

The Singareni Collieries Company Limited
(A Govt Company)
Bhupalpalli

Ref.No:BHP/ENV/46/2023/ 186

Dt. 18.11.2023

To
Director,
Ministry of Environment, Forests & Climate Change (MoEF & CC),
Integrated Regional Office,
3rd Floor, Room No. 309
Aranya Bhavan, Opp:RBI
Saifabad-500004,
Hyderabad.

Sir,

Sub: Submission of Half yearly Environmental monitoring Reports of KTK 5 incline
Incline of Bhupalpalli Area for the period of April 2023 - September,2023 –Reg.
Ref : MOEF. Ir.no.J-11015/312/2007-IA.II(M), dated: 31.10.2008 (KTK 5 incline)

With reference to the subject cited above, please find enclosed herewith the Half yearly environmental monitoring report along with soft copy for the period ending **30.09.2023** in respect of Kakatiya Khani 5 Incline of Singareni Collieries Company Ltd, Bhupalpalli Area.

The report consists of Part-I, which indicates the status of the Implementation of Environmental Clearance conditions, and Part-II & IIA indicates various environmental control measures and analysis of data.

Thanking you,

Yours faithfully,

[Signature]
General Manager
Bhupalpalli Area

General Manager
The Singareni Collieries Company Ltd
Bhupalpalli Area - 506 102
Dist: Jayashankar Bhupalpalli
Telangana State

Cc to: Environmental Engineer,
TSPCB, R.O. Warangal

PART-1

**HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE CONDITIONS DURING
THE PERIOD APRIL-2023, - SEPTEMBER, 2023**

A. SALIENT FEATURES OF THE PROJECT:

1	Name of the Project	:	Kakatiya Khani-5 Incline
2	Organization	:	Singareni Collieries Company Limited
3	Coalfield	:	Godavari Valley Coal Field
4	Type of Mine	:	Underground Coal Mine Project
5	Technology	:	Semi-Mechanization
6	Environmental Clearance	:	
	A	Letter No & date	: .lr.no.J-11015/312/2007-IA.II(M), dated:31.10.2008
	B	Sanction capacity	: Normative: 0.30 MTPA Peak:0.60 MTPA
	C	Mining Lease Area	: 316.65 ha
	D	Date of Public Hearing	: 11.04.2008
7	Location of the Project	:	
	A	Village	: Bhupalpalli
	B	Tehasil	: Bhupalpalli
	C	District	: Jayashankar
	D	State	: Telangana
	E	Latitude	: 18 ^o 30'00" to 18 ^o 31'31"
	F	Longitude	: 79 ^o 44'49" to 79 ^o 46'39"
	G	Topo Sheet	: 56 N/15
	H	Nearest railway station	: Warangal
	I	Nearest Airport	: Shamshabad,Hyderabad
	J	Nearest town	: Warangal
8	Address for Correspondence	:	
	A	Name	: Sri.J.Rajashekar
	B	Designation	: Dy.General Manager
	C	Address	O/o: Agent, KTK-5Incline,Bhupalpalli,Dist: Jayashankar
	D	Pin Code	: 506 169
	F	E-mail ID	: agt_ktk1_bhp@scclmines.com
	G	Telephone No.	: 7382608945
	H	Fax No.	: 08713-220208
9	Life of the Project	:	
	A	Date of Opening	: 1993
	B	Total Life of the project as per EMP	: 53 Years
	C	Balance Life	: 23 years
10	Seams	:	
	A	Total Seams Present	: 8 (no.s)
	B	Seams being worked	: 3
11	Depth	:	
	A	Minimum Depth (m)	: 32 m
	B	Maximum Depth (m)	: 430 m
	C	Present working depth (m)	: 426 m
12	Reserves	:	
	A	Total Geological Reserves	: 28 MT
	B	Total Extractable Reserves	: 15.91 MT
	C	Reserves already Extracted	: 7.138MT

	D	Balance Reserves	:	8.772 MT
	E	Coal production during last six months	:	1,10,588 T
13		Land Requirement		
	A	Total Requirement (Mine Take Area)		316.65 ha
	B	Forestland Involved		144 ha
	C	Non-forestland		172.65 ha
	D	Land acquired so far (Surface rights)		145.29 ha
14		Statutory Clearances	:	
	A	Ground Water Clearance		No. 1862/T/2003-04/755, Dated 05-11-2005
	B	Consent for Establishment	:	No:60/PCB/CFE/RO-WGL/HO/2009/590,DT.04.06.2009
	C	Consent for Operation	:	OrderNo.: 200822518147, DT. 08.10.2020, valid up to 30.06.2025 .
	D	Forest Clearance	:	Vide GO.MS.No:155, Dt:26.05.2003, 30 years from 02.09.2003 to 01.09.2033
	E	Mining Lease	:	Bhupalpalli mining lease G.O.Ms. No.14, dt :09.03.2010 for 20 Years from 04.06.2009 to 03.08.2029
	F	Others (Specify)		-
15		R & R Involved	:	-


KAKTIYAKHANI 5 INCLINE EC COMPLIANCE STATUS OF EC CONDITIONS

AS ON. APRIL-2023 TO SEPTEMBER, 2023

2 A. SPECIFIC CONDITIONS:

Sl. No.	Condition	Compliance Status
(i)	Sufficient coal Pillars shall be un extracted around the Airshaft (within the subsidence influence area) to protect from any damage from subsidence, if any.	Sufficient coal pillars were left un-extracted around the Air shaft and no depillaring operations nearby. Plan enclosed as Annexure-XV
(ii)	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the road	Solid barrier of thickness of 45 m left below the public Road. Plan enclosed as Annexure-XV
(iii)	Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains	So far 2 nos. of panels depillared by caving method and 0.95m subsidence recorded. Cracks are effectively plugged with ballast and OB material.
(iv)	While extracting the panels in the lower seam, all the water bodies in the subsidence area shall be drained. Dewatering of old goaf's of the upper seams shall be continued as long as the lower seam is worked to prevent the accumulation of large water bodies over working area.	No goaf exist in the upper seams. However, before commencement of extraction of panels, all the water bodies in the subsidence area if any, are being de-watered and arrangements are made to pump out continuously to ensure free of water and all precautions under the provisions of Regulations 149 and 150 of Coal Mines Regulation, 2017 are being taken.
(v)	Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings should be continued till movement ceases completely in case of observation of any high rate of subsidence movement , appropriate effective corrective measures should be taken to avoid the loss of life and material. Cracks should be effectively plugged with ballast and clayey soil/suitable material.	Subsidence survey is being carried out during extraction of the caving panel once in every month till the life of the panel and after completion of extraction of the panel. The system, frequency and recording of observations is being carried out as per the provisions DGMS Technical circular No.4 of 1988. So far 2 nos. of panels depillared by caving method and 0.95m subsidence recorded. Cracks are effectively plugged with ballast and OB material.
(vi)	Garland/surface drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity should be designed keeping 50% safety margin over an above peak sudden rainfall and maximum discharge in the area adjoining the mine sites . Sump capacity should also provide adequate retention	The pit entries such as air shaft and main incline and man way dip were designed from minimum of 3.0 m above the HFL. The sumps are designed keeping the highest seepage calculations and retention time to settle the silt material. Total 4 no's (3no's*240HP and 1no's*190hp) of pumps installed to pump out mine water. Mine discharge water 8394KLD, from this mine

	period to allow proper settling of silt material. Sufficient number of pumps of adequate capacity shall be deployed to pump out mine water during peak rainfall.	use for drinking & bathing 1553KLD, Plantation & Water spraying 663KLD, civil & nearby villages 2727KLD, washing and sand stowing purpose 2867 KLD, excess water let out 584KLD.
(vii)	Crushers at the CHP should be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, and transfer points, etc.,	Not Applicable
(viii)	Drills should be wet operated	There are no drilling operations on surface as it is an UG mine. The water spraying on the working face and drilling site as per the provisions of Regulations 143 of Coal Mines Regulation, 2017 are being implemented to avoid the dust generation in the working places.
(ix)	A progressive a forestation plan shall be prepared and implemented for the undistributed area and shall include area brought under greenbelt development, areas along the roads, infrastructure, over surface where mining is being done below, along ML boundary an town ship outside the lease area, etc., by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per Ha.	Total mine take area is 316.65 Ha. A progressive a forestation plan has been prepared and envisaged in the EIA/EMP. As on date plantation in 117 Ha was completed in the mine take area in the year 2013, forest mining lease area 144 Ha. That there was no land available for further plantation at ktk-5 incline.
(x)	Conservation plan for endangered species found in and around the project area shall be formulated in consultation with the State Forest and Wild life departments.	This is an underground mine, coal extracting is from underground. There is no disturbance on the surface and in the forest area, gap plantation has been done.
(xi)	Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and construction of new peziometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Control Pollution Board quarterly within one month of monitoring.	Phreatic surface in the area around the project is being monitored four times during the year using network of 36 established observation wells and monitoring report is submitted to Integrated Regional Office, MoEF & CC, Hyderabad and Regional Office, TS Pollution Control Board. Results of the monitoring show no adverse impact on ground water levels. Ground water quality Surface water quality monitoring results are enclosed as annexure-II
(xii)	The Company shall put up artificial groundwater recharge measures for augmentation of ground water resource. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	Around 10 check dams are provided in the mine take area. The excess mine discharge water is being diverted to nearby tank/nallah for augmentation of ground water. There is no case of village wells going dry around this project so far However during summer season water tankers are being provided in and around.

		
(xiii)	The Company shall obtain approval of CGWA/CGWB Regional Office for use of ground water if any, for mining operations	Ground water clearance from Ground Water Department Government of Andhra Pradesh was accorded vide Ir. No. 1862/T/2003-04/755, Dated 05-11-2005. Ground water quality and Surface water quality monitoring results are enclosed as annexure-II.
(xiv)	Sewage treatment plant should be installed in the existing colony. ETP should also be provided for workshop and CHP wastewater.	Two Sewage Treatment Plants of 3 MLD Capacity each are operating to treat the sewage from existing colony. No workshop & CHP in the mine premises.
(xv)	For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1:5000) on 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; any one particular season which is consistent in the time series.) and the report submitted to MOEF and its Regional office at Bangalore.	Land use land cover study of core and buffer zone of the mine was conducted in the year 2020 and the report is enclosed.
(xvi)	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	A final Mine closure plan will be submitted to MoEF&CC 5 Years before intended closing of the mining activities. Mining plan is approved application no.KTK 5 and 5A incline TEJB/APP00203/2022 on dated 10.08.2022 and money is being deposited in escrow account.
(xvii)	Monitoring of impact of R&R and CSR over the life of the project shall be based on key; indices of UNDP Human Development Report using pre-project status ;of socio-economic and human development as the base line.	No Rehabilitation and Resettlement (R&R) is involved in the project. The company is undertaking various Corporate Social Responsibility Activities in the area and impact of these activities will be monitored taking key parameters.

2 B. GENERAL CONDITIONS

S.No	Condition	Compliance Status																																															
(i)	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	There is no change in mining technology and scope of working.																																															
(ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste shall be made.	<p>There is no change in calendar plan.</p> <table border="1" data-bbox="824 415 1287 982"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Coal (in MTPA)</th> </tr> <tr> <th>As per EC</th> <th>Actual</th> </tr> </thead> <tbody> <tr><td>2009-10</td><td>0.6</td><td>0.274</td></tr> <tr><td>2010-11</td><td>0.6</td><td>0.296</td></tr> <tr><td>2011-12</td><td>0.6</td><td>0.299</td></tr> <tr><td>2012-13</td><td>0.6</td><td>0.378</td></tr> <tr><td>2013-14</td><td>0.6</td><td>0.348</td></tr> <tr><td>2014-15</td><td>0.6</td><td>0.349</td></tr> <tr><td>2015-16</td><td>0.6</td><td>0.372</td></tr> <tr><td>2016-17</td><td>0.6</td><td>0.402</td></tr> <tr><td>2017-18</td><td>0.6</td><td>0.388</td></tr> <tr><td>2018-19</td><td>0.6</td><td>0.340</td></tr> <tr><td>2019-20</td><td>0.6</td><td>0.335</td></tr> <tr><td>2020-21</td><td>0.6</td><td>0.208</td></tr> <tr><td>2021-22</td><td>0.6</td><td>0.241</td></tr> <tr><td>2022-23</td><td>0.6</td><td>0.218</td></tr> </tbody> </table>		Coal (in MTPA)		As per EC	Actual	2009-10	0.6	0.274	2010-11	0.6	0.296	2011-12	0.6	0.299	2012-13	0.6	0.378	2013-14	0.6	0.348	2014-15	0.6	0.349	2015-16	0.6	0.372	2016-17	0.6	0.402	2017-18	0.6	0.388	2018-19	0.6	0.340	2019-20	0.6	0.335	2020-21	0.6	0.208	2021-22	0.6	0.241	2022-23	0.6	0.218
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(iii)	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for SPM, RPM, SO ₂ and NO _x , Hg and other heavy metals such as Rb, Cr, As etc. 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	Five ambient air quality monitor; namely at KTK 5 Incline (Core Zone), veshalapally Village, Pedakuntapalli Village (SW – 1.0Km) Bhupalpalli Village(NE 0.5KM), and pullariramaiahpalli in consultation with Regional Officer, AP Pollution Control Board, Warangal were established considering the meteorological data. The monitoring is being carried out regularly once in a fortnight as per the Coal mine standards, GSR 742 (E), dated 25.09.2000 & NAAQS, dated 18.11.2009 for the parameters PM ₁₀ , PM _{2.5} , SO ₂ and NO ₂ through external authorized agency M/s. EPTRI,Hyderabad having MoEF recognized Laboratory. Monitoring reports is during the last six months is enclosed in as Annexure-I.																																															
(iv)	Fugitive dust emissions (SPM and RSPM, Hg and other heavy metals) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading points shall be provided and properly maintained.	Fugitive dust emissions are being monitored regularly at mines and allied activities. There is no haul road, wagon loading. However Water spraying arrangements are made at the bunkers during the loading and unloading of the coal. Monitoring of PM ₁₀ , PM _{2.5} , Hg and other heavy metals is being done by M/s EPTRI, Hyderabad. And data was recorded. WATER SPRINKLING																																															

S.No	Condition	Compliance Status
		
(v)	<p>Data on ambient air quality (SPM, RSPM, SO₂ and NO_x Hg and other heavy metals 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>Ambient Air Quality and heavy metals is monitored by M/s. EPTRI, Hyderabad and the data is collected and submitted regularly to the ministry including its regional office and to the State Pollution Control Board and the Central Pollution Control Board along with half yearly monitoring reports.</p> <p>The ambient air quality monitoring data is enclosed as annexure-I of part-II</p>
(vi)	<p>Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in blasting and drilling operation, operation of HEMM, etc shall be provided with ear plugs/muffs.</p>	<p>Noise control measures such as plantation around the fan house & mine take area, Provision of evasee to main mechanical ventilator, reduction in height of fall of mineral coal in the bunkers, preventive maintenance of machinery, etc. are being taken up. All the active work Persons are provided with earplugs who are engaged on drilling, blasting, operation of machinery and noise prone areas. This is an underground project.</p> 
(vii)	<p>Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.</p>	<p>Mine seepage water is being collected in the underground sumps of adequate capacity to settle the suspended solids and pumped out to the surface 1,50,000 gallons capacity slow sand filter beds for further treatment to conform to the prescribed standards under GSR 422(E) dated 19th May 1993 and 31st December 1993. The efficacy of the system is being monitored through fortnight sampling and analysis by M/s. EPTRI, Hyderabad external agency having MoEF recognized laboratory. No work shop in mine premises</p>

S.No	Condition	Compliance Status
(viii)	Vehicles emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	<p>Trucks having PUC certificate are only being allowed for coal transportation. Vehicles used for transporting the mineral are covered with tarpaulins.</p> 
(ix)	Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	Post Project Environmental Monitoring is being carried out through external agency M/s. Environment Protection Training and Research Institute (EPTRI), Hyderabad. A laboratory with adequate staff has been established at Ramagundam by EPTRI for analysis of critical parameters in the field.
(x)	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.	Personnel working in dusty areas are being provided dust respirators and adopting job rotation practice. Training and information on safety and health aspects are being given through Internal Safety Organization and Mine Vocational Training Centers. Occupational health surveillance is being carried out periodically through Periodical Medical Examinations (PME) once in every 5 years, for below 45 years age group and once in 2 1/5 years for above 45 years age. No. of persons attended PME during last six months is 165.
(xi)	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the Company.	A separate Environment Management cell has been formed under control of General Manger (Environment) of SCCL, directly report to the Director (P&P)
(xii)	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bangalore.	The funds earmarked for environmental protection measures are kept in separate account and are being used for environmental related works only. Year-wise expenditure is being reported to the Ministry and its Regional Office at Bangalore along with half yearly monitoring reports. The details of expenditure incurred on environmental protection works is furnished in table of 10 part-II of report.
(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 Regional Office by furnishing the requisite	The Project authorities are extending full cooperation to office(s) of the Regional Office, HYDERABAD by furnishing the requisite data/ information/ monitoring reports and during their visit / inspections to the project.

S.No	Condition	Compliance Status
	data/information/monitoring reports.	
(xiv)	A copy of the EC will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/ representation has been received while processing the proposal.	The copy of the Clearance letter was send to 0following Panchayats vide Lr.No.BHP/ENV/2008/80, dt.28.11.2008 I) Mandal Revenue Office, Bhupalpalli. II) Jangedu Grampanchayat III) Kompally Grampanchayat IV) Bhupalpalli Grampanchayat
(xv)	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/ Tahsildar's Office for 30 days.	Not Applicable
(xvi)	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project as 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 http://envfor.nic.in .	The advertisement was given on 18-11-2008 in Deccan chronicle (English Daily) and Vartha (Telugu Daily) widely circulated around the project.
3.	The ministry or any other competent authority may stipulate any further condition for environmental protection.	Any additional condition if stipulated by the ministry or any other competent authority will be complied.
4.	Failure to comply with any of the conditions mentioned above may result in with droll of this clearance and attract the provisions of the environment (protection) Act 1986.	All the conditions are being complied.
5.	The above conditions will be enforced inter-allia under the provisions of the water (prevention and control of pollution) Act, 1974, the air (prevention and control of pollution) Act, 1981, The environment (protection) Act, 1986 and the public liability insurance Act, 1991 along with their amendments and rules.	Noted
6.	The mining lease holders shall , after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been distributed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.	Will be complied.

KAKTIYAKHANI 5 INCLINE**PART – II****1. Production Details**

Sl. No	Year	Coal (in MTPA)	
		As per EC	Actual
1	2007-08	0.6	0.277
2	2008-09	0.6	0.274
3	2009-10	0.6	0.274
4	2010-11	0.6	0.296
5	2011-12	0.6	0.299
6	2012-13	0.6	0.378
7	2013-14	0.6	0.348
8	2014-15	0.6	0.349
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16	2022-23	0.6	0.218

2. Plantation:

1	No of plants planted during last six months/ last year	-
2	Area covered in Ha	-
3	₹ Expenditure incurred in Rs.lakhs	-
4	Total area brought under plantation so far in Ha	117 Ha
5	Total no of plants planted so far since inception	126712
6	Species of plants planted	Clones,Sinduga,Kanuga,Neem, Naravepa, Naredu, Ravi, Buruga,Usiri, Nemali nara, Veduru, Eppa etc.
7	Seeds sown so far	-
8	Small plants planted so far	-
9	Total expenditure in Rs. lakhs -	

3. Water Balance Statement:

Sl	Description	Quantity in KLD
1	Average quantity of water pumped out of the mine	5102
2	Water used for drinking/bathing and other industrial requirement	308
3	Water used for washing of HEMM/stowing	2004
4	Water used for plantation/dust suppression	1100
5	Water supplied for nearest township/village for domestic purpose	1510
6	Excess water let out	180

4. Micro-meteorological Monitoring:

Micro-meteorological station was installed at Bhoopalpalli GM Office: The summary of the monitoring from April-2023 to September – 2023 as follows:

Month	Wind Speed (m/s)			Temperature (°C)			Relative Humidity (%)			Rainfall (mm)	
	Mean	Max	Calm %	Mean	Max	Min	Mean	Max	Min	Total	Hourly highest
April, 2023	2.2	6.5	22.08	30.6	42.2	18.9	39.8	93.5	10.3	0.0	0.0
May, 2023	2.0	7.0	18.2.8	33.6	46.4	20.5	43.1	99.5	13.8	2.5	1.3
June, 2023	1.8	6.0	20.83	33.5	44.4	19.8	33.3	85.9	7.7	1.5	0.5
July, 2023	1.7	5.8	23.12	28.3	40.2	15.2	70.2	97.2	28.2	26.4	1.3
August, 2023	2.0	6.0	14.92	28.9	39.8	19.8	56.2	99.1	26.0	189.0	5.0
September, 2023	1.9	5.6	19.44	27.9	41.2	17.6	71.6	98.7	20.5	64.5	6.0

5. Ambient Air Quality Monitoring: Monitoring data:

The summary of the monitoring from April-2023 to Sep – 2023 as follows:

Location	Direction & Distance	PM10			
		Min.	Max.	98%tile	STD
KTK -5 incline	Core	79	173	172.20	250
Pulluriramaiahpalli / Kompally Village	W	47	69	68.80	100
SCCL Colony BHPL Village	N	46	91	90.60	100
Veshalapalli Village	W	49	80	79.20	100
Peddakuntapalli Village	S	49	70	69.80	100
Location	Direction & Distance	PM2.5			
		Min.	Max.	98%tile	STD
KTK -5 incline	Core	36.3	61.5	60.84	-
Pulluriramaiahpalli / Kompally Village	W	23.8	40.6	40.26	60
SCCL Colony BHPL Village	N	28.4	48.3	48.02	60
Veshalapalli Village	W	26.9	42.6	42.44	60
Peddakuntapalli Village	S	25	37	36.86	60
Location	Direction & Distance	SO2			
		Min.	Max.	98%tile	STD
KTK -5 incline	Core	8.6	12.1	12.08	120
Pulluriramaiahpalli / Kompally Village	W	8	10	10	80
SCCL Colony BHPL Village	N	7.8	9.8	9.76	80
Veshalapalli Village	W	8	9.7	9.64	80
Peddakuntapalli Village	S	8.1	10.8	10.66	80
Location	Direction & Distance	NO2			
		Min.	Max.	98%tile	STD
KTK -5 incline	Core	12.9	17.4	17.20	120
Pulluriramaiahpalli / Kompally Village	W	11	14.5	14.46	80
SCCL Colony BHPL Village	N	11.6	14.9	14.82	80
Veshalapalli Village	W	12.2	14.8	14.7	80
Peddakuntapalli Village	S	11.4	14.8	14.54	80

Air Pollution Control Measures:

- ❖ Effective water spraying is being maintained at Bank heads and also at bunkers.
- ❖ LPG gas is supplied free of cost to the employees.
- ❖ Sand filter beds of capacity 2, 00,000 gallons are maintained at mine premises for treatment of mine discharge. Excess water from filter beds is let out for agriculture lands and village tanks.
- ❖ In this area two STPs of capacity 3.0 MLD are working. Around 1800 KLD sewage water treated in the STPs and the same was let out to nearby Forest tank.
- ❖ Plantation is developed in the mine premises and in the mine take area.
- ❖ Water tanker is arranged for water spraying for dust suppression along the coal transport road.
- ❖ Coal transport trucks carrying coal is covered with tarpaulins.

6. Surface Water Quality Monitoring:

Monitoring Data: The summary of the monitoring from April-2023 to September – 2023 is enclosed as **Annexure-2**

7. Groundwater Quality Monitoring:

Monitoring Data: The summary of the monitoring from April-2023 to September – 2023 is enclosed as **Annexure-3**

Effluent Quality Monitoring**8. Effluent Quality Monitoring**

Sl. No.	Location	Parameter	Min.	Max.	Standard
1.	KTK 5 Mine Discharge	P^H	7.4	8.1	5.5 - 9.0
1.	KTK 5 Mine Discharge	TSS (mg/l) 105^o C	16	31	100mg/lit
1.	KTK 5 Mine Discharge	TDS at 180^o C	591	1082	
1.	KTK 5 Mine Discharge	COD (mg/l)	15	35	250mg/lit
1.	KTK 5 Mine Discharge	BOD	1.5	4.1	30 mg/L
1.	KTK 5 Mine Discharge	Oil & Grease (mg/l)	0	0	10mg/lit

Water Pollution Control Measures:

- a). Mine discharge water is treated in sand filter bed of capacity 1,50,000 gallons which is in the mine premises.
- b). In this area two STPs of each 3.0 MLD capacity are working and dealing with 1800 KLD sewage water. After treatment sewage water is let out to nearby Forest tank.

9. Phreatic surface monitoring: (Range of Water Table)

Sl. No.	Name of village	Location	Type of Well	Period	Depth to water (m)
					Pre-monsoon , Monsoon , Post- Monsoon, Winter April-2023 to Sept- 2023
1	Bhupalpalli	KTK-2A inc	Domestic	Winter	5.79
				Pre-monsoon	Dry
				Monsoon	2.57
				Post-monsoon	
2	Phakeergadda	Behind Vivekananda school	Domestic (Govt.well)	Winter	1.30
				Pre-monsoon	3.27
				Monsoon	1.60
				Post-monsoon	
3	Seggampalli	Road side	Domestic	Winter	7.65
				Pre-monsoon	7.70
				Monsoon	0.97
				Post-monsoon	
4	Gaddiganipalli	West side of the village	Domestic	Winter	6.85
				Pre-monsoon	7.87
				Monsoon	4.07
				Post-monsoon	
5	Jangedu	Grama panchayathi office	Domestic (Govt.well)	Winter	4.35
				Pre-monsoon	6.37
				Monsoon	1.14
				Post-monsoon	
6	Kashimpalli	Eastern side of the village	Domestic	Winter	7.75
				Pre-monsoon	11.95
				Monsoon	2.80
				Post-monsoon	
7	Kompalli	West side of the village	Domestic	Winter	2.56
				Pre-monsoon	3.57
				Monsoon	1.40
				Post-monsoon	
8	Chelpur	Centre of the village	Domestic	Winter	4.75
				Pre-monsoon	6.47
				Monsoon	1.50
				Post-monsoon	

Noise Pollution Control Measures:

Location	Direction & Distance	Day Time			
		Min.	Max.	Avg.	STD
KTk 5 incline	Core	41.4	56.9	49.09	75
Peddakuntapalli Village	S	30.5	47.9	41.51	55
Veshalapalli Village	NE	34.7	48.5	41.72	55
Location	Direction & Distance	Night Time			
		Min.	Max.	Avg.	STD
KTk 5 incline	Core	30.4	42.9	37.50	70
Peddakuntapalli Village	S	25.5	36.7	31.31	45
Veshalapalli Village	NE	23.7	38.2	31.09	45

- i) Plantation is raised around the fan house control noise and also evasee is fitted to the fan house.
- ii) Noise levels were recorded at various locations.
- iii) To dampen the noise levels along the belt conveyor impact rollers are provided at transfer points to reduce the noise.
- iv) High level noise intensity working areas/zones earmuffs or earplugs are provided to the workmen.
- v) Regular noise level monitoring is being done periodically for taking corrective action where ever required.

10. Capital and Revenue Expenditure incurred on Environment Management and Pollution Control Measures:

Environment Expenditure during the period of April-2023 to September – 2023

	Capital(in Rupees)	Revenue (in Rupees)
KTk 5 Incline	--	4,80,73,253.00

11. Socio- economic Measures

- Quarters are constructed on non coal bearing areas with such facilities as Hospitals, Schools, Market place, Post Office, Telegraph Office, Power Supply, Community Halls, Recreation Clubs, Play Grounds and protected water supply and well netted sewage and drainage line systems.
- Free medical treatment to workmen and their families is given and all children of workmen are covered under immunization programme.
- Incentives are being given to the employees to encourage them for undergoing family Planning operations..
- Bore wells are provided in colonies. The drinking water which is supplied to the colony is chlorinated to the prescribed standards.
- Recreation clubs are provided with adequate facilities
- Free medical camps are being conducting regularly to the surrounding villagers

- Environment awareness campaign measures:
- Environmental week celebrated for the year 2023 and environmental awareness classes given to all workmen to maintain eco friendly complication on environment awareness was conducted and the winners were given prizes.
- Energy and Resource conservation measures
- Steps taken to conserve oil and grease: By arresting and minimizing oil and grease leakages.
- Waste material generated and waste management practices:
- Army recruitment training, tailoring, computer courses impart to the local unemployed.
- Every Thursday conducting free medical camps in the nearby villages.
- In surrounding villages roads are developed through SHAPE funds.
- Every year plantation program is conducting in the surrounding villages.

R. S. Chandra

Agent

KAKATIYA KHANI 5 INCLINE
BHUPALPALLI AREA

AGENT

KTK-1 Group, BHP