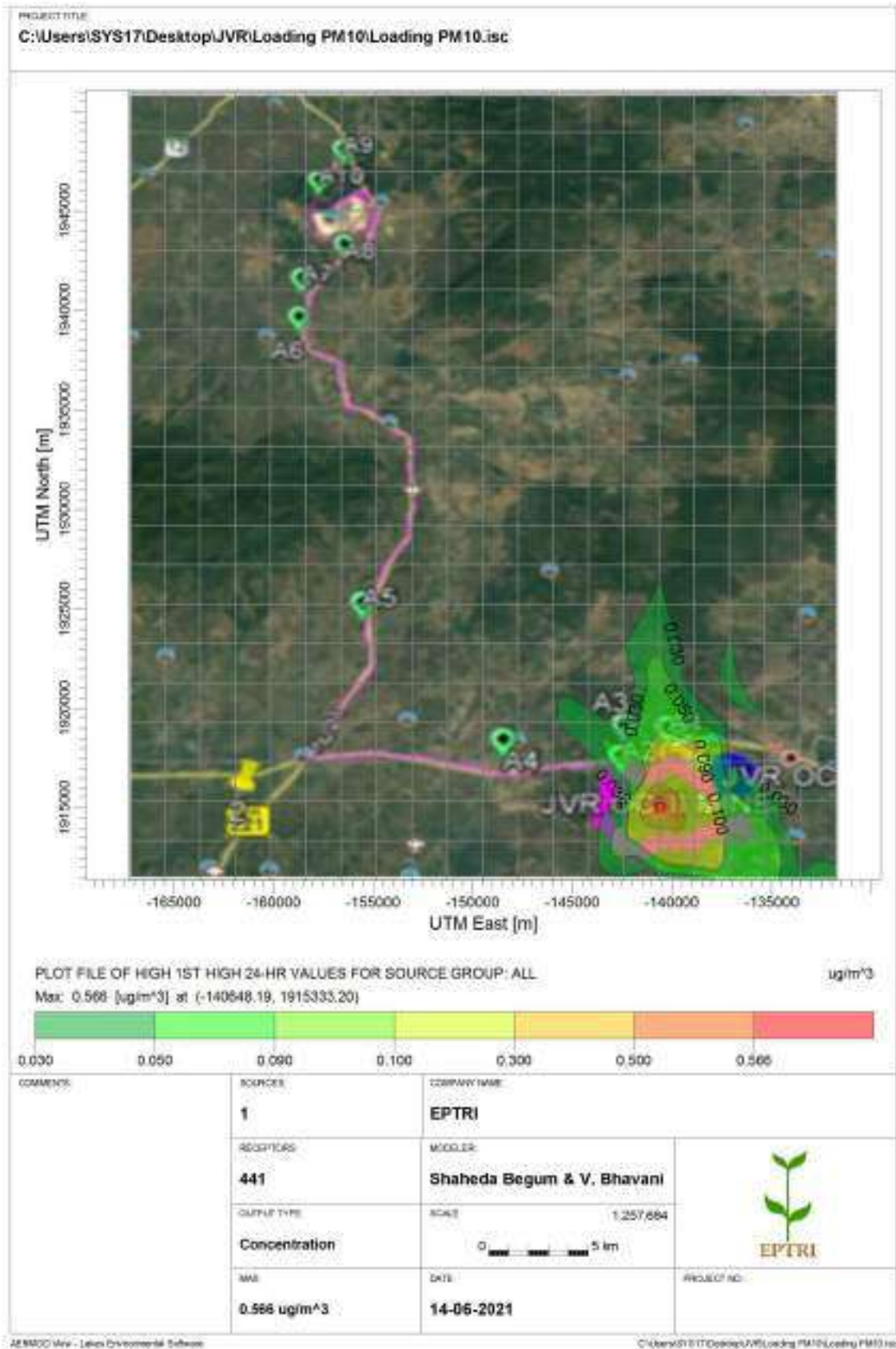




Figure 5. 11 Predicted 24- hourly average GLCs of PM<sub>2.5</sub> (µg/m<sup>3</sup>) (Loading Area)

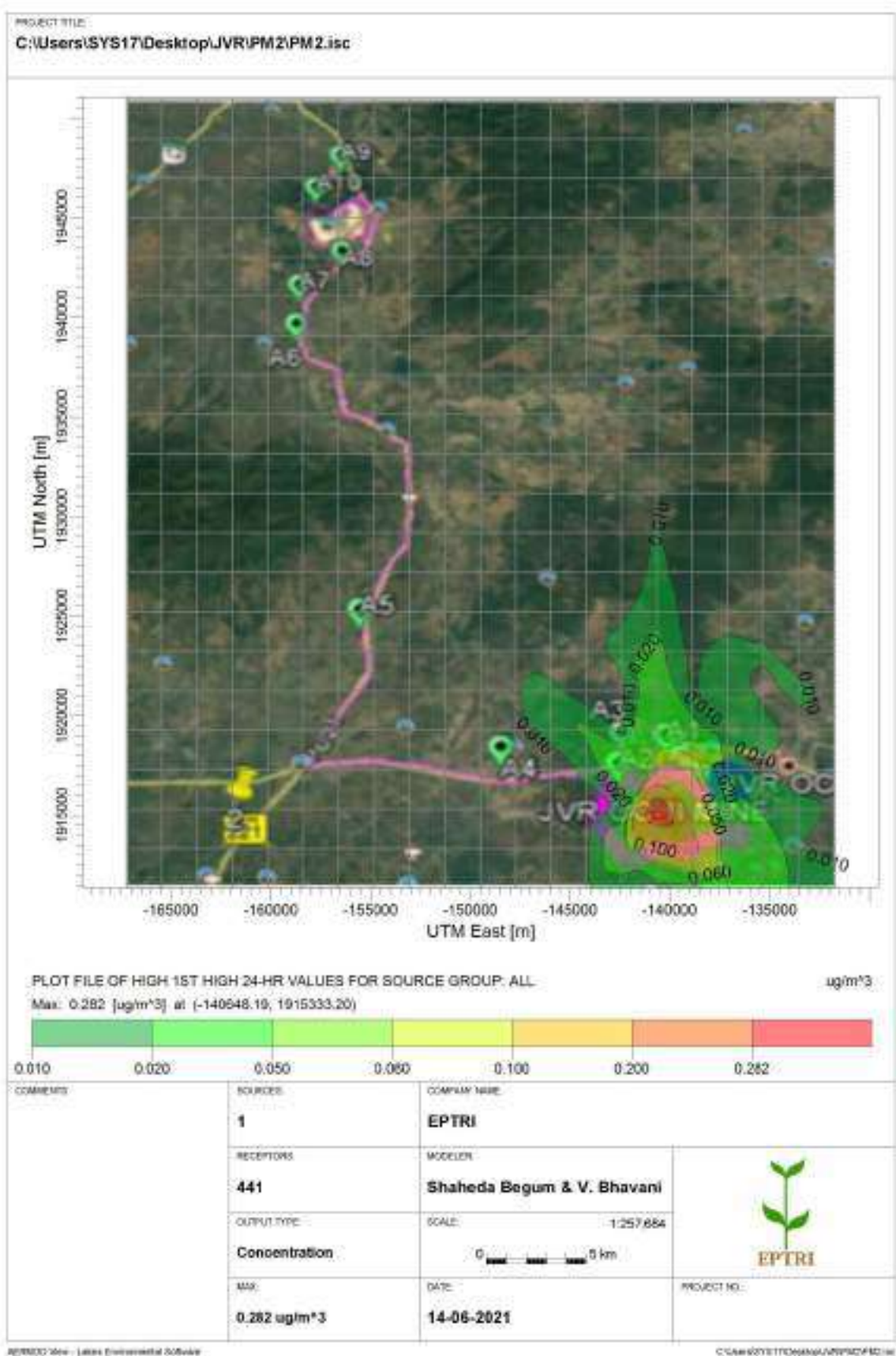




Figure 5. 12 Predicted 24- hourly average GLCs of NOx (µg/m³) (Loading Area)

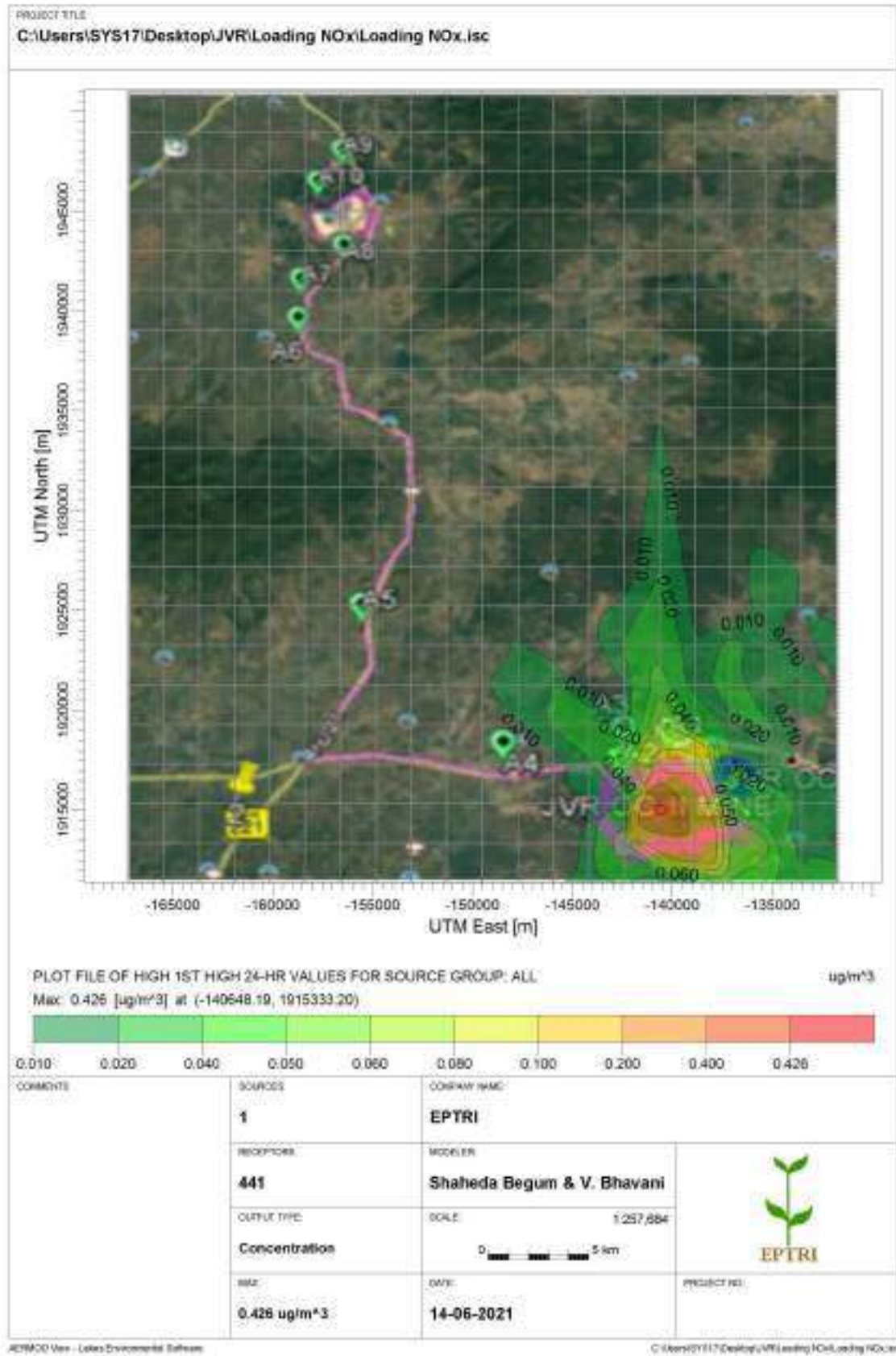
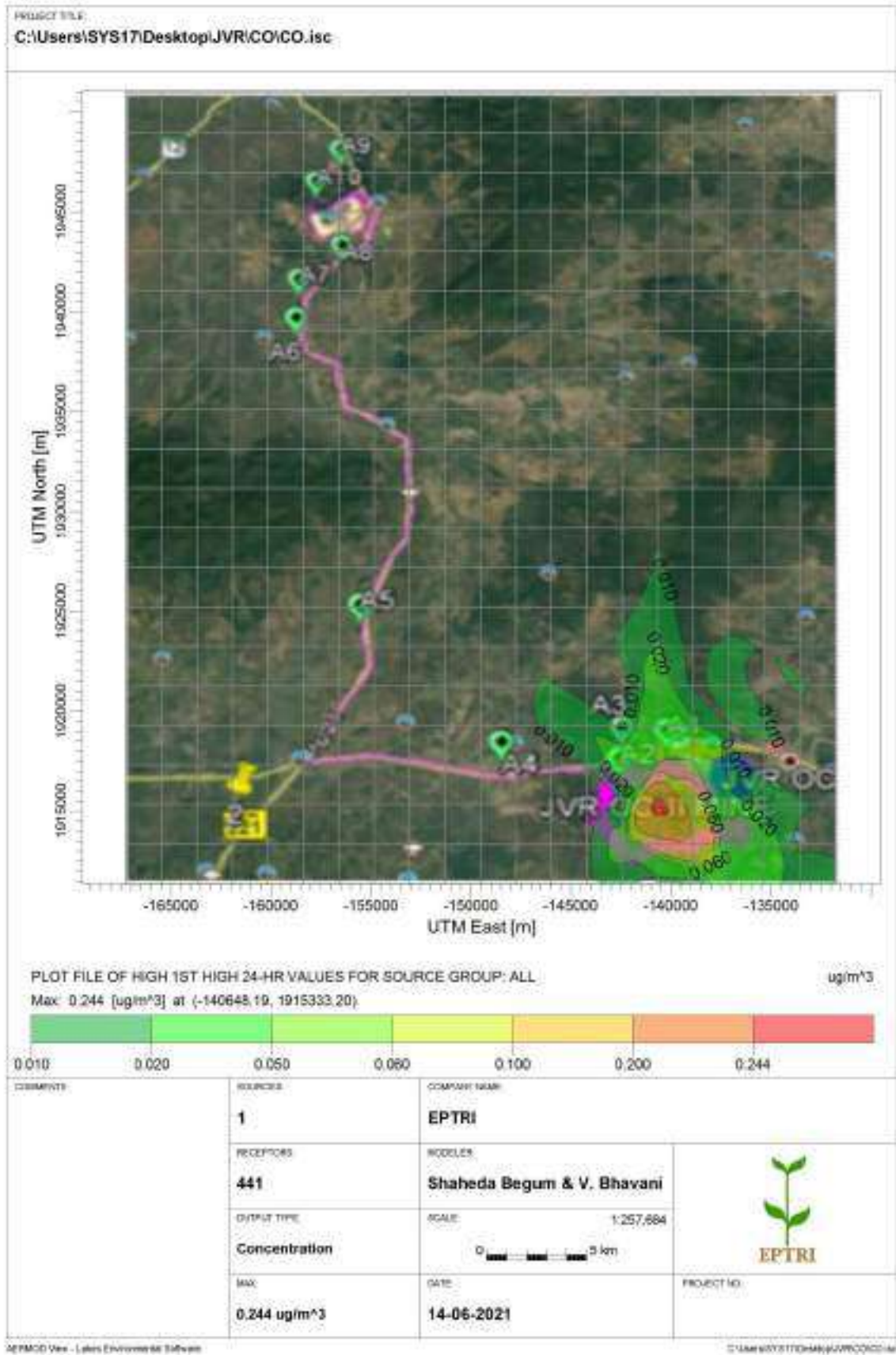




Figure 5. 13 Predicted 24- hourly average GLCs of CO ( $\mu\text{g}/\text{m}^3$ ) (Loading Area)





### 5.19 Mitigation measures

The following measures are envisaged for controlling the fugitive dust emission.

- Loading of trucks up to brim level of the body to prevent spillage of coal.
- Covering of trucks with tarpaulin while transporting coal.
- Periodic checking for vehicle fitness and oil leakages of coal transportation trucks.
- Obtaining PUC certificates for contractual coal tippers being deployed for coal transportation.



Signature  
EPTRI  
Lab HOD

\*\*

**REMEDIATION PLAN & NATURAL AND COMMUNITY RESOURCES AUGMENTATION PLAN  
STATUS OF IMPLEMENTATION**

**I. Remediation Plan**

S. No.	Component	Remediation Proposed	Description	Locations	Rate in Rs.	Total Qty.	Total Cost (Rs.)	Year I (Rs.)	Year II (Rs.)	Year III (Rs.)	Status of Implementation
1a.	Air Environment	Dust suppression	Laying of 10 feet cc road in the nearby village.	NTR Colony	50,00,000 per 1km	1000m	50,00,000	25,00,000	15,00,000	10,00,000	Proposal is under process.
1b.	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. Cheruku palli 4. Kothuru 5. Kommugudem 6. Kistaram 7. Mine boundary	1,000 + 1,00,000 per ha	4900	75,00,000	25,00,000	25,00,000	25,00,000	Avenue plantation in surrounding villages is being carried out in this monsoon season.
<b>Sub-Total – A (1a+1b)</b>							<b>1,25,00,000</b>	<b>50,00,000</b>	<b>40,00,000</b>	<b>35,00,000</b>	

## Remediation Plan

S. No.	Component	Remediation Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I (Rs.)	Year II (Rs.)	Year III (Rs.)	Status of Implementation
2a.	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 for one year)	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	Proposal is under process.
2b.		Construction of check dams and creation of new water tanks	Lumpsum (LS) 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	Proposal is under process.
2c.		Supply of potable water in surrounding villages.	RO plants of 1000 litres capacity with installation and 3 years maintenance	1. Vengalrao nagar 2. Kistaram 3. Kakaripalli 4. Lingapallem 5. Rejarla (2 No.s) 6. Ayyagari peta 7. NTR Nagar 8. Kothuru 9. Dwaraka Nagar 10. Gourigudem 11. Cherukupalli (R&R center) 12. Virat Nagar	900000	13	1,17,00,000	40,00,000	40,00,000	37,00,000	For 3 No. of RO plants (Two at Rejarla Village and one at NTR Nagar) tender is awarded. Installation will be completed shortly.
<b>Sub-Total – B (2a+2b+2c)</b>							<b>5,94,00,000</b>	<b>2,05,00,000</b>	<b>2,05,00,000</b>	<b>1,84,00,000</b>	
<b>Grand Total A + B (Rs.)</b>							<b>7,19,00,000</b>	<b>2,55,00,000</b>	<b>2,45,00,000</b>	<b>2,19,00,000</b>	

## II. Natural Resource Augmentation Plan

S.No	Component	Activity Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I (Rs.)	Year II (Rs.)	Year III (Rs.)	Status of Implementation
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. Ayyagari peta 5. Kommugudem	50,000	200	1,00,00,000	40,00,000	30,00,000	30,00,000	Procurement is under process.
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. Kommugudem	3,00,000	130	3,90,00,000	1,30,00,000	1,30,00,000	1,30,00,000	Procurement is under process.
1c.		Improvement of Public Sanitation	Providing Bio toilets in Sathupalli town.	Sathupalli town	1,60,000	10	16,00,000	6,00,000	5,00,000	5,00,000	Rs. 6,00,000/- (Six lakhs) cheque was handed over to Muncipal Commissioner, Sathupalli, for providing Bio toilets in Sathupalli town.  <b>Annexure-II-1c: Payment Cahllan+ Cheque handover photo</b>
<b>Sub-Total – (1a+1b+1c)</b>							<b>5,06,00,000</b>	1,76,00,000	1,65,00,000	1,65,00,000	

### III. Community Resource Augmentation Plan

S.No	Component	Activity Proposed	Description	Locations	Rate	Total Qty.	Total Cost (Rs.)	Year I	Year II	Year III	
1a.	<b>Community Resource Augmentation Plan</b>	Development of Infrastructure	Construction of CC Roads and drains (2 km in each village) and bore wells.	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	Proposal note initiated for CC roads @1 km length nearby to Kothuru Village, Sathupalli Vide Lr No. CRP/ENV/A/403/50, Dt.06.06.2020.
1b.			Construction of Godown for storage of the agriculture products (Dimensions 20 m x 8 m x 6 m)	1. Rejarla 2. Kothuru	50,00,000	2	1,00,00,000	40,00,000	30,00,000	30,00,000	Proposal is under process to construct Godown at Rejarla
1c.			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	5,67,00,000	2,00,00,000	2,00,00,000	1,67,00,000	An amount of Rs.4.60 Crores handed over to EE (R&B), Sathupalli division vide cheque no: 953309 dtd: 13.04.2021 on A/C NO: 62100750345. Work under Progress.  <b>Annexure-III-1c:</b> Road repair Photos+ Cheque+ Cheque Handover Photo.
1d.			Construction of Community halls / Community health centres (300 Sq. m. each)	1. Kistaram 2. Rejarla 3. Kothuru	75,00,000	3	2,25,00,000	75,00,000	75,00,000	75,00,000	Proposal is under process.
1e.			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	-	-	Land is identified at Kistaram Revenue Village and preliminary notification published for acquisition of land. After acquisition, land will be handed over to Sathupally Municipality.
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	Deposited Rs. 20.00 Lakhs with Forest Divisional Officer, Sathupalli for Development of New Urban park (Cheque No.952748, dated 21.03.2021)  <b>Annexure-III-1f</b>
<b>Sub-Total (1a+1b+1c+1d+1e+1f)</b>							<b>14,42,00,000</b>	6,35,00,000	4,25,00,000	3,82,00,000	

SUMMARY OF AMOUNTS WHICH WILL BE SPENT FOR  
REMEDICATION PLAN, NATURAL RESOURCE AUGMENTATION PLAN AND COMMUNITY RESOURCE AUGMENTATION PLAN

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

\*\*\*\*

## Bio Toilets.



THE SINGARENI COLLIERIES COMPANY LIMITED  
(A GOVERNMENT COMPANY)  
Kothagudem Area  
PAYMENT VOUCHER

Paid to  
COMMISSIONER,  
MUNICIPALITY, SATHUPALLY  
SATHUPALLY  
SATHUPALLY 507128  
KHANNAH

Document No.	22004203
Document Dt.	13.04.2021
Party Code	2000029428
Bank GL A/C No.	1131502
Cheque No.	953320
Cheque Dt.	16/04/21

## Payment Towards

KGM PMT COMNR MUNCI STPL FOR BIO TOILETS  
RP&NCRAE

GL Account	Profit Centre	Por. Order No. & Date	Invoice No. & date	Ref Doc No. & Date	Debit (Rs.)	Credit (Rs.)
1160808	1100			11232176 31.03.2021	600,000.00	0.00
TOTALS						
					600,000.00	0.00
Net Amount					600,000.00	

Rs/- SIX LAKH Rupees only

1160808-Sundry Liability, 1160808-Sundry Liability-FI,

Prepared By : AF\_KGM\_SOCS

RECIPIENT INTERNAL AUDIT AAO/AO Sr AO/DY.FM FM/DY.GM



Received  
Surya  
Tath

Hand Over of 6.00 Lakhs Cheque in the presence of Hounarable MLA Sri Sandra Venkata Veeraiah.



Sathupalli town to M.Banjar Road Repair Works of (20 km)

---





Handover of Cheque in the presence of Sri K.T. Rama Rao, Honourable Minister for Information Technology, Municipal Administration and Urban Development - Government of Telangana



Urbanpark

**भारतीय स्टेट बैंक**  
State Bank Of India

(20942) RUDRAMPUR BRANCH  
NO.1, CHUMMARY LANE, OPP SEETHA RAMALAYAM,  
RUDRAMPUR, B. KOTHAGUDEM - 507 119  
Tel: 91-250285 IFS CODE : SBIN0020942

केवल 3 महीने के लिए वैध : VALID FOR 3 MONTHS ONLY

0288803

**PAY** FOREST DIVISIONAL OFFICER, SATEUPALLY को या उनके आदेश पर OR ORDER

रुपये RUPEES Twenty lakh only

अदा करे ₹ \*+2000000.00

अ. सं. 62100750345  
A/c No.

VALID UPTO ₹50 LACS AT NON-HOME BRANCH

CC ACCOUNT  
Prefix:  
2109100001

For THE SINGARENI COLLIERIES COMPANY LIMITED

MULTI-CITY CHEQUE Payable at Par at All Branches of SBI

AUTHORISED SIGNATORY Please sign above

952748 507002545 000013 30

Profit	Pay Order	Invoice	Ref Doc	Debit (RS.)	Credit (RS.)
--------	-----------	---------	---------	-------------	--------------



THE SINGARENI COLLIERIES COMPANY LIMITED  
( A GOVERNMENT COMPANY )  
Kothagudem Area  
PAYMENT VOUCHER

Paid to  
FOREST DIVISIONAL OFFICER,  
SATHUPALLY  
SATHUPALLY 000000

Payment Towards

KGM PMT FDO FOR ESTABLISHMENT OF URBAN  
PARK STPL

Document No.	22089900
Document Dt.	01.03.2021
Party Code	2000024567
Bank GL A/C No.	1131502
Cheque No	952748
Cheque Dt.	01/03/21

GL Account	Profit Centre	Pur. Order No. & Date	Invoice No. & Date	Ref Doc No. & Date	Debit (Rs.)	Credit (Rs.)
1160808	1100			11169884 01.03.2021	2,000,000.00	0.00
<b>TOTALS</b>					2,000,000.00	0.00
<b>Net Amount</b>					2,000,000.00	

Rs/- TWENTY LAKH Rupees only  
1160808-Sundry Liability,1160808-Sundry Liability-FI,

Prepared By : AF\_KGM\_SOGB

RECIPIENT

INTERNAL AUDIT AAO/AO

Sr AO/DY.FM

FM/DY.GM

Cheque Handed Over



## PHOTOGRAPHS OF 12 KI WATER TANKER

