



THE SINGARENI COLLIERIES COMPANY LIMITED

(A GOVERNMENT COMPANY)

Registered Office

Kothagudem Collieries (P.O) - 507 101, Bhadradi Kothagudem Dist, Telangana State

CIN: U10102TG1920SGC000571

Environment Dept., Srirampur Area

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Ref.No: SRP/ENV/U-510/2022/155

Date: 26.11.2022.

"By Regd. Post with ACK due"

To

The Director,

Ministry of Environment, Forests & Climate Change (MoEF &CC),

Integrated Regional Office, Hyderabad.

3rd Floor, Aranya Bhawan, Opp, RBI, Saifabad,

Hyderabad- 500 004.

Sir,

Sub: Half yearly Environmental monitoring Report in respect of Srirampur
Opencast Coal Mine Project -I of SCCL for the period ending 30.09.2022

- Reg.

Ref : MoEF Lr.No: J-11015/208/2005-1A-II(M), dated.11-09- 2006.

Reference to the MoEF Environmental clearance(E.C) letter cited above, please find enclosed herewith the Half yearly Environmental Monitoring report for the period ending 30.09.2022 in respect of **Srirampur Opencast Coal Mine Project -I** of SCCL in the form of Soft Copy.

The report consists of Part - I which indicates the status of implementation of environmental clearance conditions and Part-II indicates the various pollution control measures taken during the last six months period.

Thanking you,

Yours faithfully,

Project Officer,

Srirampur Open Cast Project – I & II.

Project Officer
SRP-OCF

Encl: As above.

C.C.: The Member Secretary,
Central Pollution Control Board,
Parvish Bhavan,
East Arjun Nagar,
Delhi – 110 032

The Environmental Engineer,
Telangana State Pollution Control Board,
Regional Office, H.No: 6-2-166/A, Subhash Nagar,
Nizamabad - 503 002.

GM (ENV.), Kgm
PO, SRP OCF



**HALF YEARLY COMPLIANCE REPORT ON
ENVIRONMENTAL CLEARANCE CONDITIONS**

AS ON 30TH SEPTEMBER, 2022

**FOR SRIRAMPUR OPENCAST COAL MINING PROJECT - I
NEAR SRIRAMPUR VILLAGE, MANCHERIAL DISTRICT, TELANGANA STATE**



THE SINGARENI COLLIERIES COMPANY LIMITED
(A Government Company)
SRIRAMPUR AREA

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THE SINGARENI COLLIERIES COMPANY LIMITED

(A Government Company)
SRIRAMPUR AREA

PART- I

HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE CONDITIONS UPTO 30TH SEPTEMBER, 2022

A. SALIENT FEATURES OF THE PROJECT:

1.	Name of the Project	: Srirampur Opencast Coal Mine Project- I
2.	Organization	: Singareni Collieries Company Limited
3.	Coalfield	: Godavari Valley Coal Field
4.	Type of Mine	: Opencast Coal Mine
5.	Technology	: Shovel –Dumper Combination
6.	Environmental Clearance	
	A. Letter No & date	: No: J-11015/208/2005-1A-II(M), dtd.11 th Sept, 2006.
	B. Sanction Capacity	: 0.60 MTPA
	C. Mining Lease Area.	: 306.79 Ha.
	D. Date of Public Hearing	: 18.11.2004
7.	Location of the Project	
	A. Village	: Thallapalli
	B. Tehasil / Mandal	: Naspur
	C. District	: Mancherial
	D. State	: Telangana State
	E. Latitude	: N 18 ⁰ 49' 04" to 18 ⁰ 51' 12"
	F. Longitude	: E 79 ⁰ 29' 17" to 79 ⁰ 32' 02"
	G. Topo Sheet	: Survey of India Topo sheets No: 56N/5, 56N/6, 56N/9 and 56N/10.
	H. Nearest railway station	: Mancherial (7.5 KM)
	I. Nearest Airport	: Hyderabad (265 km)
	J. Nearest town	: Mancherial (7.5 km)
8.	Address for Correspondence	
	A. Name	: V. Purushotham Reddy
	B. Designation	: Dy. General Manager
	C. Address	: O/o Project officer, post : Srirampur, Mondal : Naspur, Dist: Mancherial, T.S
	D. PIN Code	: 504303
	E. E-mail ID	: oc_srp@scclmines.com
	F. Telephone No.	: 08736-200260
	G. Fax No.	: 08736-238222
9.	Life of the Project	
	A. Date of Opening	: 05.01.2007


	B. Total Life of the project as per EMP	:	23 Years			
	C. Balance Life	:	9 years			
10	Seams					
	A. No. of Seams Present	:	5 Nos			
	B. Seams being worked	:	1,2,3B,3A and 3 seam			
11	Depth					
	A. Minimum Depth	:	30 mtrs			
	B. Maximum Depth	:	230mtrs			
	C. Present working depth	:	180 mtrs			
12	Reserves					
	A. Total Geological Reserves	:	68.89 MT(OC-I&OC-II)			
	B. Total Extractable Reserves	:	7.52 MT			
	C. Reserves already Extracted	:	7.015 MT			
	D. Balance Reserves	:	0.505 MT			
	E. Coal production during last 6 months	:	0.210 MT			
13	Over Burden					
	A. Total OB (Including top soil)	:	49.31 M.Cu.m.			
	B. OB extracted since inception	:	49.243 M.Cu.m.			
	C. OB removed in last 6 months	:	0.000 M.Cu.m			
	D. Stripping Ratio	:	6.56			
14	Top Soil					
	A. Total Topsoil	:	1.553 M.Cu.m			
	B. Topsoil extracted since inception	:	1.553 M.Cu.m.			
	C. Topsoil removed in last six months	:	Nil			
15	Land Requirement					
	A. Total Requirement	:	306.79 Ha.			
	B. Forestland Involved	:	Nil			
	C. Non-forestland	:	306.79 Ha.			
16.	Activity wise Land Requirement		SRP OCP-I		SRP OCP-II	
			As per EMP	Present Status	As per EMP	Present Status
	A. Quarry Area	:	77.70	77.70	372.07	290.50
	B. Top soil storage	:	15.00	15.00	--	6.52
	C. External Dump yard including drains etc., around Dumps	:	85.36	85.36	297.58	292.20
	D. Coal stock yard	:	2.60	2.60	--	4.37
	E. Infrastructures	:	6.83	4.10	--	4.00
	F. Roads etc.	:	14.46	14.46	--	4.00
	G. Green belt	:	88.57	107.22	--	126.06
	H. CHP	:	2.65	1.15	--	--
	I. Safe barrier, drainage, settling tanks etc.	:	13.62	13.62	37.98	12.98


	j. Others		--	--	--	--
	TOTAL	:	306.79	321.21	707.63	738.24
	Green belt on OB dumps, dump slopes and permanent benches	:	128.73 Ha		134.51	
	Green belt at other areas (R.F. land)	:	--		87.40 Ha.	
	Total Greenbelt including other Areas		192.58 Ha.		332.31 Ha	
17	Statutory Clearances					
	A. Mining Plan Approval	:	Lr.No:130/6/6/2006-CA-II, dtd.03.07.06 accorded from Ministry of Coal			
	B. Ground Water Clearance	:	Lr.No: 2802/Hg.III(1)/2004, Dtd.15.03.2005			
	C. Consent for Establishment	:	Order No.APPCB/PTN/NZB/173/ HO/ 2004/ -85, dtd. 06.04.2005.			
	D. Consent for Operation	:	CFO Order No:210522743973, dtd. 25.02.2021 which is valid up to 31.12.2025.			
	E. Forest Clearance	:	--			
	F. Mining Lease	:	--			
	G. Others (Specify)	:	--			
18	R & R Involved	:	No R&R involved			




B. COMPLIANCE STATUS OF EC CONDITIONS AS ON 30.09.2022


E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
2) A.	Specific Conditions.	
(i)	All the conditions stipulated by the SPCB in their NOC shall be effectively implemented.	All the stipulated conditions are being implemented strictly.
(ii)	It shall be ensured that the mining operations within the lease area, which is drained by a number of streams and nallahs and out fall into the River Godavari which flows within 600m distance from the lease boundary, are safe and mine area is not inundated by peak flow of water from the natural drainage. It shall also be ensured that no OB from the mine operations outfall into these natural courses.	A protective bund of about 2 KM length and 50m wide towards south of the dump to prevent sliding of dump yard is provided. Effective arrangements are made to prevent OB run off into the streams by providing garland drains, settling ponds etc. at sufficient intervals and clear water is only allowed into natural courses.
(iii)	Topsoil should be stacked properly with proper slope at earmarked site(s) and should not be kept active and shall be used for reclamation and development of green belt.	Top soil is being stacked at earmarked site and it will be used for reclamation and development of green belt. Details are furnished in Point No. 2 of Part – II.
(iv)	OB should be stacked at earmarked external OB dumpsite within ML area and shall be a maximum height of 75m only consisting of 3 benches of 30m. The ultimate slope of the dump shall not exceed 28°. Backfilling shall begin at the end of 7 th year in the de-coaled area. Monitoring and management of existing reclaimed dumpsites should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional Office located at Bangalore on yearly basis.	OB is being stacked at earmarked external dumpsite of SRP OCP. Presently the maximum height of external dump is 75m and overall slope is 28°. The details of OB are given in Point No. 3 of Part – II. So far 192.58 Ha of land has been brought under plantation including of 128.73 Ha of OB dump/ Internal dump has been reclaimed. The progress of reclamation of dump sites is being furnished to MoEF&CC once in six months,
(v)	Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads green belt development, etc. The drains should be regularly desilted and	10 Nos of settling ponds (20m L X 20m W x 2m D) are present around the OB dump. The water from the settling ponds is being used for spraying arrangement 11.96 Km length of 2m wide and 2 m depth garland drain was made around quarry, based on peak rainfall and



E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
	<p>maintained properly. Garland drains (Size, gradient and length) and sump capacity should 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 adequate retention period to allow proper settling of silt material.</p>	<p>maximum discharge of water. Garland drains and settling ponds will be further extended as per the progress of quarry and OB dump. The details are furnished in Point No. 6 of Part-II.</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 should be based on the rain fall data.</p>	<p>The construction of retaining wall at the toe of the dumps and OB benches within the mine to check run off and siltation are now designed based on the rainfall data and is being done in the project. Retaining wall dimensions: Height – 2.5 m, Width - 3.0 m.(Bottom) & 1.0 m on Top.</p>
(vii)	<p>Crushers at the CHP should be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions at loading points, conveyor system, haulage roads, and transfer points.</p>	<p>Pressurized mist spray dust suppression system is provided at both the feeder breakers to suppress the dust emissions from crushing operations of coal and also a jute curtain is placed in a room shape around the crusher hoppers for effective control of dust in to environment. Water sprinkling system is also provided at crushing operations, conveyor belts, haul roads and coal transfer points. MoEF & CC is requested to deem this condition as complied as the dust emissions from these operations are within the prescribed limits. Dust extractor provided in the plough feeder of GL Bunker.</p>  <p>Water sprinkling at unloading point</p>
(viii)	<p>Drills should be wet operated only.</p>	<p>All the drills are provided with wet drilling arrangements and are being wet operated.</p>

E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
(ix)	Controlled blasting shall be practiced only during daytime with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders should be implemented.	Controlled blasting with NONEL technology is being practiced to reduce the ground vibrations. The blasting is being carried only in day time and to reduce the ground vibration measures like optimum charge per delay, sequence of blasting, blasting pattern is being followed. The ground vibrations are being monitored periodically and the details of monitoring are enclosed in Annexure-IV A.
(x)	Road from ML to CHP covering a distance of 11.25 km shall be metal topped. Trucks transporting the mineral coal from the mine site to CHP shall be covered with tarpaulin and shall be optimally loaded.	The total length of the road is black topped. Trucks transporting the coal are being covered with tarpaulin and optimally loaded.
(xi)	Afforestation shall cover a total area of 193.17 ha. Which includes reclaimed external OB dump (77.29 ha.), reclaimed topsoil dump, backfilled area (11.16 ha), along ML boundary and green belt (103.80 ha), along drains, along roads (0.92 ha), along service buildings within the lease and avenue plantation and green belt outside the lease (township) by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.	This condition is complying with the progress of the mine and plantation was already taken up in an area of 192.58 Ha. with 5,36,535 no's of saplings (including of 128.73 Ha. With 4,52,231 Nos. saplings on internal& External dumps) The details of plantation are given in Point No.4 of Part – II. A plan showing year wise plantation details is enclosed as figure- I.  Thick Greenbelt around SRP OCP
(xii)	A progressive Mine Closure Plan shall be implemented by reclamation of quarry area of 11.16 ha which shall be backfilled and afforested by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha. The	Progressive mine closure as per the EMP is being implemented and progress of the same has submitted to Regional Office, MoEF&CC on half yearly basis and afforestation is done by planting the native plant species in consultation with the local DFO / SCCL Forest Department. Back filling operations started in the

E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
	balance 66.54 ha of de-coaled area shall be filled up with OB from proposed Srirampur OCP-II Project. In case the void is left unfilled, the same shall be converted into a water reservoir, the upper benches of which shall be gently sloped and stabilized and reclaimed with plantation and the reservoir peripherally fenced.	year 2011-12, as on date about 5.227 Mm ³ of OB has been backfilled in 50.7 Ha. Biological reclamation work is being carried with native species.
(xiii)	The conditions stipulated by the State Ground Water Department shall be effectively implemented. The company shall obtain prior approval of CGWA/CGWB Regional Office for use of ground water if any, for mining operations.	Ground water clearance has been obtained from Telangana State Ground water department vide Lr.No.2802 /Hg.III[1]/2004, dtd.15.03.2005. The Compliance status of the Ground water clearance conditions are furnished in Point No.10 of Part-II.
(xiv)	Regular monitoring of groundwater level and quality should be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity should 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 should be submitted to the Ministry of Environment & Forests and to the Central pollution Control Board quarterly within one month of monitoring.	Phreatic surface in the area around the project is being monitored four times in a year using network of 25 existing observation wells and specially constructed Piezometers in Srirampur area. The monitoring data furnished in Point No.10 of Part-II and Annexure-IV.
(xv)	The Company shall put-up artificial ground water 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.	32 Nos. Rain water harvesting pits were constructed at SRP OCP premises in addition to the existing 29 nos. of rain water harvesting pits at various locations of Srirampur area for recharge of ground water.(List of the harvesting pits area enclosed at point no.10 of part-II). The excess mine discharge water is being let off in to natural drain leading to Thallapalli Cheruvu (irrigation tank) which is nearby, after passing through sedimentation tanks for removal of suspended solids. This has helped in recharging of ground water table.
(xvi)	Beside carrying out regular periodic health check-up of their workers,	SCCL has well-established health centers with Qualified Doctors as per

E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
	<p>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.</p>	<p>NIOH Ahamadabad (Occupational health specialist) in each area for monitoring and identification of occupational disease where all facilities have been provided.</p> <p>10% of the workers identified from workforce engaged in active mining operations are being checked up for occupational diseases and hearing impairment. So far 92 Nos. of persons had undergone PME during this six months period.</p>
(xvii)	<p>Digital image processing of the entire lease area using remote sensing technique should be done regularly once in 3 years for monitoring land use pattern and report submitted to MoEF and its regional office at Bhopal.</p>	<p>Digital image processing of entire lease area using remote sensing techniques is being done through an external Agency, during 2009, 2012, 2016 and 2019 for monitoring land use pattern.</p> <p>The latest report was submitted vide Lr.No.: SRP/ENV/U-510/2020/37, dtd.28.05.2020 in Hard and Soft copy format. Soft copy of the same is enclosed herewith.</p> <p>The change detection of the land use from 2016 to 2019 is furnished in Point No. 15 of Part-II.</p>
(xviii)	<p>ETP should also be provided for workshop and CHP wastewater.</p>	<p>ETP has been provided at Base workshop to treat the vehicle washing effluents and the settling ponds have been provided to treat mine discharge water. Periodical monitoring is being carried to ensure compliance to prescribed standards before discharge into natural water course. Construction of ETP at CHP completed and it will be commissioned soon.</p>  <p style="text-align: center;"><u>E.T.P Plant at SRP OCP</u></p> <p>The monitoring details of Mine discharge and ETP effluents are furnished in Point No.9 of Part-II and Annexure-II.</p>

E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
(xix)	A Sewage treatment plant shall be installed in the combined township.	<p>Sewage generated in the existing colony is being treated in STP of 3.0 MLD capacity located in Naspur Colony and is functioning from 09.07.2004.</p>  <p style="text-align: center;"><u>Sewage Treatment Plant</u></p> <p>The monitoring details of STP outlet are furnished in Point No.9 of Part-II and Annexure-II.</p>
(xx)	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.	Mine closure plan will be submitted 5 years in advance of final closure of the mine to MoEF&CC for approval.
(xxi)	Consent to Operate shall be obtained for the rated capacity before expansion in mining operations.	Obtained CFO for the rated capacity vide Consent Order No: No: 210522743973, dtd. 25.02.2021, valid up to 31.12.2025..
2) B	General Conditions	
(i)	No change in Mining technology and scope of working should be made without prior approval of the Ministry of Environment and Forests.	<p>There is no change in the technology and scope envisaged in the approved EMP.</p> <p>At present, Shovel & Dumper combination technology is being adopted in the project.</p>
(ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.	The year wise Coal and OB excavation is within the calendar plan envisaged in the approved EMP and details of year wise Coal and OB excavation since inception is furnished in the Point No.1 of Part-II.
(iii)	Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM, RPM, SO ₂ and NO _x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in	<p>Four (4) No.s of Ambient Air Quality Monitoring stations have been identified for post project monitoring work keeping in view of meteorological data in consultation with Regional Office, TSPCB, Nizamabad.</p> <p>The details monitoring locations, frequency of sampling and results of</p>

E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
	consultation with the State Pollution Control Board.	<p>monitoring of ambient air quality are furnished in Point No.8 of Part-II and Annexure-I.</p>  <p style="text-align: center;">Air quality Monitoring at Mine premises</p>  <p style="text-align: center;">Air quality Monitoring at Residential Area</p>
(iv)	Fugitive dust emissions (SPM and RPM) from all the sources should 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>Water spraying arrangements have been provided on haul roads, loading and unloading points and it is being constantly maintained for effective control.</p> <p>The details of control measures are being taken at the project is furnished in Part-II.</p> <p>The fugitive dust is being monitored at the mine and the monitored data is furnished in the Point No.8 of Part-II and Annexure-I.</p>
(v)	Data on ambient air quality (SPM, RPM, SO ₂ and NO _x) should 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.	Data on ambient air quality (PM ₁₀ , PM _{2.5} , SO ₂ and NO ₂) is being regularly submitted to regional office, TSPCB and on Six monthly bases to Regional office MoEF&CC, Chennai and the Central Pollution Control Board.
(vi)	Adequate measures should be taken for control of noise levels below 85 dB (A) in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc should be provided with ear plugs/muffs.	<p>Sound proof cabins are provided in HEMM except Dozer, Drill & Grader where there is design constraint.</p> <p>Planned preventive maintenance of the HEMM is being Carried out to control the vehicular emissions and Noise. The persons engaged in drilling and blasting operations are being provided with earplugs. 200 Nos. of Ear plugs were provided to the work persons during last six month period.</p>

E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
(vii)	Industrial wastewater (Workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge. Oil and grease trap should be installed before discharge of workshop effluents.	<p>Oil and Grease trap is provided in the workshop to treat the washing effluents of HEMM.</p> <p>The out let of the ETP is being monitored periodically and the results are furnished in the Annexure-II</p> <p>The effluents are conforming to the standards prescribed through network of effluent monitoring and the details of monitoring along with results are furnished in Point No.9 of Part-II and Annexure-II.</p>
(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.	<p>Vehicular emissions are being kept under control by planned preventive maintenance of the vehicles and are being monitored regularly. Vehicles used for transporting of minerals are being covered with tarpaulin and optimally loaded.</p> <p>The exhaust emissions of HEMM being deployed in the project were monitored during August, 2022 and the monitoring data is furnished in Point No.8 of part-II and Annexure-IA.</p> <div data-bbox="852 1155 1398 1464" data-label="Image"> </div> <p><u>Vehicular emission monitoring</u></p> <div data-bbox="847 1532 1401 1877" data-label="Image"> </div> <p><u>Covering of Tarpaulin</u></p>
(ix)	Environmental laboratory should be established with adequate number and type of pollution monitoring and	Post project environmental monitoring work is being carried out by out sourced agency (Environment Protection

E. C. Cond. No:	Condition	Compliance Status as on 30.09.2022
	analysis equipment in consultation with the State pollution Control Board.	Training and Research Institute (EPTRI), Hyderabad which is a CPCB recognized and NABL accredited laboratory. A Regional Environmental Laboratory for Bellampalli Region was commissioned with all facilities at Mandamarri Area for monitoring of critical parameters in the field.
(x)	<p>Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.</p> <p>Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.</p>	<p>218 nos. dust respirators have been provided to workmen who are exposed to dusty environment. Persons are being sent to Mines Vocational Training Center for training on safety and health aspects.</p> <p>Periodical Medical Examination (PME) is conducted to check the Health status of the company. 103 number of employees had undergone PME during last six months period.</p>
(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>Unit level Environmental Management committee has been constituted with following members.</p> <ol style="list-style-type: none"> 1) Project Officer - Chairman. 2) Area Env. Officer - Secretary. 3) Mine Manager - Member 4) Mine Safety Officer - Member. 5) Project Env. Incharge - Member 6) Sr. Forest officer - Member. 7) Project Survey Officer - Member. 8) Project E&M Engineer - Member. 9) Project Civil Engineer - Member. 10) Hydro geologist - Member. <p>Apart from the above, a corporate environmental cell is established to monitor and guide in implementation of the environmental safeguards.</p> <p>The recent Environmental Management committee review meeting was held on 30.08.2022 and minutes are enclosed as Annexure –V.</p>
(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>The funds earmarked for the environmental safeguards are being kept in separate account and will not be diverted for other purpose.</p> <p>Year wise expenditure is being reported to the Ministry and its Regional Office of MoEF&CC.</p> <p>The environmental protection</p>

EC. Cond No.	Condition	Compliance Status as on 30.09.2022
(xiii)	The Regional Office of this Ministry located at Bangalore shall monitor compliance of stipulated conditions. The Project authorities shall extend full co-operation to the Office(s) of the regional Office by furnishing the requisite data / information/monitoring reports.	Project Authority will extend full cooperation to the office (s) of the regional office by furnishing the requisite data / information / monitoring reports.
(xiv)	A copy of the clearance letter 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 following Panchayats vide Lr.No.SRP/ENV/N-408/2008/187, dtd.02.09.2008 i) Thallapalli Grampanchayat, ii) Singapur Grampanchayat iii) Ramaraopet 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/ Tehsildar's Office for 30 days.	This condition has already been complied
(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 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 http://envfor.nic.in .	Advertisement given in the following Daily News papers stating that the SRP OCP- II Mine of SCCL has been accorded the Environmental Clearance from Ministry of Environment and Forests, GOI, New Delhi. i) Deccan Chronicle (English), dtd.26.07.2008 and ii) Eenadu (Telugu), dtd. 26.07.2008

A periodic progress report regarding environmental protection measures till 30.09.2022 is enclosed as Part – II.



Project Officer,
Srirampur Opencast Project
Project Officer
SRP-OCP

PART – II

ENVIRONMENTAL PROTECTION MEASURES AS ON 30.09.2022

1. Production Details

Sl. No	Year	Coal (in MT)		OB (in Mm ³)	
		As per EC	Actual	As per EMP	Actual
1.	Up to 2006-07*	0.60	0.000	7.35	1.478
2.	2007-08	0.60	0.530	3.24	8.576
3.	2008-09	0.60	0.481	3.43	17.238
4.	2009-10	0.60	0.537	3.60	3.639
5.	2010-11	0.60	0.601	3.93	3.900
6.	2011-12	0.60	0.488	3.84	4.026
7.	2012-13	0.60	0.600	4.00	4.484
8.	2013-14	0.60	0.361	4.30	2.263
9.	2014-15	0.60	0.100	4.35	0.000
10.	2015-16	0.60	0.206	4.15	0.069
11.	2016-17	0.60	0.030	3.71	0.240
12.	2017-18	0.60	0.498	2.03	2.878
13.	2018-19	0.60	0.577	0.92	0.452
14.	2019-20	0.60	0.574	0.45	--
15.	2020-21	0.60	0.404	--	--
16.	2021-22	0.60	0.537	--	--
17.	2022-23	0.60	--	--	--

2. Topsoil Management (in M.Cu.m)

1	Total Topsoil	:	1.553
2	Topsoil removed in last six months	:	Nil
3	Topsoil removed so far	:	1.553
4	Topsoil stored in temporary stockyard	:	0.450
5	Topsoil spread on Dumps	:	0.750
6	Topsoil used for Railway embankment	:	0.353

3. Overburden Management (in M.Cu.m)

1	Total Overburden (including Top soil)	:	49.31			
2	Total OB removed during last six months	:	Nil			
3	Total OB removed since inception (including Top soil)	:	49.243 (Top soil : 1.553)			
4	Details of External OB dumps	:	Area (in Ha)	Quantity in (M.Cu.M)	Height (m)	Overall slope
	Dump-1	:	145	42.363	90	28 ⁰
5	Details of Internal dump (Backfilling)	:	50.7 (w.r.t. Ground level))	5.227		
6.	OB used for preparation of Road from NH-16 to CHP in M.Cu.m	:	0.10 M.Cu.mtrs			

4. Plantation:

1	No of plants planted during last six months period	17,160
2	Area covered in Ha	8.06
3	Expenditure incurred in Rs. Lakhs during last year	--
4	Total area brought under plantation so far in Ha	206.870
5	Total no of plants planted so far since inception	5,64,035
6	Species of plants planted	-
7	Seeds sown so far	-
8	Small plants planted so far	--
9	Total expenditure in Rs. lakhs -	-

Note: Plan along with details of year wise plantation furnished as **Figure-I**.

5. Water Balance Statement:

Sl. No	Description	Quantity in KLD
1	Average quantity of water pumped out of the mine	3500
2.	Water consumption :	
A	Domestic:	
	a) Water used for drinking/bathing and other industrial requirement	1500
	b) Water supplied for nearest township/village for domestic purpose/CHP	300
	Sub - Total	5300
B	Industrial:	
	a. Water used for plantation	600
	b. Water used for dust suppression	-
	c. Water used for washing of HEMM	800
	Sub – Total	1400
3	Excess water let out	300
4	Point of disposal (as per CFO)	i) Excess mine water: After treatment for agricultural use/ gardening. ii) Domestic: STP followed by onland use / gardening
5	Discharge Consent from TSPCB	130.00

6. Soil Erosion Control Measures:

1	Toe Walls	500 Mtrs.
2	Garland drains	11,960 Mtrs.
3	Settling ponds	10 Nos

7. Micro-meteorological Monitoring:

Micro-meteorological station was installed at General Manager's Office: The summary of monthly micro-meteorological data generated at Srirampur area from April, 2022 to September, 2022 is 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, 2022	2.1	5.3	12.50	33.0	46.6	25.6	35.4	79.1	8.3	0.0	0.0
May, 2022	1.6	8.3	22.98	35.0	45.8	22.0	29.4	97.8	8.1	29.4	8.6
June, 2022	2.8	9.0	10.42	32.7	46.7	23.2	36.2	73.5	8.6	29.2	3.5
July, 2022	2.9	12.0	10.62	29.5	40.1	22.8	59.3	99.5	20.5	35.0	14.2
August, 2022	3.0	12.5	11.83	29.6	38.8	21.0	46.7	87.2	26.2	13.7	7.8
September, 2022	1.6	12.5	34.58	28.6	38.9	23.3	47.6	89.3	19.1	17.6	4.0

Summary of micro-meteorological data generated for the study period (APRIL, 2022 TO SEPTEMBER, 2022)

S.No	Parameter(s)	Min	Max	Mean
1.	Temperature (°C)	21.0	46.7	31.1
2.	Wind Speed (m/s)	Calm % 26.0	12.5	2.4
3.	Relative Humidity (%)	8.1	99.5	42.5
4.	Predominant Wind direction for the entire study period	South-SouthEast (S-SE), followed by South East (SE)		
5.	Total Rainfall (mm)	124.9mm		

5. Ambient Air Quality Monitoring:

Parameters:

In accordance with MoEF&CC Notification, GSR-742 (E), dt. 25.09.2000 and National Ambient Air Quality Standards, the concentration of Suspended Particulate Matter (PM₁₀ and PM_{2.5}), Sulphur Dioxide (SO₂) and Oxides of Nitrogen (NO_x) is being monitored at work zone locations and also in nearby villages to assess the impact of mining operations on surrounding habitation.

Respirable Dust Sampler is used for monitoring of PM₁₀, SO₂ and NO_x and Ambient Fine Dust Sampler is being used for monitoring of PM_{2.5}. SCCL is carrying out post-project environmental monitoring through EPTRI, Hyderabad, a CPCB recognized and NABL accredited laboratory. EPTRI has also established laboratories in SCCL mining areas for analyzing critical parameters in the field.

Frequency of Monitoring:

Sitharampalli Village	Buffer Zone	12.30	18.10	17.92	80
Ramaraopet village	Buffer Zone	12.5	18.2	18.0	80
Indaram village	Buffer Zone	12.10	18.70	18.63	80

The air quality data monitored at the work zone locations and surrounding residential areas indicate that PM₁₀ concentration is within the stipulated limits at all locations. The PM_{2.5} levels are also well within the stipulated limits at all the locations except in SRP OCP Base workshop and SRP OCP Site Office where the maximum concentration recorded was 64.1 µg/m³. The SO₂ and NO₂ levels are also well within the stipulated limits at all the locations. The fortnightly air quality data monitored during six months period ending 30th September, 2022 is enclosed as **Annexure-I**.

SCCL is taking following control measures in the SRP OCP-I for air pollution control including reduction of particulate emissions:

Monitoring data of HEMM Exhaust

Vehicular Exhaust Emissions study has been monitored for Heavy Earth Moving Machinery (HEMM) in SRP OCP. The parameter measured is smoke density (K). Smoke density is a function of the number of smoke particles per unit volume, the size distribution of the smoke particles, and the light distribution and the light absorption study. Smoke density is also known as Light Extinction Coefficient and Light Absorption Coefficient. By convention, smoke density is expressed on a per meter basis (m⁻¹). Smoke density is measured in HSU % and light absorption coefficient is measured K in m⁻¹

The Automotive Exhaust Monitor used in this emissions study (Make: AVL India Private Limited, Model AVL 437C), approved by Automotive Research Association of India (ARAI), Pune. The observed values are compared with standards prescribed by Ministry of Road transport and highway as per Act. CMVR - 115 (2) (C). The standards are presented in the below table. HEMM Vehicular emissions results in SRP area are presented in **Annexure-I A**.

Standards for Vehicular emissions

Test Method	Limits for Vehicular emissions	
	Hatridge Smoke Units (%)	Light absorption Coefficient (K) in m-1
Free acceleration test for turbo charged engine and naturally aspirated engine	65	2.45

Summary of exhaust monitoring of HEMM

Sl. No	Description	Observation
1	Total no of vehicles	42
2	No of vehicles tested	41
3	Passed vehicles	41
4	Failed vehicles	0
5	break down vehicles (B/D)	01

The complete details of Vehicular exhaust monitoring carried during August, 2021 furnished **Annexure - I A**. In case of vehicles where exhaust emissions are exceeding the stipulated norms, such vehicles are subjected to further maintenance.

Air Pollution Control Measures:

As the open cast mining operations involve fugitive dust generation, the following measures are being taken up in the project to prevent/control dust generation and air pollution:

- (i) Four 28KL, Ten 12 KL and one 10KL capacity water sprinklers are being deployed for dust suppression on haul roads.
- (ii) The permanent roads like road leading to the coal handling plant, permanent internal roads at site office etc. were black topped.
- (iii) Regular maintenance of the vehicles is being carried out to control exhaust emissions.
- (iv) Effective dust suppression measures are being taken at coal handling plant (CHP). The crusher houses are enclosed to the extent possible and the dust suppression arrangements are provided at suitable locations in the CHP. All conveyors, screens and crushers are enclosed.
- (v) Post-project air quality monitoring is being carried out by outside agency (M/s Environment Protection Training and Research Institute (EPTRI) Hyderabad) as per the frequency stipulated by MoEF&CC vide GSR 742 (E) for coal mining industry and all the necessary precautions are being taken to maintain the concentration of critical parameters well within the stipulated standards.

6. Water Quality Monitoring:

The impact of the mining activities on the water environment was assessed by studying the quality of groundwater and surface water bodies in the study area. The sampling locations were selected considering their proximity to the project sites. A total of 8 water samples i.e., 4 samples from surface and 4 samples from groundwater were collected and analyzed for various physico-chemical and bacteriological parameters.

Post project water quality monitoring stations:

(i) Surface Water Quality Monitoring Locations:

Sl. No	Location	Zone	Latitude	Longitude	Station Code
1.	Thallapalli Tank	Buffer	N 18° 50' 22.2"	E 79° 29' 08.5"	SW1
2.	Ramaraopet Tank	Buffer	N 18° 49' 09.0"	E 79° 31' 06.0"	SW2
3.	Godavari River upstream (Intake well near Sitharampalli)	Buffer	N 18° 49' 33.5"	E 79° 28' 21.5"	SW3
4.	Godavari River downstream (Near Settipalli)	Buffer	N 18° 53' 41.8"	E 79° 40' 32.6"	SW4

(ii) Ground Water Quality Monitoring Locations:

Sl. No	Location	Zone	Latitude	Longitude	Station Code
1.	Bore well at Srirampur Village	Buffer	N 18° 51' 18.4"	E 79° 29' 28.7"	GW1
2.	Borewell at Ramaraopet	Buffer	N 18° 49' 20.8"	E 79° 30' 53.1"	GW2
3.	Bore well at Sitharampalli	Buffer	N 18° 50' 25.7"	E 79° 28' 27.2"	GW3
4.	Bore well at Indaram Village	Buffer	N 18° 49' 14.8"	E 79° 31' 58.8"	GW4

(iii) Effluents sampling locations

Sl. No.	Sample code	Name of the Location	Latitude	Longitude
1.	EW-1	SRP OCP mine discharge	N 18° 51' 44.7"	E 79° 30' 13.5"
2	EW-2	SRP OCP-Base workshop ETP outlet.	N 18° 51' 44.7"	E 79° 30' 13.5"
3	EW-3	SRP OCP-Dump surface run-off settling tank out let	N 18° 51' 44.7"	E 79° 30' 13.5"
4	EW -5	Naspur Colony STP Outlet	N 18° 51' 44.7"	E 79° 30' 25.7"

Parameters:

The ground water quality results are compared with IS: 10500 standards of groundwater quality and surface water quality with IS 2296, 1982 and CPCB Water Quality Criteria, Class- A (Drinking Water Source without conventional treatment but after Disinfection), Class – B (outdoor bathing (organized) and Class – C (Drinking Water Source with conventional treatment and after Disinfection, Class – C (Drinking Water Source with conventional treatment and after Disinfection, Class –D propagation of wild life fisheries and Class-E (Irrigation, Industrial cooling, controlled waste disposal).

Effluent water quality monitoring involves periodical assessment of quality of mine discharge water, treated workshop effluents, CHP effluent, treated colony effluents, ground water and surface water. pH, Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Chemical Oxygen demand (COD), Biochemical Oxygen Demand (BOD) and Oil & Grease are being periodically monitored in effluents as per the Environmental Standards for coalmines, GSR - 742 (E) dated 25.09.2000.

All the parameters as given in Part-A of General Standards for Discharge of Environmental Pollutants, GSR 801 (E) EPA 1986 prescribed by CPCB is being analyzed for all the effluents, in addition to the above parameters, once in a year for assessing the overall quality of effluents.

Frequency of monitoring

Monitoring of effluent water samples for four critical parameters is being done at a frequency of once in a fortnight. Effluents are also analyzed in every fortnight, whereas ground water (all parameters), surface water (all parameters) are being analyzed once in every quarter.

Monitoring Data:

The surface water, ground water quality and effluent quality data monitored during April, 2022 to September, 2022 is enclosed as **Annexure-II**. The summarized data on effluent water quality in respect of four critical parameters stipulated for coal mines is furnished hereunder.

Effluent Quality Monitoring:

The summary of the monitoring from April, 2022 to September, 2022 is as follows:

(All values in mg/l except pH)

Location	Zone	pH			
		Min.	Max.	98%tile	STD
SRP OCP-I mine discharge	Beside of the Proj. – 0.310	7.10	7.90	7.88	5.5-9.0
SRP OCP-Base workshop ETP outlet.	Beside of the Proj. – 0.105	6.80	7.80	7.73	5.5-9.0
SRP OCP-Dump surface run-off settling tank out let	SW – 0.600	7.40	8.20	8.18	5.5-9.0
Naspur Colony STP Outlet	W -3.60	7.10	7.80	7.80	5.5-9.0
Location	Zone	TSS (mg/l)			
		Min.	Max.	98%tile	STD
SRP OCP-I mine discharge	Beside of the Proj. – 0.310	18.0	34.0	33.56	100
SRP OCP-Base workshop ETP outlet.	Beside of the Proj. – 0.105	32.0	68.0	67.56	100
SRP OCP-Dump surface run-off settling tank out let	SW – 0.600	22.0	84.0	81.36	100
Naspur Colony STP Outlet	W -3.60	15.0	30.0	29.34	100
Location	Zone	TDS (mg/l)			
		Min.	Max.	98%tile	STD
SRP OCP-I mine discharge	Beside of the Proj. – 0.310	894.0	1312.0	1298.0	--
SRP OCP-Base workshop ETP outlet.	Beside of the Proj. – 0.105	1042.0	1944.0	1920.46	--
SRP OCP-Dump surface run-off settling tank out let	SW – 0.600	1334.0	1887.0	1884.58	--
Naspur Colony STP Outlet	W -3.60	486.0	829.0	814.48	--
Location	Zone	COD (mg/l)			
		Min.	Max.	98%tile	STD
SRP OCP-I mine discharge	Beside of the Proj. – 0.310	11.0	34.0	32.46	250
SRP OCP-Base workshop ETP outlet.	Beside of the Proj. – 0.105	23.0	182.0	174.96	250
SRP OCP-Dump	SW – 0.600	15.0	35.0	34.34	250

surface run-off settling tank out let					
Naspur Colony STP Outlet	W -3.60	16.0	50.0	46.70	250
		BOD (mg/l)			
		Min.	Max.	98%tile	STD
SRP OCP-I mine discharge	Beside of the Proj. – 0.310	1.60	7.10	6.55	30
SRP OCP-Base workshop ETP outlet.	Beside of the Proj. – 0.105	4.30	23.60	23.05	30
SRP OCP-Dump surface run-off settling tank out let	SW – 0.600	1.90	8.10	7.99	30
Naspur Colony STP Outlet	W -3.60	5.30	18.30	17.53	30
		Oil & Grease (mg/l)			
		Min.	Max.	98%tile	STD
SRP OCP-I mine discharge	Beside of the Proj. – 0.310	1.0	1.60	1.58	10
SRP OCP-Base workshop ETP outlet.	Beside of the Proj. – 0.105	1.40	5.60	5.51	10
SRP OCP-Dump surface run-off settling tank out let	SW – 0.600	1.0	1.40	1.40	10
Naspur Colony STP Outlet	W -3.60	1.0	1.60	1.60	10

Note: The Surface water quality, Ground water quality and effluent monitoring data from April, 2022 to September, 2022 is enclosed as **Annexure-II**

Water Pollution Control Measures:

- (i) Excess water after necessary treatment in sedimentation tank is being discharged into natural drains leading to Thallapalli Cheruvu.
- (ii) Sewage from township is being collected and treated in Sewage Treatment Plant of 3MLD Capacity constructed at Naspur Colony and functioning from 09.07.2004.
- (iii) Effluent from workshop will be treated in oil & Grease traps and sedimentation tanks. Treated water will be used for dust suppression and for raising plantation.
- (iv) Post-project water quality monitoring is being carried out by outside agency (M/s Environment Protection Training and Research Institute (EPTRI) Hyderabad) as per the frequency stipulated by MoEF&CC for coal mining industry.

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

The Phreatic surface and peizometric levels monitoring is being carried out 4 times in a year pre-monsoon (May), Monsoon (August), Post monsoon (November) and winter (January) seasons in 25 existing wells and 6 peizometric wells in Srirampur Area. The Phreatic surface and peizometric levels monitoring from 2017(Winter) to 2022 (Monsoon) is enclosed as Annexure-III.

8. Noise Level Monitoring :

The summary of the monitoring from April, 2022 to September, 2022 is as follows:

Location	Zone	Day Time in dB(A)			
		Min.	Max.	Avg.	STD
SRP OCP Site office	Core	64.10	70.50	67.725	75
SRP COP Base W/S	Core	62.10	71.50	71.456	75
Srirampur village	Buffer	41.70	50.20	46.058	55
Srirampur Colony	Buffer	41.20	50.20	46.460	55
Sitharampalli village	Buffer	41.90	51.20	46.950	55
Location	Zone	Night Time in dB(A)			
		Min.	Max.	Avg.	STD
SRP OCP Site office	Core	51.20	61.20	55.883	70
SRP COP Base W/S	Core	51.90	62.40	62.136	70
Srirampur village	Buffer	31.60	40.10	35.292	45
Srirampur Colony	Buffer	30.20	41.20	37.130	45
Sitharampalli village	Buffer	31.40	40.80	36.710	45

Note: The Noise level monitoring from April, 2022 September, 2022 is enclosed as **Annexure-IV**.

Noise Pollution Control Measures:

- (i) A thick green belt is being developed around the periphery of the mine, to screen the noise.
- (ii) Planned preventive maintenance of noise generating machinery including transport vehicles is being done.
- (iii) Protective devices like earplugs and dust respirators have been provided for the workers exposed to high noise levels.
- (iv) Speed limits have been fixed for HEMM to control the excessive noise created by dumpers and other vehicles.
- (v) Regular fine tuning of engines is being done to reduce SO₂, NO₂ emissions as well as for reduction of noise.
- (vi) Vibration isolation springs, pads etc., are provided wherever practicable in HEMM.
- (vii) In order to control impact of noise due to the operation of screen/chutes they are covered / lined with a resilient material like rubber, old belts, etc.
- (viii) The noise and vibrations arising due to blasting operation are being controlled by
 - Design of optimum blast hole geometry considering bench height, diameter of hole, type of explosive, nature of rock, level of fragmentation required etc.
 - Total charge per blast is divided in to several parts so as to keep minimum explosive per delay.

- Use of milli-second delay detonators & relays. Nonels are being used to control blast vibrations and noise.
 - Secondary blasting is avoided to the extent possible to reduce air shock wave.
- (ix) Post-project noise quality monitoring is being carried out by outside agency (M/s Environment Protection Training and Research Institute (EPTRI) Hyderabad) at a frequency of once in a fortnight, as stipulated by MoEF&CC for coal mining industry.

9. Socio-economic Measures:

1	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 wetted sewage and drainage line systems.
2	LPG gas is supplied free of cost to the employees.
3	Free medical treatment to workmen and their families is given and all children of workmen are covered under immunization programme.
4	Incentive schemes for popularizing family planning is in vogue where by Rs.1, 000/- paid for the persons undergoing Vasectomy operation and Rs.800/- paid for spouse undergoing Tubectomy operations in addition to the grant of 6 days special leave.
5.	Community taps are provided in the colonies. Tap water is treated and chlorinated to the prescribed standards.
6	Recreation clubs are provided with adequate facilities.
7.	Encouragement to sports and games is given by forming Works People's Sports & Games Association for conducting inter-area meets etc.
8.	Public hearing minutes compliance status enclosed as Annexure-VI

Surrounding Habitat Assistance Programme (SHAPE):

Surrounding Habitat Assistance Programme is designed to develop infrastructure facilities to the surround people of 8 km from the SCCL townships and / or 10 Km from the mine entry. About 3% of average net profits of the company made during last three years were allocated for CSR at company level. The details of CSR works taken up by SCCL so far under SHAPE scheme in surrounding villages are as given below:

Rs. In lakhs

Srirampur Area-CSR and SHAPE works for the year of- 2021-22

Rs. In lakhs

Name of the Work	SHAPE works	CSR works						Total	
	up to 2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-2021		2021-2022
Roads Infrastructure	704.1901	3.86	191.47	100.00	180.03	120.00	30.15	41.65	1371.35
Schools and other buildings	84.00963	0.00	1.74	0.00	3.00	4.00	4.72	0.00	97.46963
Drinking Water Supply	391.6262	0.826	3.48	68.00	3.00	4.00	3.25	0.00	474.18
Street lighting	32.63394	0.00	0.00	0.00	16.50	14.00	0.00	0.00	63.13394
Ladies training complex	14.4982	0.00	0.00	0.00	0.00	0.00	2.02	2.82	19.3382
Other Works	31.17856	19.24	40.494	1.50	2.00	8.00	0.00	7.90	110.31256
Total	1258.137	23.926	237.184	169.5	204.53	150.0	40.14	52.37	2135.784

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

Sl. No	Expenditure Head	Capital Expenditure (in Rs.)			Revenue Expenditure (in Rs.)		
		Up to 2021-22	2022-23 (Apr-Sep)	Total	Up to 2021-22	2022-23 (Apr-Sep)	Total
I	Air pollution (Prevention & control)	17380900	0	17380900	25785977	0	25785977
II	Water pollution (Prevention & Control)	714000	0	714000	2821390	0	2821390
III	Land development	0	0	0	0	0	0
IV	Plantation	5100570	0	5100570	1645210	459569	2104779
V	Equipment for maintenance of environment protection	13353822	0	13353822	11486437	0	11486437
VI	Consultancy payments	395000	0	395000	0	0	0
VII	OB Reclamation / Subsidence management	355300	0	355300	1100000	0	1100000
VIII	Environment awareness / Environment education	0	0	0	12000	0	12000
IX	Noise & Blasting vibration	0	0	0	58000339	0	58000339
X	Others	0	0	0	1410	0	1410
	Total	37299592	0	37299592	100852763	459569	101312332

6. Environment Management Committee:

Unit level Environmental Management committee has been constituted with following members.

- (i) Project Officer - Chairman.
- (ii) Area Env. Officer - Secretary.

- (iv) Mine Safety Officer - Member.
- (v) Project Env. Incharge - Member
- (vi) Sr. Forest officer - Member.
- (vii) Project Survey Officer - Member.
- (viii) Project E&M Engineer - Member.
- (ix) Project Civil Engineer - Member.
- (x) Hydro geologist - Member.

The minutes of EMC meeting held on 30.08.2022 is enclosed as **Annexure-V**

12. Land use based on satellite Imagery:

The land use studies for Core and Buffer zones of Srirampur Opencast – I Coal Mine Project had been conducted in the year 2019 by Geosys Enterprise Solutions Private Limited, Hyderabad.

Land use cover details of Buffer zone:

Land Use Land Cover Class		Area of Sub Class		Area of Class	
		Area in	% of	Area in	% of
Agriculture				19590.45	46.25
	Double Crop	7921.70	18.70		
	Single Crop	5062.24	11.95		
	Fallow land	1126.18	2.66		
	Plantations	5480.33	12.94		
Forest Cover				7485.42	17.67
	Dense Forest	4425.84	10.45		
	Open Forest	3059.58	7.22		
Waste Land				3010.90	7.11
	Land with / without scrub	2166.86	5.12		
	Barren Land	844.04	1.99		
Others				12274.13	28.98
	Mining area	2263.03	5.34		
	Industrial establishments	1028.02	2.43		
	Built up land	4797.17	11.32		
	Water bodies	2610.96	6.16		
	Roads	1574.95	3.72		
Total Area		42360.90	100.00%	42360.90	100.00%

Land use / land cover details of core zone mine lease area:

Land Use Land Cover Class		Area of Sub Class		Area of Class	
		Area in Ha	% of Usage	Area in Ha	% of Usage
Active Mining				40.10	13.07
	Quarry Area	4.40	1.44		
	Coal Dump	2.66	0.87		
	Quarry sump	0.00	0.00		
	Roads	18.89	6.16		
	Service buildings	14.15	4.61		
	Over Burden Dump	45.35	14.78	45.35	14.78
Under Reclamation				51.50	16.79
	Back filling under reclamation	51.50	16.79		
Plantation				168.49	54.92
	Green belt	40.46	13.19		
	Scrub	14.53	4.74		
	OB Dump	88.91	28.98		
	Back filling plantation	24.59	8.02		
Agriculture				1.05	0.34
	Crop land	1.05	0.34		
	Fallow land	0.00	0.00		
Waste land	Barren land	0.00	0.00		
Forest Cover				0.00	0.00
	Dense Forest	0.00	0.00		
	Open forest	0.00	0.00		
Water Body		0.30	0.10	0.30	0.10
Settlement		0.00	0.00	0.00	0.00
Total Area		306.79	100.00	306.79	100.00

Change Detection:

Land use and land cover comparison statement of Srirampur Opencast- I Coal mine Project Expansion Project Core Zone for 2016 and 2019.

Land Use Land Cover Class	2016		2019	
	Area in Ha	% of Usage	Area in Ha	% of Usage
Coal Dump	5.84	1.90	2.66	0.87
Over Burden Dump	132.65	43.24	45.35	14.78
Plantations- Green belt	9.02	2.94	40.46	13.19
Plantation - OB Dump	35.75	11.65	88.91	28.98
Plantation -Scrub	36.87	12.02	14.53	4.74
Quarry Area	43.97	14.33	4.40	1.44
Roads	19.39	6.32	18.89	6.16
Service buildings	1226	4.00	14.15	4.61
Water bodies	0.47	0.15	0.30	0.10
Agriculture Crop land	1.04	0.34	1.05	0.34
Dense Forest	5.38	1.75	0.00	0.00
Back filling area - Plantation	0.00	0.00	24.59	8.02
Back filling area – Under reclamation	0.00	0.00	51.50	16.79
Quarry sump	4.16	1.36	0.00	0.00
Total Area	306.79	100.00	306.79	100.00

Quarry Area was 14.33% of the total area which decreased upto 1.44%, Plantation scrub decreased from 12.02% to 4.74% of the total area, Overburden dump decreased from 43.24% to 14.78%, Coal Dump decreased from 1.90% to 0.87% of the total area, Roads decreased from 6.32% to 6.16% of the total area, Service buildings was 4.00% of the total area which increased upto 4.61%, Water bodies was 0.15% of the total area which decreased upto 0.10% of the total area, Plantations OB Dump increased from 11.65% to 28.98% of the total area and Plantations Greenbelt covers 13.19% of the total area.

Project Officer,
Srirampur Opencast Project.

Project Officer
SRP-OCF



**MONITORING DATA OF SRP OCP-I FOR THE PERIOD,
FROM APRIL, 2022 TO SEPTEMBER, 2022**

List of Annexures:

Sl.No.	Description	Annexure No.
1	Ambient Air Quality	I
2	Exhaust Emissions of HEMM	I - A
3	Surface, Ground Water & Effluents Quality.	II
4	Attitude of Phreatic Surface & Piezometric Levels	III
5.	Noise	IV
6	Ground vibrations	IV-A
7	EMC Meeting minutes	V
8	Status of Public hearing minutes	VI
9	Plantation plan	Fig. I
10	Land use Plan	Fig. II
11	Water Management Plan	Fig. III

I. POST PROJECT AMBIENT AIR QUALITY MONITORING DATA FOR THE PERIOD FROM APRIL, 2022 TO SEPTEMBER, 2022 FOR SRIRAMPUR OPENCAST PROJECT- I

- ❖ Location of the Fugitive dust emission monitoring Station : Top of the Base workshop of SRP OCP.
- ❖ Direction (w.r.t. SRP OCP- I) : Beside of the project.

Sl. No.	Station Name	Date of Sampling	Parameters ($\mu\text{g}/\text{Cu.Mtr.}$)			
			PM ₁₀	PM _{2.5}	SO ₂	NO ₂
1.	SRP OCP-I & II Base workshop	11.04.2022	221	58.1	13.1	16.2
		26.04.2022	228	57.1	12.1	18.4
		11.05.2022	235	53.7	11.3	16.2
		27.05.2022	239	65.2	12.9	19.2
		11.06.2022	224	52.1	13.2	18.4
		27.06.2022	228	52.6	11.6	17.6
		12.07.2022	--	-	-	-
		27.07.2022	126	39.4	9.6	14.1
		12.08.2022	225	41.1	12.8	17.1
		26.08.2022	231	61.6	13.6	19
		13.09.2022	218	53.8	11.7	17.3
		28.09.2022	210	54.1	12.6	19.7
		Minimum			126.00	39.40
Maximum			239.00	65.20	13.60	19.70
Average			216.82	53.53	12.23	17.56
98% tile			238.20	64.48	13.52	19.60
Coal mine standards GSR 742(E), dtd.25.09.2000 & NAAQS, Dtd.18.11.2009			250	--	120	120

- ❖ Location of the Ambient Air Quality monitoring Station : Top of the Lamp Room, SRP OCP.
- ❖ Direction (w.r.t. SRP OCP- I.): Beside of the project.

Sl. No.	Station Name	Date of Sampling	Parameters ($\mu\text{g}/\text{Cu. Mtr.}$)			
			PM ₁₀	PM _{2.5}	SO ₂	NO ₂
2.	SRP OCP Site Office.	11.04.2022	225	61.4	12.8	17.4
		26.04.2022	220	56.9	12.9	17.9
		11.05.2022	235	53.7	11.3	16.2
		27.05.2022	230	63.9	12.4	17
		11.06.2022	215	51.3	13.6	19.6
		27.06.2022	231	61.4	12.1	19.1
		12.07.2022	--	--	--	--
		27.07.2022	149	40.5	11.7	16.5
		12.08.2022	211	42.1	13.3	19.9
		26.08.2022	233	63.8	14.4	21.3
		13.09.2022	118	43.5	12.5	19.6
		28.09.2022	231	62.8	12	18.7
		Minimum			118.00	40.50
Maximum			235.00	63.90	14.40	21.30
Average			208.91	54.66	12.64	18.47
98% tile			234.60	63.88	14.24	21.02
Coal mine standards GSR 742(E), dtd.25.09.2000 & NAAQS, Dtd.18.11.2009			300	--	120	120

- ❖ Location of the Ambient Air

Quality monitoring Station : Top of the Residential house, Srirampur Colony.

❖ Direction (w.r.t. SRP OCP- I): North East of the project.

Sl. No.	Station Name	Date of Sampling	Parameters (µg/Cu.Mtr.)			
			PM ₁₀	PM _{2.5}	SO ₂	NO ₂
3.	Srirampur Colony	09.04.2022	88	41.2	10.3	16.7
		25.04.2022	86	42.1	11.8	15.2
		10.05.2022	92	48.9	10.5	10.7
		25.05.2022	74	42	9.4	13.8
		10.06.2022	64	31.4	8.4	12.5
		25.06.2022	68	30.8	9.1	15.4
		11.07.2022	42	20.1	8.2	13.5
		26.07.2022	32	17.1	7.2	13.4
		11.08.2022	72	39.2	13.4	18.2
		25.08.2022	86	48.1	14.7	20.1
		10.09.2022	82	38.4	11.1	17.7
		26.09.2022	91	45.1	9.6	16.2
	Minimum			32.00	17.10	7.20
Maximum			92.00	48.90	14.70	20.10
Average			73.08	37.03	10.31	15.28
98% tile			91.78	48.72	14.41	19.68
NAAQ Standards, CPCB dtd,18.11.2009			100	60	80	80

❖ Location of the Ambient Air

Quality monitoring Station : Top of the Residential house, Sitharampalli Village.

❖ Direction (w.r.t. SRP OCP- I.): West of the project.

Sl. No.	Station Name	Date of Sampling	Parameters (µg/Cu.Mtr.)			
			PM ₁₀	PM _{2.5}	SO ₂	NO ₂
4.	Sitharampalli Village	11.04.2022	69	30.2	11.5	17.2
		26.04.2022	71	33.8	10.6	17.2
		11.05.2022	84	41	9.5	14.3
		27.05.2022	81	45.8	10.2	18.1
		11.06.2022	82	41.2	10.2	16.3
		27.06.2022	61	31.6	8.4	14.8
		12.07.2022	-	-	-	-
		27.07.2022	67	29.6	7.9	14.1
		12.08.2022	65	33.5	8.2	13.7
		26.08.2022	67	38.4	9.9	12.3
		13.09.2022	66	30.4	8.7	13.2
		28.09.2022	69	36.3	12.7	15.8
	Minimum			56.000	32.000	7.200
Maximum			87.000	49.600	13.600	18.400
Average			72.083	37.008	9.400	14.767
98% tile			86.780	48.632	13.358	18.224
NAAQ Standards, CPCB dtd,18.11.2009			100	60	80	80

❖ Location of the Ambient Air

Quality monitoring Station : Top of the Residential house, Ramaraopet Village.

❖ Direction (w.r.t. SRP OCP- I.): East of the project.

Sl. No.	Station Name	Date of Sampling	Parameters (µg/Cu.Mtr.)			
			PM ₁₀	PM _{2.5}	SO ₂	NO ₂
5.	Ramaraopet Village	11.04.2022	86	42.8	10.9	18.2
		26.04.2022	88	42.9	9.8	14.3
		11.05.2022	74	35.4	10.4	17.1
		27.05.2022	89	50.5	10.6	17.2
		11.06.2022	76	39.1	9.6	15.4
		27.06.2022	89	45.7	9.9	16.7
		12.07.2022	-	-	-	-
		27.07.2022	73	36.8	8.5	15.2
		12.08.2022	71	36.8	9.1	12.5
		26.08.2022	87	43.1	11.4	16
		13.09.2022	82	40.2	9.1	12.7
		28.09.2022	61	32.4	12.2	16.8
		Minimum			876.00	32.40
Maximum			89.00	50.50	12.20	18.20
Average			79.64	40.52	10.14	15.65
98% tile			89.00	49.54	12.04	18.00
NAAQ Standards, CPCB dtd,18.11.2009			100	60	80	80

- ❖ Location of the Ambient Air Quality monitoring Station : Top of the Residential House , Indaram village
- ❖ Direction (w.r.t. SRP OCP- I) South-East of the project.

Sl. No.	Station Name	Date of Sampling	Parameters (µg/Cu. Mtr.)			
			PM ₁₀	PM _{2.5}	SO ₂	NO ₂
6.	Indaram Village	12.04.2022	79	41	11.3	16.9
		27.04.2022	91	42.1	10.6	13.2
		12.05.2022	83	42.1	8.4	15.6
		28.05.2022	74	39.4	9.8	15.4
		13.06.2022	91	43.6	11.5	16.9
		28.06.2022	85	41.8	10.7	18.4
		13.07.2022	51	20.6	7.6	12.1
		28.07.2022	36	15.7	6.5	13.2
		12.08.2022	71	36.8	9.1	12.5
		27.08.2022	92	46.9	12.6	18.7
		12.09.2022	82	40.5	10.2	15.5
		27.09.2022	79	40.9	10.4	14.5
		Minimum			36.00	15.70
Maximum			92.00	46.90	12.60	18.70
Average			76.17	37.62	9.89	15.24
98% tile			91.78	46.17	12.36	18.63
NAAQ Standards, CPCB dtd,18.11.2009			100	60	80	80

EXHAUST EMISSIONS MONITORING DATA OF HEAVY VEHICLES (HEMM) OF SRP OCP-I (IN H.S.U %,K) DURING THE MONTH OF AUGUST, 2022.

Vehicular Emissions Study in Srirampur Area									
Sl.No	Eqpt Type/Capacity	Eqpt Name	Make	D.O.C	HRS RUNNED	Tested Date	HSU % 65	K m-1 2.45	Test Status
SRP-OCP									
1	DUMPER-60T	C-1	CAT	22.10.2016	21825	25.08.2022	32.2	0.45	PASS
2	DUMPER-60T	C-2	CAT	22.10.2016	20904	„	29.5	0.02	PASS
3	DUMPER-60T	C-3	CAT	22.10.2016	22701	„	27.4	0.70	PASS
4	DUMPER-60T	B-1	BEML	16.12.2016	15357	„	30.2	0.25	PASS
5	DUMPERR-60T	K-2	KOMAT	15.11.2021	3829	„	35.3	0.41	PASS
6	DUMPER-60T	B-3	BEML	08.06.2017	17080	„	36.3	0.75	PASS
7	DUMPER-60T	B-4	BEML	08.06.2017	15422	„	39.5	0.82	PASS
8	DUMPER-35T	H-23	BEML	28.01.2015	19852	„	42.5	0.52	PASS
9	DUMPER-35T	H-24	BEML	28.01.2015	18600	„	37.4	1.02	PASS
10	WATER TANKER	WT-3	BEML	27.11.2015	10794	„	64.3	2.41	PASS
11	DUMPER-35T	H-18	BEML	02.02.2015	24072	26.08.2022	54.1	0.84	PASS
12	SHOVEL	S-7	BEML	06.12.2019	12894	„	48.3	1.24	PASS
13	DUMPER-60T	K-3	KOMAT	15.11.2021	3891	„	34.1	0.24	PASS
14	DUMPER-35T	H-21	BEML	14.02.2015	21198	„	64.5	2.43	PASS
15	DUMPER-35T	H-22	BEML	14.02.2015	23434	„	39.2	0.94	PASS
16	DUMPER-35T	H-19	BEML	02.02.2015	21895	„	57.4	0.94	PASS
17	DOZER	D-8	KOMATS	27.06.2019	13708	„	41.3	0.15	PASS
18	DOZER	D-5	BEML	26.06.2013	10596	„	59.6	0.75	PASS
19	DOZER	D-6	KOMATS	23.11.2016	18767	„	54.2	0.92	PASS
20	DOZER	D-7	KOMATS	14.10.2017	15172	27.08.2022	48.5	0.45	PASS
21	WATER SPRINKLER	WS-6	BEML	08.07.2020	5258	„	63.2	0.73	PASS
22	TYREHANDLER	TH-1	BEML	16.09.2013	2270	„	72.5	2.51	FAIL
23	MOTOR GRADER	MG-3	KOMATS	14.8.2019	7008	„	45.4	0.26	PASS
24	SHOVEL	S-3	KOMATS	26.11.2012	46613	„	57.2	0.41	PASS
25	SHOVEL	S-5	KOMATS	26.11.2012	32794	„	49.5	0.49	PASS
26	SHOVEL	S-6	L&T	11.03.2016	14624	„	38.3	0.31	PASS
27	SHOVEL	S-8	LT	09.10.2020	9621	„	32.5	1.04	PASS
28	CRANE	CR-1	TIL	02.05.2011	3234	„	35.5	0.43	PASS
29	CRANE	CR-6	ACE	27.01.2012	2556	„	29.5	0.32	PASS
30	WATER TANKER	WT-4	BEML	10.11.2018	6312	29.08.2022	68.4	2.46	FAIL
31	LOADER	L-2	CAT	1.2.2012	33279	„	44.3	0.93	PASS
32	CRANE	CR-3	TIL	19.05.2010	1469	„	37.5	0.19	PASS
33	CRANE	CR-11	ACE	10.11.2018	1469	„	42.4	0.40	PASS

34	DRILL	DR-3	ATLAS	08.06.2017	4447	„	36.5	0.54	PASS
35	MOTOR GRADER	MG 4	KOMATS	14.8.2019	6322	„	35.3	0.45	PASS
36	DRILL	DR-2	RECP	4.01.2013	10270	„	48.2	0.71	PASS
37	DUMPER-60T	SR B - 5	BEML	30.03.2019	11854	„	37.2	0.52	PASS
38	DUMPER-60T	SR B - 6	BEML	30.03.2019	11024	„	34.2	0.31	PASS
39	DUMPER-60T	SR B - 7	BEML	30.03.2019	11754	„	51.4	0.47	PASS
40	DUMPER-60T	SR B - 8	BEML	30.03.2019	11154	„	44.1	0.28	PASS
41	DUMPER-60T	SR B - 9	BEML	30.03.2019	13343	„	30.8	0.42	PASS
42	DRILL	SR-DM3	BEML	08.06.2017	4549	„	-	-	BD

Total no of vehicles	42
No of vehicles tested	41
Passed vehicles	39
Failed vehicles	02
Break down vehicls (B/D)	01

I. Physico-Chemical and Bacteriological Characteristics of Surface water (Tank / River water) (Quarterly basis) around SRP OCP-I .
 (a) Godavari river upstream & Down Stream, Thallapalli Tank and Ramaraopet Tank for Pre-monsoon, 2022.

Date of sampling: 19.05.2022

Sl.No	Parameters	Unit	Test Method	CPCB Water Quality Criteria					RESULT			
				Class A	Class B	Class C	Class D	Class E	(Tallapalli tank)	(Godavari River upstream)	(Godavari River downstream)	(Ramaraopet Tank)
	Date of sampling								19.05.2022	19.05.22	19.05.2022	19.05.2022
1	pH	-	4500-H*B	6.5-8.5	6.5-8.5	6.0 – 9.0	6.5-8.5	6.0-8.5	8.2	7.8	8.1	7.9
2	Electrical Conductivity	µmhos/cm	2510-B	-	-	-	-	2250 µmhos/cm	1224	620	602	846
3	Dissolved Oxygen (DO)	mg/L	4500-O.C	6 mg/l or more	5 mg/l or more	4 mg/l or more	4 mg/l or more	-	5.4	6.0	5.9	5.9
4	Bio chemical Oxygen Demand (3 days 27° C)	mg/L	IS: 3025	2 mg/l or less	3 mg/l or less	3 mg/l or less	-	-	3.2	2.6	2.8	2.2
5	Total Coliforms	MPN/100mL	9221 B	50 or less	500 or less	5000 or less	-	-	350	280	280	280
6	Free Ammonia (as N)	mg/L	4500-NH ₃ -F	-	-	-	1.2 mg/L or less	-	BDL	BDL	BDL	BDL
7	Boron as B	mg/L	3120-B	-	-	-	-	Less than 2 mg/L	0.18	0.11	0.32	0.13
8	SAR	-	-	-	-	-	-	Less than 26	1.80	1.45	1.99	1.59

S. No	Parameters	Unit	Test Method	(Tallapalli tank)	(Godavari River upstream)	(Godavari River downstream)	(Ramaraopet Tank)
1	Colour	Pt-co	2120. B	10	10	15	25
2	Odour	TON	2150. B	No odour observed	No odour observed	No odour observed	No odour observed
3	Temperature	°C	2550. B	25.6	25.0	25.3	25.3
4	Turbidity	NTU	2130. B	12.4	6.5	8.4	11
5	Total Dissolved Solids at 180° C	mg/L	2540.C	712	394	377	546
6	Total Suspended Solids at 105° C	mg/L	2540. D	32	18	21	27
7	Chemical Oxygen Demand	mg/L	5220. D	20	16	18	16
8	Chlorides as Cl ⁻	mg/L	4500-Cl ⁻ .B	225	86	57	130
9	Sulphates as SO ₄ ²⁻	mg/L	4500-SO ₄ ²⁻ .E	38	34	27	56
10	Fluoride as F ⁻	mg/L	4500-F ⁻ .C	1.4	0.71	0.79	1.26
11	Calcium as Ca	mg/L	3500-Ca.B	152	64	42	110
12	Magnesium as Mg	mg/L	3500-Mg.B	92	30	28	68
13	Sodium as Na	mg/L	3500-Na.B	114	56	68	86
14	Potassium as K	mg/L	3500-K.B	7.2	2.1	2.5	5.2
15	Nitrites as NO ₂ ⁻	mg/L	4500-NO ₂ ⁻ .B	BDL	BDL	BDL	BDL
16	Nitrates as NO ₃ ⁻	mg/L	4500-NO ₃ ⁻ .B	3.6	2.6	5.5	7
17	Total Phosphates	mg/L	4500-P-D	BDL	BDL	BDL	BDL
18	Ammonical Nitrogen as NH ₃ -N	mg/L	4500-NH ₃ -C	BDL	BDL	BDL	BDL
19	Oil & Grease	mg/L	5520. B	<1	<1	<1	<1
20	Carbonates as CO ₃	mg/L	2320. B	Nil	Nil	Nil	Nil
21	Bi-carbonates as HCO ₃	mg/L	2320. B	120	190	195	115
22	Fecal Coliforms	MPN/100mL	9221 E	170	94	70	130
23	Zinc as Zn	mg/L	3120. B	0.33	0.16	0.25	0.25
24	Iron as Fe	mg/L	3120. B	0.67	0.52	0.32	0.87
25	Arsenic as As	mg/L	3120. B	BDL	BDL	BDL	BDL
26	Lead as Pb	mg/L	3120. B	BDL	BDL	BDL	BDL
27	Cadmium as Cd	mg/L	3120. B	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	Test Method	(Tallapalli tank)	(Godavari River upstream)	(Godavari River downstream)	(Ramaraopet Tank)
28	Total Chromium as Cr	mg/L	3120. B	BDL	BDL	BDL	BDL
29	Nickel as Ni	mg/L	3120. B	BDL	BDL	BDL	BDL
30	Copper as Cu	mg/L	3120-B	BDL	BDL	BDL	BDL
31	Selenium as Se	mg/L	3120-B	BDL	BDL	BDL	BDL

NTU – Nephelometric Turbidity Unit; **TON** – Threshold Odour Number; **BDL** – Below Detection Limit, **Detection Limit** – **BOD** – 3 mg/L; Ammonical Nitrogen – 5 mg/L;

I. (b) Godavari river upstream & Down Stream, Thallapalli Tank and Ramaraopet Tank for Monsoon Season , 2022

Date of Sampling : 09.08.2022

Sl.No	Parameters	Unit	Test Method	CPCB Water Quality Criteria					RESULT			
				Class A	Class B	Class C	Class D	Class E	(Tallapalli tank)	(Godavari River upstream)	(Godavari River downstream)	(Ramaraopet Tank)
1	pH	-	4500-H*B	6.5-8.5	6.5-8.5	6.0 – 9.0	6.5-8.5	6.0-8.5	7.7	7.8	7.9	7.9
2	Electrical Conductivity	µmhos/cm	2510-B	-	-	-	-	2250 µmhos/cm	1089	600	460	920
3	Dissolved Oxygen (DO)	mg/L	4500-O.C	6 mg/l or more	5 mg/l or more	4 mg/l or more	4 mg/l or more	-	6.0	6.3	6.1	6.5
4	Bio chemical Oxygen Demand (3 days 27° C)	mg/L	IS: 3025	2 mg/l or less	3 mg/l or less	3 mg/l or less	-	-	3.6	3.0	2.5	2.8
5	Total Coliforms	MPN/100mL	9221 B	50 or less	500 or less	5000 or less	-	-	350	220	170	170
6	Free Ammonia (as N)	mg/L	4500-NH ₃ -F	-	-	-	1.2 mg/L or less	-	BDL	BDL	BDL	BDL
7	Boron as B	mg/L	3120-B	-	-	-	-	Less than 2 mg/L	0.12	0.3	0.25	0.25
8	SAR	-	-	-	-	-	-	Less than 26	1.88	1.15	1.21	1.76

S. No	Parameters	Unit	Test Method	(Tallapalli tank)	(Godavari River upstream)	(Godavari River downstream)	(Ramaraopet Tank)
1	Colour	Pt-co	2120. B	10	10	5	10
2	Odour	TON	2150. B	No odour observed	No odour observed	No odour observed	No odour observed
3	Temperature	°C	2550. B	25.4	25.1	25.6	25.2
4	Total Dissolved Solids at 180° C	mg/L	2540.C	641	350	280	540
5	Total Suspended Solids at 105° C	mg/L	2540. D	23	29	36	35
6	Chemical Oxygen Demand	mg/L	5220. D	28	20	14	18
7	Chlorides as Cl ⁻	mg/L	4500-Cl ⁻ .B	95	35	37	89
8	Sulphates as SO ₄ ²⁻	mg/L	4500-SO ₄ ²⁻ .E	77	50	26	71
9	Fluoride as F ⁻	mg/L	4500-F ⁻ .C	0.64	0.27	0.34	0.63
10	Calcium as Ca	mg/L	3500-Ca.B	76	26	30	74
11	Magnesium as Mg	mg/L	3500-Mg.B	55	22	20	53
12	Sodium as Na	mg/L	3500-Na.B	88	33	35	81
13	Potassium as K	mg/L	3500-K.B	5.9	1.2	1.5	4.5
14	Nitrites as NO ₂ ⁻	mg/L	4500-NO ₂ ⁻ .B	BDL	BDL	BDL	BDL
15	Nitrates as NO ₃ ⁻	mg/L	4500-NO ₃ ⁻ .B	5	5	4.8	4.9
16	Total Phosphates	mg/L	4500-P-D	BDL	BDL	BDL	BDL
17	Ammonical Nitrogen as NH ₃ -N	mg/L	4500-NH ₃ -C	BDL	BDL	BDL	BDL
18	Oil & Grease	mg/L	5520. B	<1	<1	<1	<1
19	Carbonates as CO ₃	mg/L	2320. B	Nil	Nil	Nil	Nil
20	Bi-carbonates as HCO ₃	mg/L	2320. B	250	225	125	225
21	Fecal Coliforms	MPN/100mL	9221 E	33	23	17	11
22	Zinc as Zn	mg/L	3120. B	0.32	0.21	0.19	0.17
23	Iron as Fe	mg/L	3120. B	0.43	0.55	0.29	0.45
24	Arsenic as As	mg/L	3120. B	BDL	BDL	BDL	BDL
25	Lead as Pb	mg/L	3120. B	BDL	BDL	BDL	BDL
26	Cadmium as Cd	mg/L	3120. B	BDL	BDL	BDL	BDL
27	Total Chromium as Cr	mg/L	3120. B	BDL	BDL	BDL	BDL

S. No	Parameters	Unit	Test Method	(Tallapalli tank)	(Godavari River upstream)	(Godavari River downstream)	(Ramaraopet Tank)
28	Nickel as Ni	mg/L	3120. B	BDL	BDL	BDL	BDL
29	Copper as Cu	mg/L	3120-B	BDL	BDL	BDL	BDL
30	Selenium as Se	mg/L	3120-B	BDL	BDL	BDL	BDL

NTU – Nephelometric Turbidity Unit; TON – Threshold Odour Number; BDL – Below Detection Limit, Detection Limit – BOD – 3 mg/L; Ammonical Nitrogen – 5 mg/L;

II. Physico-Chemical and Bacteriological Characteristics of Ground water (Bore well/ Dug Well water) (Quarterly basis) around SRP OCP-I.
 (a). for Pre-Monsoon, 2022: Date of sampling : 19.05.2022

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT			
						(Ramaraopet)	(Sitharampalli)	(Srirampur)	(Indaram)
	Date of sampling					19.05.2022	19.05.2022	19.05.2022	19.05.2022
1.	Colour	Pt-co-	2120. B	5	15	<5	<5	<5	<5
2.	Odour	TON	2150. B	Agreeable	Agreeable	Agree.	Agree.	Agree.	Agree.
3.	pH	-	4500-H+B	6.5 to 8.5	No relaxation	7.7	8.1	8.3	7.9
4.	Taste	FTN	2160. B	Agreeable	Agreeable	Agree.	Agree.	Agree.	Agree.
5.	Turbidity	NTU	2130. B	1	5	1.41	1.16	0.98	1.32
6.	Total Dissolved Solids at 180° C	mg/L	2540.C	500	2000	824	810	781	1032

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT			
						(Ramaraopet)	(Sitharampalli)	(Srirampur)	(Indaram)
1	Calcium as Ca	mg/L	3500-Ca.B	75	200	62	66	60	108
2	Magnesium as Mg	mg/L	3500-Mg.B	30	100	50	52	41	46
3	Chlorides as Cl ⁻	mg/L	4500-Cl ⁻ .B	250	1000	192	127	152	395
4	Sulphates as SO ₄ ²⁻	mg/L	4500-SO ₄ ²⁻ .E	200	400	148	92	65	127
5	Fluoride as F ⁻	mg/L	4500-F ⁻ .C	1.0	1.5	0.84	1.23	1	1.21
6	Nitrates as NO ₃	mg/L	4500-NO ₃ ⁻ .B	45	No relaxation	2.6	55	52	70
7	Residual free chlorine	mg/L	4500-Cl ⁻ .B	0.2	1.0	BDL	BDL	BDL	BDL
8	Phenolic compounds as C ₆ H ₅ OH	mg/L	5530-D	0.001	0.002	BDL	BDL	BDL	BDL
9	Total Alkalinity as CaCO ₃	mg/L	2320. B	200	600	405	435	375	440
10	Total Hardness as CaCO ₃	mg/L	2340. C	200	600	360	380	320	460
11	Aluminium as Al	mg/L	3120-B	0.03	0.2	0.09	0.04	0.07	BDL
12	Barium as Ba	mg/L	3120. B	0.7	No relaxation	0.32	0.21	0.36	0.14
13	Boron as B	mg/L	3120-B	0.5	2.4	0.3	0.11	0.15	0.2
14	Iron as Fe	mg/L	3120-B	1.0	No relaxation	0.86	0.49	0.63	0.45
15	Zinc as Zn	mg/L	3120-B	5	15	0.32	0.17	0.25	0.11
16	Copper as Cu	mg/L	3120-B	0.05	1.5	BDL	BDL	BDL	BDL
18	Manganese as Mn	mg/L	3120-B	0.1	0.3	BDL	BDL	BDL	BDL
19	Selenium as Se	mg/L	3120-B	0.01	No relaxation	BDL	BDL	BDL	BDL
20	Silver as Ag	mg/L	3120. B	0.1	No relaxation	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT			
						(Ramaraopet)	(Sitharampalli)	(Srirampur)	(Indaram)
1	Cadmium as Cd	mg/L	3120-B	0.003	No relaxation	BDL	BDL	BDL	BDL
2	Cyanide as CN-	mg/L	4500-CN.F	0.05	No relaxation	BDL	BDL	BDL	BDL
3	Lead as Pb	mg/L	3120-B	0.01	No relaxation	BDL	BDL	BDL	BDL
4	Molybdenum as Mo	mg/L	3120. B	0.07	No relaxation	BDL	BDL	BDL	BDL
5	Nickel as Ni	mg/L	3120-B	0.02	No relaxation	BDL	BDL	BDL	BDL
6	Total Arsenic as As	mg/L	3120-B	0.01	No relaxation	BDL	BDL	BDL	BDL
7	Total Chromium as Cr	mg/L	3120-B	0.05	No relaxation	BDL	BDL	BDL	BDL
8	Pesticides: α-BHC, β-BHC, γ-BHC, δ-BHC, o,p-DDT, p,p' -DDT, Endosulfan, β- Endosulfan, Aldrin, Dieldrin	µg/L	6630. D	Absent	0.001	ND	ND	ND	ND
	2,4-D, Carbaryl (Carbonate) Malathion Methyl Parathion Anilophos, Chloropyriphos	Qualitative Analysis	6630. D	Absent	0.001	ND	ND	ND	ND
9	Polyaromatic Hydrocarbons (PAH's): Acenaphthene, Acenaphthylene, Anthracene, B(a)A, B(a)P, B(b)F, B(k)F, Pyrene, Dibenz (a,h) anthracene, Fluoranthene, Fluorene, Indeno (1,2,3-(d) Pyrene, Naphthalene, Phenanthrene, Pyrene, Methyl Naphthalene	µg/L	6440.C	-	-	ND	ND	ND	ND

Bacteriological Quality of Drinking water

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT			
						(Ramaraopet)	(Sitharampalli)	(Srirampur)	(Indaram)
1	Total Coliforms	MPN/100 mL	9221 B	-	-	<1.8	<1.8	<1.8	<1.8
2	Fecal Coliforms	MPN/100 mL	9221 E	-	-	<1.8	<1.8	<1.8	<1.8

(b) for Monsoon season, 2022.

Date of sampling : 09.08.2022

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT			
						(Ramaraopet)	(Sitharampalli)	(Srirampur)	(Indaram)
1.	Colour	Pt-co-	2120. B	5	15	5	<5	<5	5
2.	Odour	TON	2150. B	Agreeable	Agreeable	Agree.	Agree.	Agree.	Agree.
3.	pH	-	4500-H ⁺ B	6.5 to 8.5	No relaxation	8.3	7.8	7.8	7.8
4.	Taste	FTN	2160. B	Agreeable	Agreeable	Agree.	Agree.	Agree.	Agree.
5.	Turbidity	NTU	2130. B	1	5	0.63	0.48	0.39	0.58
6.	Total Dissolved Solids at 180° C	mg/L	2540.C	500	2000	890	714	640	1386

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT			
						(Ramaraopet)	(Sitharampalli)	(Srirampur)	(Indaram)
1	Calcium as Ca	mg/L	3500-Ca.B	75	200	94	70	44	128
2	Magnesium as Mg	mg/L	3500-Mg.B	30	100	68	52	34	107
3	Chlorides as Cl ⁻	mg/L	4500-Cl ⁻ .B	250	1000	195	87	104	448
4	Sulphates as SO ₄ ²⁻	mg/L	4500-SO ₄ ²⁻ .E	200	400	64	58	45	52
5	Fluoride as F ⁻	mg/L	4500-F ⁻ .C	1.0	1.5	0.72	0.56	0.63	1.14
6	Nitrates as NO ₃	mg/L	4500-NO ₃ ⁻ .B	45	No relaxation	54	49	48	52
7	Residual free chlorine	mg/L	4500-Cl ⁻ .B	0.2	1.0	BDL	BDL	BDL	BDL
8	Phenolic compounds as C ₆ H ₅ OH	mg/L	5530-D	0.001	0.002	BDL	BDL	BDL	BDL
9	Total Alkalinity as CaCO ₃	mg/L	2320. B	200	600	375	475	378	550
10	Total Hardness as CaCO ₃	mg/L	2340. C	200	600	515	390	250	760
11	Aluminium as Al	mg/L	3120-B	0.03	0.2	BDL	0.04	0.07	0.05
12	Barium as Ba	mg/L	3120. B	0.7	No relaxation	0.19	0.23	0.27	0.19
13	Boron as B	mg/L	3120-B	0.5	2.4	0.24	0.16	0.21	0.11
14	Iron as Fe	mg/L	3120-B	1.0	No relaxation	0.58	0.29	0.32	0.49
15	Zinc as Zn	mg/L	3120-B	5	15	0.21	0.09	0.12	0.32
16	Copper as Cu	mg/L	3120-B	0.05	1.5	BDL	BDL	BDL	BDL
18	Manganese as Mn	mg/L	3120-B	0.1	0.3	BDL	BDL	BDL	BDL
19	Selenium as Se	mg/L	3120-B	0.01	No relaxation	BDL	BDL	BDL	BDL
20	Silver as Ag	mg/L	3120. B	0.1	No relaxation	BDL	BDL	BDL	BDL

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT			
						(Ramaraopet)	(Sitharampalli)	(Srirampur)	(Indaram)
1	Cadmium as Cd	mg/L	3120-B	0.003	No relaxation	BDL	BDL	BDL	BDL
2	Cyanide as CN-	mg/L	4500-CN.F	0.05	No relaxation	BDL	BDL	BDL	BDL
3	Lead as Pb	mg/L	3120-B	0.01	No relaxation	BDL	BDL	BDL	BDL
4	Molybdenum as Mo	mg/L	3120. B	0.07	No relaxation	BDL	BDL	BDL	BDL
5	Nickel as Ni	mg/L	3120-B	0.02	No relaxation	BDL	BDL	BDL	BDL
6	Total Arsenic as As	mg/L	3120-B	0.01	0.05	BDL	BDL	BDL	BDL
7	Total Chromium as Cr	mg/L	3120-B	0.05	No relaxation	BDL	BDL	BDL	BDL
8	Mercury as Hg	µg/L	3500-Hg.B	0.001	No relaxation	BDL	BDL	BDL	BDL
9	Pesticides: α-BHC, β-BHC, γ-BHC, δ-BHC, o,p-DDT, p,p' -DDT, Endosulfan, β- Endosulfan, Aldrin, Dieldrin	µg/L	6630. D	Absent	0.001	ND	ND	ND	ND
	2,4-D, Carbaryl (Carbonate) Malathion Methyl Parathion Anilophos, Chloropyriphos	Qualitative Analysis	6630. D	Absent	0.001	ND	ND	ND	ND
10	Polyaromatic Hydrocarbons (PAH's): Acenaphthene, Acenaphthylene, Anthracene, B(a)A, B(a)P, B(b)F, B(k)F, Pyrene, Dibenz (a,h) anthracene,	µg/L	6440.C	-	-	ND	ND	ND	ND

Fluoranthene, Fluorene, Indeno (1,2,3-d) Pyrene, Naphthalene, Phenanthrene, Pyrene, Methyl Naphthalene									
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Bacteriological Quality of Drinking water

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT			
						(Ramaraopet)	(Sitharampalli)	(Srirampur)	(Indaram)
1	Total Coliforms	MPN/100 mL	9221 B	-	-	<1.8	<1.8	<1.8	<1.8
2	Fecal Coliforms	MPN/100 mL	9221 E	-	-	<1.8	<1.8	<1.8	<1.8

III. POST PROJECT WATER QUALITY (EFFLUENTS) MONITORING DATA FOR THE PERIOD FROM APRIL, 2022 TO SEPTEMBER, 2022 FOR SRP OCP - I .

❖ Location of the water

Quality monitoring Station: SRP OC Mine discharge

Sl. No.	Station name	Date of sampling	Concentration in mg/Liter (Except pH)					
			pH (at 25 ^o C)	TSS At 105 ^o C	TDS (At 180 ^o C)	COD	BOD	Oil & Grease
1.	SRP OCP Mine discharge	13.04.2022	7.2	21	1078	34	7.1	1.4
		29.04.2022	7.1	18	894	20	3.6	1.6
		12.05.2022	7.3	23	1016	27	4.1	1.4
		31.05.2022	7.5	28	1128	12	2	<1
		15.06.2022	7.4	32	961	19	3.2	1
		28.06.2022	7.3	20	1123	12	2	<1
		15.07.2022	7.6	29	1312	27	4.3	1.2
		30.07.2022	7.9	34	1170	20	4.6	1
		06.08.2022	7.8	25	1039	15	1.9	<1
		30.08.2022	7.8	28	1251	12	1.6	<1
		15.09.2022	7.7	32	1137	11	1.7	<1
		30.09.2022	7.5	25	1013	19	2.3	1.2
	Minimum		7.10	18.00	894.00	11.00	1.60	1.00
	Maximum		7.90	34.00	1312.00	34.00	7.10	1.60
	Average		7.51	26.25	1093.50	19.00	3.20	1.26
	98% tile		7.88	33.56	1298.58	32.46	6.55	1.58
	MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines		5.5-9.0	100	--	250	30	10
	Test Method		4500H+B	2540-D	2540-C	5220-D	IS 3025	2540-C

❖ Location of the water

Quality monitoring Station: SRP OC Base workshop ETP Out let

Sl. No.	Station name	Date of sampling	Concentration in mg/Liter (Except pH)					
			pH (at 25 ^o C)	TSS At 105 ^o C	TDS (At 180 ^o C)	COD	BOD	Oil & Grease
2.	SRP OCP-Base workshop ETP outlet.	13.04.2022	7	66	1585	116	21.1	3.8
		29.04.2022	7.3	52	1837	150	18	5.2
		12.05.2022	7	44	1718	182	15.2	5.6
		31.05.2022	7.2	61	1944	125	23.6	4.8
		15.06.2022	6.8	68	1698	98	21	4
		28.06.2022	7.1	42	1461	66	19.1	3.4
		15.07.2022	7.3	36	1274	35	9.8	2.2
		30.07.2022	7.5	58	1042	47	11.6	2.6
		06.08.2022	7.2	32	1185	39	8.8	2
		30.08.2022	7.3	40	1308	51	13.1	2.4
		15.09.2022	7.5	56	1206	27	6.3	1.8
		30.09.2022	7.8	38	1392	23	4.3	1.4
	Minimum		7.300	42.000	1088.000	42.000	10.800	2.200
	Maximum		8.100	84.000	2012.000	93.000	18.600	3.400
	Average		7.717	61.583	1446.583	58.583	13.167	2.783
	98% tile		8.078	83.780	1955.680	91.020	18.028	3.400
	MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines		5.5-9.0	100	--	250	30	10
	Test Method		4500H+B	2540-D	2540-C	5220-D	IS 3025	2540-C

❖ Location of the water

Quality monitoring Station: SRP OCP Dump surface Run-off settling tank out let

Sl. No.	Station name	Date of sampling	Concentration in mg/Liter (Except pH)					Oil & Grease
			pH (at 25° C)	TSS At 105° C	TDS (At 180° C)	COD	BOD	
3.	SRP OCP-Dump surface run-off settling tank out let.	13.04.2022	7.7	22	1334	23	5.2	1.2
		29.04.2022	7.7	27	1451	16	2.3	<1
		12.05.2022	7.9	31	1603	16	2.5	<1
		31.05.2022	7.8	24	1761	31	5.1	1.4
		15.06.2022	7.6	47	1876	19	4.4	1
		28.06.2022	7.4	31	1657	15	2	<1
		15.07.2022	7.8	54	1532	24	5.1	1.4
		30.07.2022	8.1	72	1401	32	7.6	1.2
		06.08.2022	7.7	48	1603	15	1.9	<1
		30.08.2022	8	61	1755	35	8.1	1.2
		15.09.2022	8.2	84	1887	19	2.5	1.2
	30.09.2022	7.9	47	1696	15	2	<1	
	Minimum	7.40	22.00	1334.00	15.00	1.90	1.00	
	Maximum	8.20	84.00	1887.00	35.00	8.10	1.40	
	Average	7.82	45.67	1629.67	21.67	4.06	1.23	
	98% tile	8.18	81.36	1884.58	34.34	7.99	1.40	
MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines			5.5-9.0	100	--	250	30	10
Test Method			4500H+B	2540-D	2540-C	5220-D	IS 3025	2540-C

❖ Location of the water

Quality monitoring Station

: Naspur Colony sewage (STP out let).

Sl. No.	Station name	Date of sampling	Concentration in mg/Liter (Except pH)					Oil & Grease
			pH (at 25° C)	TSS At 105° C	TDS (At 180° C)	COD	BOD	
2	Naspur colony sewage (STP Out let).	13.04.2022	7.3	20	528	31	13.1	1.2
		29.04.2022	7.2	23	632	20	8	1.4
		12.05.2022	7.5	15	486	16	5.3	1
		31.05.2022	7.1	17	714	35	14.8	1.6
		15.06.2022	7.4	26	563	23	8	1.2
		28.06.2022	7.8	17	670	27	9.6	1
		15.07.2022	7.5	21	557	20	5.5	1.2
		30.07.2022	7.7	24	763	35	13.6	1.6
		06.08.2022	7.3	30	625	23	9.8	1
		30.08.2022	7.7	27	494	31	12.1	1.2
		15.09.2022	7.8	22	681	50	18.3	1.6
	30.09.2022	7.4	18	829	27	9.7	1.4	
	Minimum	7.10	15.00	486.00	16.00	5.30	1.00	
	Maximum	7.80	30.00	829.00	50.00	18.30	1.60	
	Average	7.48	21.67	628.50	28.17	10.65	1.28	
	98% tile	7.80	29.34	814.48	46.70	17.53	1.60	
MoEF GSR 742(E) and GSR 801(E) Effluent standards for coal mines			5.5-9.0	100	--	250	30	10
Test Method			4500H+B	2540-D	2540-C	5220-D	IS 3025	2540-C

Analysis Report of monthly summary of 3.0MLD Sewage treatment Plant – Naspur Colony from April, 2022 to September, 2022.

All Values in Mg/Liter (Except pH)

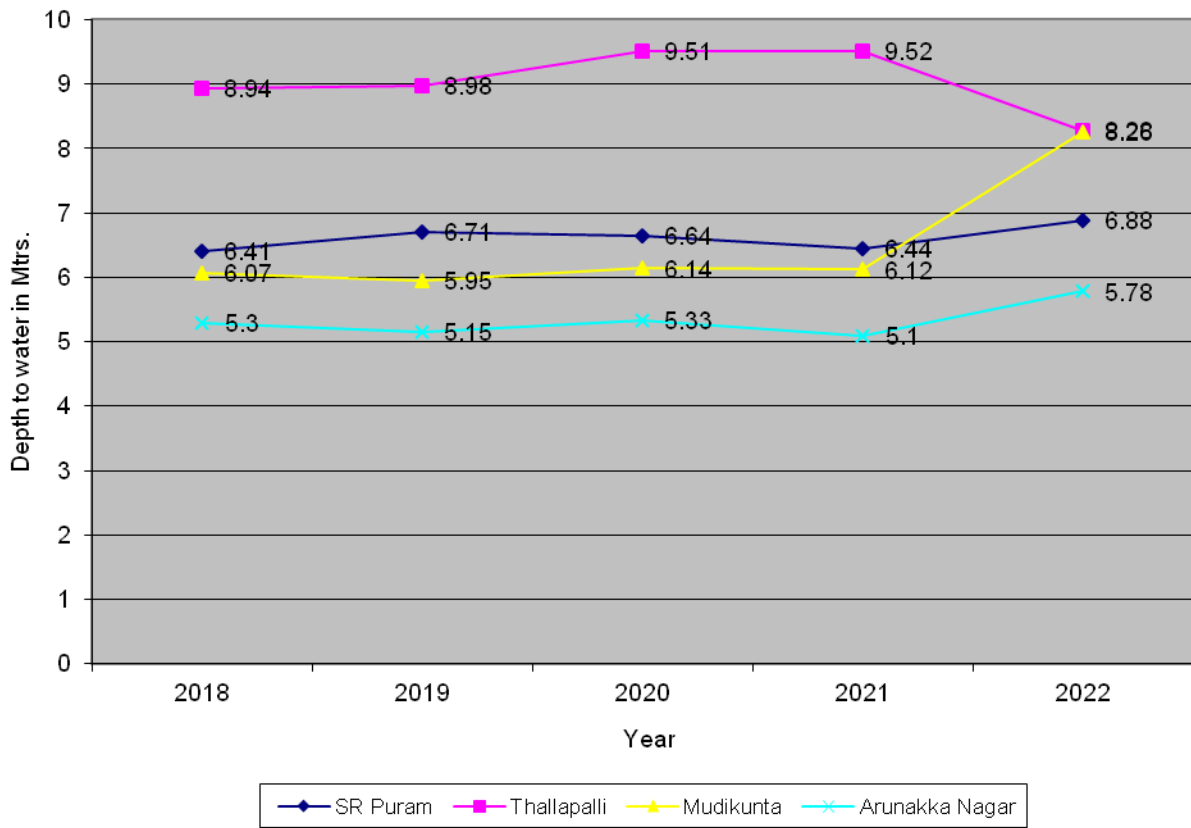
Month	Description	Characteristics of Raw Sewage				Characteristics of Aeration Water					Characteristics of Treated Water				
		pH	TSS	COD	BOD	pH	DO	MLSS	MLVSS	TDS	pH	DO	TSS	COD	BOD
Apr,22	Min	7.8	210	210	210	7.3	1.7	3260	2450	460	6.8	1.2	12	28	11
	Max	7.9	225	225	225	7.5	1.9	3490	2510	480	7.2	1.5	15	32	14
	Aver	7.84	217.66	216	217.5	7.403	1.83	3413.8	2477.1	473.33	7.01	1.3533	13.4	29.6	12.5
May,22	Min	7.8	205	205	205	7	1.8	3275	2585	385	6.8	1.2	12	28	11
	Max	7.9	220	220	220	7.6	1.9	3390	2615	495	7.3	1.5	14	32	13
	Aver	7.85	214.5	213.75	209.1	7.44	1.85	3301.7	2600.6	469.6	7.05	1.33	13.13	30.00	12.1
June,22	Min	7.8	210	205	210	7.3	1.8	3295	2380	410	6.8	1.2	12	28	12
	Max	7.9	220	225	220	7.6	1.9	3365	2560	480	7.2	1.5	16	32	14
	Aver	7.85	213.67	213.67	213.33	7.44	1.84	3332.1	2483.1	455	7	1.32	13.533	29.733	12.83
July,22	Min	7.8	205	205	205	7.2	1.8	3280	2315	415	6.8	1.2	12	28	11
	Max	7.9	230	230	215	7.6	1.9	3385	2380	485	7.5	1.5	17	34	14
	Aver	7.839	216.25	215.333	210.83	7.413	1.84	3345.16	2352.14	467.33	7.09	1.339	13.25	30.133	12.33
Aug,22	Min	7.8	205	205	205	7.3	1.7	3345	2215	470	6.8	1.2	11	28	10
	Max	7.9	215	220	215	7.6	1.9	3390	2410	495	7.4	1.5	14	32	13
	Aver	7.85	209.33	212.19	210	7.45	1.83	3370.6	2336.9	482.2	7.2	1.3	12.7	29.9	11.9
Sep,22	Min	7.5	210	210	210	7.3	1.7	3325	475	1980	6.8	1.2	11	10	28
	Max	7.9	225	225	230	7.6	1.9	3435	495	2035	7.4	1.4	13	14	32
	Aver	7.8	217	214.67	220	7.44	1.84	3417.5	485.67	2016.2	7.11	1.30	12.33	12	30
	standard	-	-	-	-	-	-	-	-	--	5.5-9.0	--	100	30	250

A. ATTITUDE OF PHREATIC SURFACE IN SRIRAMPUR AREA

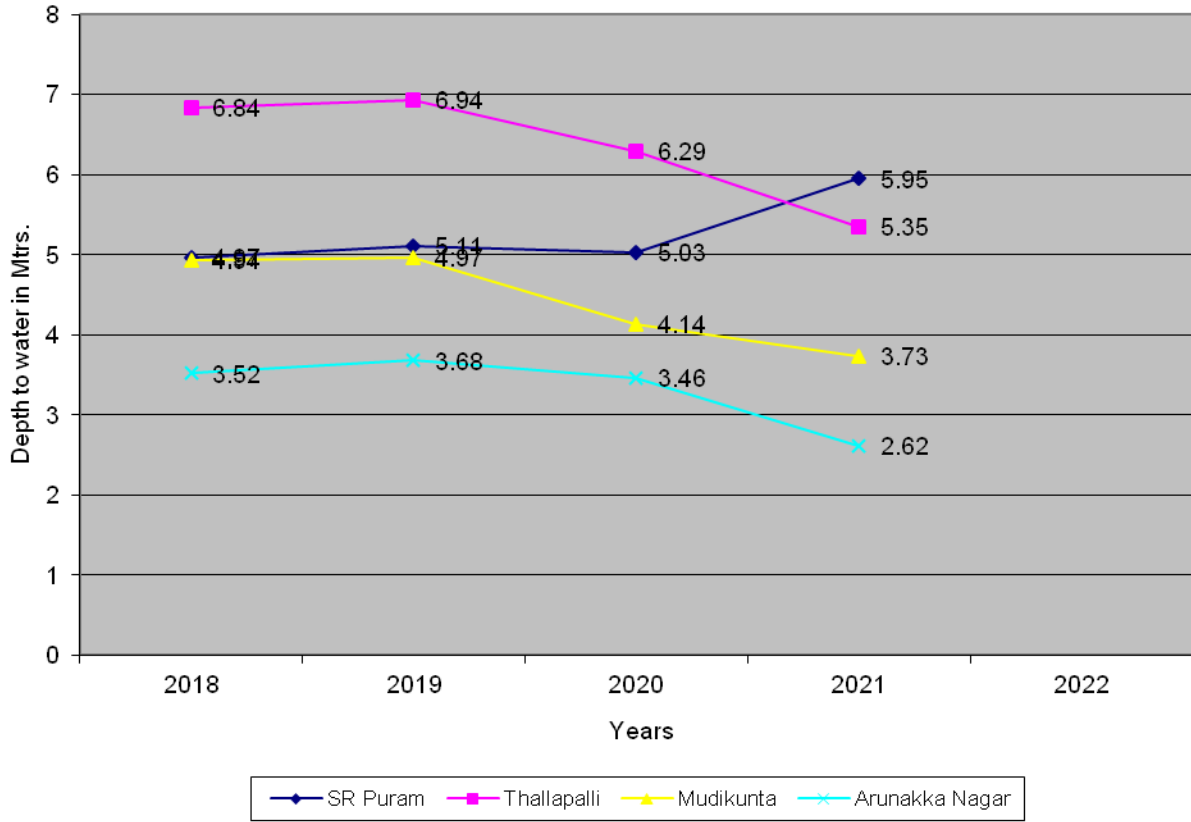
Sl. No	Name of village	Owner's Name	Type of Well	Dimensions (M)	Total Depth (M)	Geology	Measuring point(MA GL)	Period	Depth to Water (M)				
									2018	2019	2020	2021	2022
1	Arunakkana gar near GM office	N.Lingaiiah	Domestic	1.00	9.40	Barren Measur es Fm	0.30	Winter	4.99	5.09	5.01	4.31	3.70
								Pre-Monsoon	5.30	5.15	5.33	5.10	5.78
								Monsoon	3.14	2.89	2.54	1.52	1.50
								Post- Monsoon	3.52	3.68	3.46	2.62	
2	RK-6 Colony	Q.No.SA-13	Domestic	1.20	10.00	Barkar Fm	0.30	Winter	2.04	2.13	2.07	2.44	1.62
								Pre-Monsoon	2.45	2.51	2.48	2.63	4.06
								Monsoon	1.34	1.14	1.19	0.84	0.74
								Post- Monsoon	1.96	1.94	1.90	1.56	
3	RK-6 Colony/Kur mawada	Karre Posham	Domestic	1.00	6.50	Barkar Fm	GL	Winter	2.47	2.53	3.05	2.93	2.83
								Pre-Monsoon	3.14	3.07	3.11	3.17	3.85
								Monsoon	2.84	2.88	1.93	1.20	1.32
								Post- Monsoon	3.18	3.01	2.71	2.10	
4	RK-6 Colony/Kur mawada	Eshwaraiah	Domestic	1.00	6.50	Barkar Fm	GL	Winter	2.37	2.51	2.44	4.50	1.96
								Pre-Monsoon	2.48	2.67	2.61	4.66	3.68
								Monsoon	2.03	2.09	1.96	1.44	WD
								Post- Monsoon	2.73	2.41	2.66	1.49	
5	S.R.Puram Naspur X Road	Aasami Rajamalla mma/ Ippalapalli Kanakaiah	Domestic	1.2	13.50	Talchir	0.6	Winter	6.32	6.47	6.35	6.37	6.03
								Pre-Monsoon	6.41	6.71	6.64	6.44	6.88
								Monsoon	4.38	4.29	4.84	4.45	4.21
								Post- Monsoon	4.97	5.11	5.03	5.95	
6	Sitharampalli / on the way to intake well	Surimilla Lachanna	Domestic	2.5x3.5	6.90	Sullavai	0.60	Winter	7.34	7.43	7.38	7.14	2.98
								Pre-Monsoon	8.10	7.51	7.79	7.31	7.27
								Monsoon	6.11	6.18	4.34	1.75	1.63
								Post- Monsoon	7.08	7.21	4.58	2.48	
7	Sitharampalli/on the way to Thallapalli	M.Gopaiah	Domestic	1.20	11.50	Sullavai	GL	Winter	12.77	12.84	12.64	12.00	10.29
								Pre-Monsoon	12.81	12.98	13.04	12.63	12.28
								Monsoon	10.14	10.16	6.81	5.70	4.54
								Post- Monsoon	11.07	11.15	10.82	6.95	
8	Tallapalli/On the way to Intake well	Rukum. Ramaiah	Domestic	2.40	9.10	Sullavai	0.70	Winter	2.42	2.49	2.19	2.37	1.91
								Pre-Monsoon	2.66	2.70	2.67	2.73	2.93
								Monsoon	1.18	1.13	2.08	1.35	1.18
								Post- Monsoon	1.29	1.31	2.14	1.85	
9	Tallapalli/end of the village towards OC	B.Rajaiah	Domestic	1.20	10.50	Sullavai	1.10	Winter	7.83	7.89	7.56	7.22	5.85
								Pre-Monsoon	8.94	8.98	9.51	9.52	8.28
								Monsoon	6.73	3.1	3.15	4.55	3.74
								Post- Monsoon	6.84	6.94	6.29	5.35	
10	Singapuram /opp.panchayat office	Nammala Srinivasu	Domestic	2.40	7.40	Sullavai FM	0.30	Winter	3.85	3.94	4.07	5.16	3.33
								Pre-Monsoon	3.97	4.61	5.51	5.33	5.48
								Monsoon	2.18	2.13	2.71	1.70	1.30
								Post- Monsoon	2.31	2.44	2.83	2.35	
11	Singapuram /near teak plantation	Aggu Sailu	Agriculture	4.00	10.50	Sullavai	GL	Winter	AB	AB	AB	AB	--
								Pre-Monsoon	AB	AB	AB	AB	--
								Monsoon	AB	AB	AB	AB	
								Post- Monsoon	AB	AB	AB	AB	
12	Ramaraopet /Near bridge	Gunta. Chandraiah	Domestic	1.30	5.20	Talchir FM	0.60	Winter	6.24	6.31	5.29	6.24	5.08
								Pre-Monsoon	Dry	5.38	5.72	6.28	6.92
								Monsoon	2.83	2.71	2.97	2.52	1.02
								Post- Monsoon	5.74	5.24	5.11	AB	
13	Guttedarpalli/Near RWS tank	R.Venkati	Domestic	2.50	8.50	Barkar Fm	0.50	Winter	Dry	Dry	Dry	AB	--
								Pre-Monsoon	Dry	Dry	Dry	AB	--
								Monsoon	Dry	Dry	Dry	AB	--
								Post- Monsoon	Dry	Dry	AB	AB	

Sl. No	Name of village	Owner's Name	Type of Well	Dimensions (M)	Total Depth (M)	Geology	Measuring point(M AGL)	Period	Depth to Water (M)				
									2018	2019	2020	2021	2022
14	Indaram	A.Rajamalu/opp.BP bunk	Domestic	3x4	11.50	Barren Measur es Fm	0.40	Winter	6.14	6.17	6.13	6.14	--
								Pre-Monsoon	7.45	6.89	7.37	7.35	7.54
								Monsoon	3.10	3.51	3.85	3.65	3.28
								Post- Monsoon	3.68	3.96	3.94	--	
15	Indram/ opp. Garden	M.Sankar/ Podusani Bhaskar reddy	Domestic	1.00	13.00	Barren Measur es Fm	0.90	Winter	AB	AB	AB	AB	--
								Pre-Monsoon	AB	AB	AB	AB	--
								Monsoon	AB	AB	AB	AB	--
								Post- Monsoon	AB	AB	AB	--	
16	Indaram/IK-1&1A X-roads	Rajanna	Agricultur e	6.50	8.50	Barren Measur es Fm	0.70	Winter	AB	AB	AB	AB	--
								Pre-Monsoon	AB	AB	AB	AB	--
								Monsoon	AB	AB	AB	AB	--
								Post- Monsoon	AB	AB	AB	--	
17	Tekumatla	Rice mill/ Kamalakar	Domestic	1.60	10.50	Barren Measur es Fm	0.60	Winter	9.70	9.70	9.67	9.84	--
								Pre-Monsoon	Dry	Dry	Dry	10.53	--
								Monsoon	9.35	9.21	8.22	9.00	7.81
								Post- Monsoon	10.00	9.63	9.75	--	
18	Tekumatla /behind Panchayat office	V.Ramireddy	Domestic	1.00	11.00	Barren Measur es Fm	GL	Winter	2.09	2.13	3.66	2.55	3.74
								Pre-Monsoon	2.28	5.32	5.71	5.28	5.32
								Monsoon	1.80	1.66	2.34	2.10	1.88
								Post- Monsoon	2.38	3.64	2.41	--	
19	Indaram	Govt. Well	Domestic	2.00	9.00	Barren Measur es Fm	0.50	Winter	6.72	6.79	6.68	6.34	4.76
								Pre-Monsoon	6.91	Dry	7.13	6.89	7.56
								Monsoon	4.31	Dry	3.82	3.92	3.51
								Post- Monsoon	5.18	5.44	4.95	--	
20	Indaram/side of HP Petrol bunk	M. Uppalaiah	Domestic	1.20	7.00	Barren Measur es Fm	0.60	Winter	6.18	6.24	6.18	6.08	6.24
								Pre-Monsoon	6.54	6.61	6.74	6.57	6.84
								Monsoon	4.18	4.74	4.31	2.05	1.91
								Post- Monsoon	4.78	4.81	4.67	--	
21	Rasulpalli	Madhukar	Domestic	1.00	8.00	Barren Measur es Fm	0.70	Winter	3.62	3.71	3.62	3.46	2.90
								Pre-Monsoon	3.84	5.14	5.54	5.22	4.37
								Monsoon	1.89	1.96	2.18	1.56	1.41
								Post- Monsoon	2.12	3.22	2.89	--	
22	Mudikunta	G.Rajaiah	Domestic	1.00	11.40	Barren Measur es Fm	0.40	Winter	5.84	5.90	5.89	4.93	5.00
								Pre-Monsoon	6.07	5.95	6.14	6.12	8.26
								Monsoon	4.35	4.54	3.61	2.72	2.50
								Post- Monsoon	4.94	4.97	4.14	3.73	
23	Mudikunta	Ellamma temple	Domestic	1.00	4.50	Barren Measur es Fm	0.40	Winter	2.91	2.98	AB	AB	--
								Pre-Monsoon	3.04	AB	AB	AB	--
								Monsoon	1.50	AB	AB	AB	--
								Post- Monsoon	1.63	AB	AB	--	
24	Kankur/near school	Govt. Well /Regunta. Malleh	Domestic	4.00	9.00/ 10.0	Barren Measur es Fm	0.40/ 0.50	Winter	Dry	Dry	6.55	AB	6.75
								Pre-Monsoon	Dry	Dry	AB	7.30	7.31
								Monsoon	7.39	7.39	AB	3.83	1.00
								Post- Monsoon	7.73	7.84	AB	--	
25	Jaipur	Behind AE Off. Near bus stop	Domestic	1.50	12.00	Kamthi FM	0.80	Winter	3.84	3.93	3.84	4.26	2.96
								Pre-Monsoon	3.94	4.05	5.11	5.91	4.87
								Monsoon	2.15	2.34	2.18	1.50	0.81
								Post- Monsoon	2.58	2.66	3.06	--	

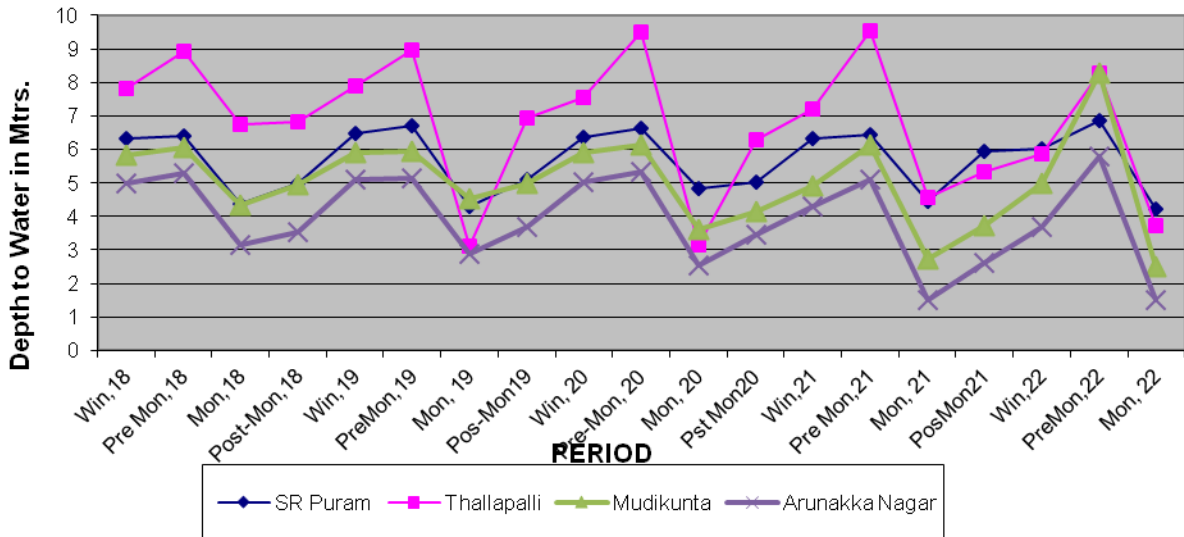
PRE-MONSOON HYDROGRAPHS IN SRIRAMPUR AREA



POST-MONSOON HYDROGRAPHS IN SRIRAMPUR AREA

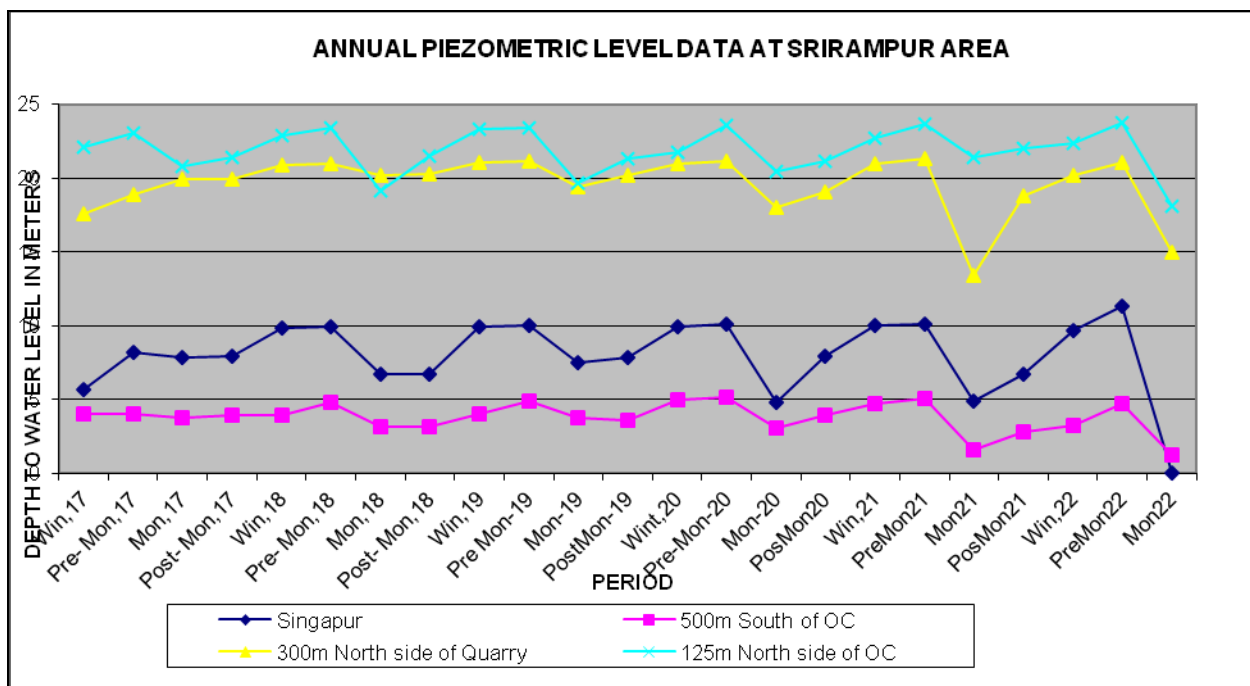
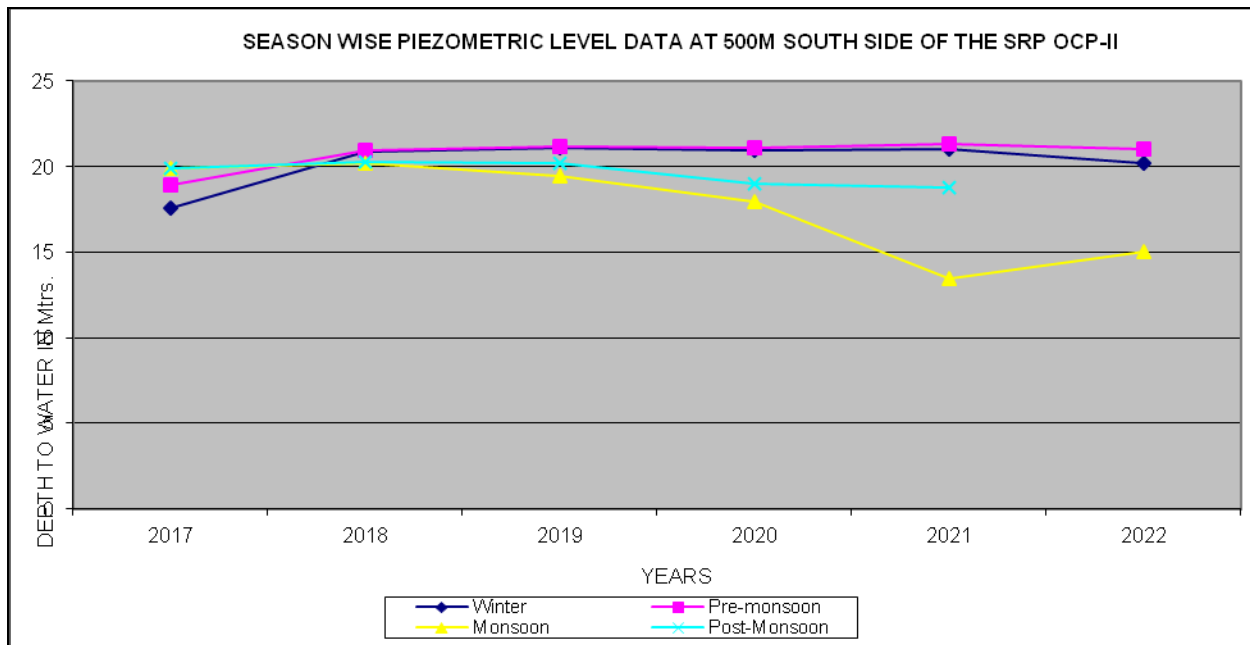


ANNUAL HYDROGRAPHS IN SRIRAMPUR AREA



B. PIEZOMETRIC LEVEL DATA OF SRIRAMPUR AREA.

Well No.	Location	Depth (m)	Dia (m)	Measuring point (m above ground level)	Period	Depth to Water (m)					
						2017	2018	2019	2020	2021	2022
SRP_OCP.I PW-5	About 500 m south of the quarry and 150m north of Indaram Tank (N18°49'35.43" – E 79°30'57.60")	208	0.10	0.30	Winter	3.98	3.97	4.04	4.98	4.71	3.22
					Pre-Monsoon	4.05	4.82	4.88	5.18	5.08	4.72
					Monsoon	3.72	3.11	3.75	3.05	1.62	1.22
					Post-Monsoon	3.91	3.16	3.56	3.96	2.83	
SRP_OCP.I PW-6	Adjacent to the OB dump contractor Camp office (N18°50'8.05" – E 79°29'57.97")	50	0.10	0.20	Winter	AB	AB	AB	AB	AB	--
					Pre-Monsoon	AB	AB	AB	AB	AB	--
					Monsoon	AB	AB	AB	AB	AB	--
					Post-Monsoon	AB	AB	AB	AB	--	
SRP_OCP.I PW-7	Near Singapur village (N18°49'46.47" – E 79°30'25.52")	50	0.10	0.20	Winter	5.71	9.82	9.97	9.91	10.04	9.68
					Pre-Monsoon	8.15	9.94	10.01	10.07	10.08	11.32
					Monsoon	7.87	6.68	7.53	4.79	4.92	*NA
					Post-Monsoon	7.91	6.74	7.84	7.89	6.71	
SRP_OCP.I PW-8	Near Project Office sub-station. About 125m from N side of quarry surface limit. (N18°51'4.12" – E 79°29'39.90")	50	0.10	0.40	Winter	22.07	22.90	23.35	21.72	22.73	22.32
					Pre-Monsoon	23.08	23.41	23.43	23.57	23.62	23.75
					Monsoon	20.83	19.13	19.67	20.4	21.42	18.06
					Post-Monsoon	21.36	21.48	21.33	21.14	21.97	
SRP_OCP.I PW-9	Near plantation and about 70m from Eastern side of quarry surface limit (N18°50'45.86" – E 79°30'55.24")	50	0.10	0.40	Winter	--	7.92	7.98	Soil covered	Soil covered	WD
					Pre-Monsoon	4.25	8.76	8.81	Soil covered	NA	WD
					Monsoon	7.65	7.23	7.71	Soil covered	WD	WD
					Post-Monsoon	3.91	7.54	7.44	Soil covered	WD	
SRP_OCP.I PW-10	Road to SRP bus stand, about 300m from N side of quarry surface limit (N18°51'7.10" – E 79°30'11.26")	50	0.1	0.50	Winter	17.57	20.90	21.07	20.94	20.99	20.19
					Pre-Monsoon	18.90	20.98	21.17	21.11	21.32	21.05
					Monsoon	19.91	20.21	19.44	17.98	13.42	15.00
					Post-Monsoon	19.93	20.28	20.19	1.03	18.77	
*SRP_CSIR O PW-11	West side External dump area, Near to Thallapalli village. (N18°49'54.731" – E 79°29'11.085	50	0.1	0.2	Winter	1.56	1.97	2.32	2.38	2.23	2.09
					Pre-Monsoon	2.25	2.38	2.53	2.57	2.64	3.17
					Monsoon	1.85	1.05	NA	0.91	1.15	1.05
					Post-Monsoon	7.69	2.00	2.07	2.00	1.89	
*SRP_CSIR O PW-12	West side External dump area. Near to Thallapalli village (N18°49'50.573" - E 79°29'06.202")	50	0.1	0.2	Winter	1.94	2.07	2.87	2.84	2.68	2.80
					Pre-Monsoon	2.23	2.28	2.91	2.93	3.01	4.65
					Monsoon	2.10	2.08	2.12	2.08	1.81	2.03
					Post-Monsoon	1.91	2.14	2.35	2.17	2.29	
*SRP_CSIR O PW-13	West side External dump area. Road to Godavari river (N18°49'45.286" – E 79°29'06.811")	50	0.1	0.2	Winter	2.33	2.99	3.05	3.17	3.63	3.92
					Pre-Monsoon	2.82	3.28	3.76	3.84	4.07	4.56
					Monsoon	2.22	3.11	2.98	3.08	2.97	4.21
					Post-Monsoon	2.24	3.06	3.11	3.27	3.85	
*SRP_CSIR O PW-14	West side External dump area. Road to Godavari River (N18°49'32.305" – E 79°28'50.154")	50	0.1	0.2	Winter	4.23	4.73	4.77	4.68	4.37	4.62
					Pre-Monsoon	5.15	5.25	4.82	4.91	5.77	6.25
					Monsoon	3.92	4.12	4.18	4.13	3.92	4.06
					Post-Monsoon	4.38	4.19	4.24	4.28	4.22	



NOISE LEVEL MONITORING DATA FOR THE PERIOD FROM APRIL, 2022 TO SEPTEMBER, 2022 AROUND SRIRAMPUR OPENCAST PROJECT – I

Fortnight	SRP OCP Site Office			SRP OCP Base workshop			Srirampur village			Srirampur Colony			Sitharampalli village		
	Date	L _{day}	L _{night}	Date	L _{day}	L _{night}	Date	L _{day}	L _{night}	Date	L _{day}	L _{night}	Date	L _{day}	L _{night}
Apr-I	12.04.2022	69.4	58.3	12.04.2022	62.1	51.9	10.04.2022	42.1	32.5	10.04.2022	50.2	41.2	12.04.2022	48.3	38.4
Apr-II	27.04.2022	68.4	60.1	27.04.2022	69.3	61.2	26.04.2022	47.2	38.5	26.04.2022	42.8	31.5	27.04.2022	41.9	38.4
May-I	12.05.2022	68.7	60.7	12.05.2022	71.3	62.4	11.05.2022	44.6	39.2	11.05.2022	44.6	32.7	12.05.2022	51.2	40.8
May-II	28.05.2022	66.7	57.1	28.05.2022	69.4	61.1	28.05.2022	43.6	33.6	27.05.2022	49.5	40.6	28.05.2022	43.1	32.5
Jun-I	13.06.2022	64.5	54.7	13.06.2022	66.2	53.2	11.06.2022	49.2	35.4	11.06.2022	49.6	40.1	13.06.2022	43.5	32.5
Jun-II	28.06.2022	68.4	61.2	28.06.2022	71.5	58.6	27.06.2022	41.7	31.9	27.06.2022	47.5	41.2	28.06.2022	48.4	38.5
July-I	13.07.2022	70.5	51.2	13.07.2022	71.1	56.8	12.07.2022	42.9	31.6	12.07.2022	46.9	39.5	13.07.2022	50.5	38.7
July-II	29.07.2022	68.1	52.1	29.07.2022	67.5	53.9	28.07.2022	50.2	39.6	28.07.2022	47.2	39.5	29.07.2022	49.1	35.7
Aug-I	13.08.2022	65.4	51.9	13.08.2022	62.3	53.7	12.08.2022	48.6	32.5	12.08.2022	45.1	34.8	13.08.2022	46.7	40.2
Aug-II	27.08.2022	69.3	52.1	27.08.2022	68.5	57.2	26.08.2022	50.2	40.1	26.08.2022	41.2	30.2	27.08.2022	46.8	31.4
Sep-I	14.09.2022	64.1	52.8	14.09.2022	67.9	56.2	12.09.2022	43.7	32.1	--	--	--	--	--	--
Sep-II	29.09.2022	69.2	58.4	29.09.2022	68.5	53.4	26.09.2022	48.7	36.5	--	--	--	--	--	--
	Average	67.725	55.883		67.258	57.142		46.058	35.292		46.460	37.130		46.950	36.710
Limits		75	70		75	70		55	45		55	45		55	45

MONITORING OF GROUND VIBRATION & NOISE DUE TO BLASTING AT SRIRAMPUR OCP – I WITH MINIMATE EQUIPMENT DURING APRIL, 2022 TO SEPTEMBER, 2022.

Sl. No.	Date	RL	Lo cation	Station distance from Blasting area (in mtrs.)	Ground Vibration reading P.P.V. mm/sec.	Sound level dB (A) Decibels
1	01.04.2022	760	GUTTEDARPAALLY	-	1.95	0.750
2	02. 04.2022	780	GUTTEDARPAALLY	-	1.78	198
3	08. 04.2022	730	GUTTEDARPAALLY	--	1.06	0.750
4	09. 04.2022	730	GUTTEDARPAALLY	-	1.63	0.750
5	15. 04.2022	805	GUTTEDARPAALLY	-	1.93	2.75
6	16. 04.2022	770	GUTTEDARPAALLY	-	1.79	1.00
7	27. 04.2022	800	SRIRAMPUR BUSTAND	-	1.47	0.750
8	28. 04.2022	740	GUTTEDARPAALLY	-	1.54	2.50
9	01.05.2022	770	Srirampur Bustand	-	2.159	<88
10	02. 05.2022	750	Guttedarpally	-	1.671	104.2
11	03. 05.2022	820	Guttedarpally	-	1.561	91.48
12	04. 05.2022	810	Guttedarpally	-	1.374	139.9
13	05. 05.2022	750	Srirampur Bustand	-	2.025	97.50
14	12. 05.2022	830	Srirampur Bustand	-	0.973	91.48
15	13. 05.2022	710	Srirampur Bustand	-	1.584	<88
16	16. 05.2022	780	Srirampur Bustand	-	1.287	<88
17	17. 05.2022	850	Srirampur Bustand	-	1.739	<88
18	19. 05.2022	820	Srirampur Bustand	-	2.334	101.9
19	20. 05.2022	760	Srirampur Bustand	-	1.162	106.0
20	22. 05.2022	830	Srirampur Bustand	-	1.544	<88
21	23. 05.2022	770	Srirampur Bustand	-	1.337	<88
22	01.07.2022	790	Sri Rampur bus stand	-	2.599	91.48
23	02. 07.2022	760	Sri Rampur bus stand	-	2.237	<88
24	07.07.2022	730	Sri Rampur bus stand	-	1.523	<88
25	20.07.2022	840	Sri Rampur bus stand	-	1.011	112.8
26	30.07.2022	830	Sri Rampur bus stand	-	1.376	<88
27	01.08.2022	740	Srirampur Bustand	-	0.857	<88
28	02. 08.2022	795	Srirampur Bustand	-	1.344	<88
29	03. 08.2022	800	Srirampur Bustand	-	1.515	104.2
30	04.08.2022	785	Srirampur Bustand	-	1.025	<88
31.	13.08.2022	800	Railway Bund	-	0.381	115.2
32.	19.08.2022	789	Guttedarpalli	-	0.117	91.48
33.	20.08.2022	810	Srirampur Bustand	-	2.189	91.48
34.	21.08.2022	820	Railway Bund	-	1.390	104.9
35.	22.08.2022	799	Railway Bund	-	1.096	101.0
36.	23.08.2022	800	Srirampur Bustand	-	1.727	<88
37.	02. 09.2022	830	Srirampur Bustand	1400	1.067	<88
38.	03. 09.2022	790	Srirampur Bustand	1250	0.912	<88
39.	13. 09.2022	770	Srirampur Bustand	1620	2.065	91.48
40.	14. 09.2022	790	Railway Bund	1620	1.352	91.48
41.	28. 09.2022	800	Guttedarpalli	980	1.739	<88

Standards	10	130
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ANNEXURE - V

MINUTES OF THE ENVIRONMENTAL MANAGEMENT COMMITTEE MEETING HELD ON 30.08.2022 AT 5.30 PM AT GENERAL MANAGER'S OFFICE TO REVIEW THE EC, CFE, CFO AND F.C CONDITIONS COMPLIANCE STATUS OF ALL MINES / PROJECTS OF SRIRAMPUR AREA

At the outset DGM (Env) while welcoming the members explained about the need of Environmental Management Committee Meeting (EMC), complying of EC/CFE/CFO/FC conditions and discussed following points. General Manager instructed the concern to take up the works as discussed.

With reference to the letters cited, Area level Committee meeting was conducted under the chairmanship of GM SRP with the officers concerned (copy of list enclosed) from 5.30pm to 7.30pm on 30.08.2022 at general manager's office SRP on Non-compliance status of conditions stipulated in EC/FC/CFE/CFO of Mines of Srirampur Area.

The minutes of the meeting are given below.

While welcoming the participants to the area level committee meeting, Area Environment Officer in his opening remarks highlighted the points discussed in the Apex committee meeting and given small presentation on awareness of environmental laws.

Thereafter Chairman welcomed the members and advised all the Agents, Managers to strictly follow the rules connected to environment. Violation of Environment procedures will be viewed seriously and stringent action will be taken against the violation.

It is a fundamental responsibility of every citizen of India to protect environment. We have to follow environmental laws meticulously.

Some Laws we can implement, some are to be forwarded to higher ups and some are time taking.

The person personally will be held responsible for their own violation. Responsibility is demarcated.

AREA LEVEL ENVIRONMENTAL COMMITTEE MEETING AGENDA

AREA ENGINEER (E&M)

- Installation of flow meters on mine water discharge pipes.
- Crushers at the existing CHP and that to be constructed shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, and transfer points.
- ETP shall also be provided for CHP wastewater. Mine discharge water shall be treated to prescribed standards before discharge into any natural water course.
- The company shall provide water sprinkling system at coal stacking yards (CFO Condition)

- CFO Condition No:9 of Schedule- B, The Company shall provide water sprinkling system at Coal yard near GM Office and other coal Yards. (CFO Condition)
- The Industry shall provide Impact Rollers at transfer points to dampen the noise levels at Coal handling points (CFO Condition).
- The industry may explore the possibility of generating the solar power for their energy requirements.

AREA ENGINEER (CIVIL)

- ETP shall also be provided for workshop and CHP wastewater. Mine discharge water shall be treated to prescribed standards before discharge into any natural water course.
- The sewage treatment plant (STP) installed in the township shall meet the requirements of the expansion project as well as all colonies.
- The construction of retaining wall at the toe of the dumps and OB benches.
- The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource.
- CFO Condition No:9 of Schedule- B, The Company shall provide water sprinkling system at Coal yard near GM Office and other coal Yards. (CFO Condition)

PROJECT OFFICER/MANAGER, SRP OC

- Proper stacking of Top soil.
- Garland drains of suitable size.
- Settling ponds (20m L X 20m W x 2m D)
- An area Drainage Study shall be conducted and protective measures shall be taken to prevent mine inundation.
- The construction of retaining wall at the toe of the dumps and OB benches.
- Crushers at the existing CHP and that to be constructed shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, and transfer points.
- Besides carrying out regular periodic health check up of their 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, Ahmadabad** within a period of one year and the results reported to this Ministry and to DGMS.
- ETP shall also be provided for workshop and CHP wastewater. Mine discharge water shall be treated to prescribed standards before discharge into any natural water course.
- The industry shall ensure covering of coal trucks with tarpaulin to avoid spillages of coal and fugitive emissions due to transportation of coal. (CFO Condition).

AGENTS/MANAGERS (UG)

- Sufficient coal pillars shall be left un-extracted around the airshaft (within the subsidence influence area) to protect from any damage from subsidence, if any.
- Drills should be wet operated

- ETP shall also be provided for workshop and CHP wastewater. Mine discharge water shall be treated to prescribed standards before discharge into any natural water course.
- CFO Condition No:9 of Schedule- B, The Company shall provide water sprinkling system at Coal yard near GM Office and other coal Yards. (CFO Condition) (RK 7 Gr Agent)
- Monthly water discharge and consumption details shall be prepared and submit to Corporate (Env Dept)
- The industry shall ensure covering of coal trucks with tarpaulin to avoid spillages of coal and fugitive emissions due to transportation of coal. (CFO Condition).

PROJECT ENGINEER, SRP OC

- Crushers at the existing CHP and that to be constructed shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, and transfer points
- The company shall provide water sprinkling system at coal stacking yards (CFO Condition)
- The Industry shall provide Impact Rollers at transfer points to dampen the noise levels at Coal handling points (CFO Condition).

DGM (E&M) SRP CHP

- Crushers at the existing CHP and that to be constructed shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, and transfer points.
- ETP shall also be provided for CHP wastewater. Mine discharge water shall be treated to prescribed standards before discharge into any natural water course.
- The company shall provide water sprinkling system at coal stacking yards (CFO Condition)
- The Industry shall provide Impact Rollers at transfer points to dampen the noise levels at Coal handling points (CFO Condition).
- The industry shall ensure covering of coal trucks with tarpaulin to avoid spillages of coal and fugitive emissions due to transportation of coal. (CFO Condition).

While reviewing the different environment activities as per conditions stipulated in EC/FC/CFE/CFO chairman advised to take up the following works.

CHAIRMAN'S INSTRUCTIONS/ADVISES

AREA ENGINEER (E&M)

- Advised to put proposal with required input Data for Installation of flow meters on mine water discharge pipes.
- High efficiency bag filters – Advised to visit Orient cement/STPP along with DGM (CHP), SRP, PE (SRP OC), Area environment officer and prepare a Draft proposal for further course of action.

- Provide fixed and single valve operated water sprinkling system at Weigh Bridge near GM Office in consultation with DGM (Civil) and Agent RK 7 Group.
- Impact Rollers at transfer points to dampen the noise levels at Coal handling points – Advised to Study discuss with DGM (CHP), SRP, PE (SRP OC) and put up the status

AREA ENGINEER (CIVIL)

- The sewage treatment plant (STP) – Advised to initiate proposal for another STP with suitable capacity at strategic location to serve CCC Township, Krishna Colony, RK 5 Colony, RK 8 Colony, SRP Colony and CISF Colony.
- Rain water harvesting pits– Advised to recondition present pits 32 NOs and propose for some more pits.
- The chairman, advised to take up construction of rock toe walls, rain water harvesting pits, rock fill dams, cleaning of drains, settling ponds, check dams, culverts, etc., as and when required. And to make field visits by audit committee formed.

PROJECT OFFICER/MANAGER, SRP OC PROJECT ENGINEER, SRP OC

- Advised to comply all conditions discussed in the meeting.
- ETP shall be proposed at OB out sourcing HEMM parking Area.
- The chairman, advised to take up construction of rock toe walls, rain water harvesting pits, rock fill dams, cleaning of drains, settling ponds, check dams, culverts, etc., as and when required.
- The chairman, advised to ensure covering of coal trucks with tarpaulin to avoid spillages of coal and fugitive emissions due to transportation of coal. (CFO Condition).

AGENTS/MANAGERS (UG)

- The chairman, advised to ensure covering of coal trucks with tarpaulin to avoid spillages of coal and fugitive emissions due to transportation of coal. (CFO Condition).
- Advised to comply all conditions discussed in the meeting.

DGM (E&M) SRP CHP

- Advised to comply all conditions discussed in the meeting
- Put up proposal for ETP for new CHP.
- The chairman, advised to ensure covering of coal trucks with tarpaulin to avoid spillages of coal and fugitive emissions due to transportation of coal. (CFO Condition).

AREA ENVIRONMENT/ FOREST OFFICER

- To follow up and monitor everybody concerned to comply all above discussed conditions.

Chairman further advised HODs and members shall have positive approach towards environment protection and to co-ordinate with project authorities for rectifying Non compliance conditions of EC/FC/CFE/CFO of all mines of Srirampur area. A compliance report of the minutes may please be communicated to the office of the undersigned at the earliest.

Finally Area Environment Officer requested all members to kindly follow the procedures and try to comply the guidelines. Kindly take this as serious issue on the matter of non-compliance of guidelines. Also informed the copy of minutes of this meeting will be sent to G.M. (Environment) and Corporate Level Apex Committee.

Meeting ended with vote of thanks.

The following committee members/ Guests were present:

- 1 General Manager
 - 2 PO, SRP OC
 - 3 AGM(E&M), SRP
 - 4 DGM(E&M), AWS
 - 5 DGM(E&M). SRP CHP
 - 6 DGM (Civil), SRP
 - 7 Area Survey Officer
 - 8 Dy Manager/Env.SRP
 - 9 Sr. Estates Officer SRP
 - 10 Mgr., / SRP OCP
 - 11 Dy. Supdt. Survey Officer/ SRP OC
-

Annexure – VI

COMPLIANCE STATUS OF THE POINTS RAISED IN THE ENVIRONMENTAL PUBLIC HEARING OF SRIRAMPUR OPENCAST PROJECT –I, CONDUCTED ON 18.11.2004

Sl. No.	COMMENT/VIEW EXPRESSED DURING PUBLIC HEARING	STATUS OF COMPLIANCE
1	<p>Sri Jakkula Rajesham, Sarpanch, Thallapalli (V) - While supporting the proposed project informed that no written complaints / representations were received on the proposed project. He demanded for taking adequate measures for the dust controlling during operation stage of the proposed project.</p> <p>He stated that there were number of farmers who were cultivating the lands for last so many years without proper titles of the land. He sought compensation to all affected farmers and requested the SCCL management to solve the problems of affected people expeditiously.</p>	<p>Adequate measures are being taken for controlling of dust. Regular water spraying is being done by mobile water sprinklers on the haul roads and water spraying arrangement is provided at coal unloading point.</p> <p>Entire land identified for SRP OCP-I was already acquired and compensation was paid to the eligible farmers.</p>
2	<p>Smt. Bathula Srimathi, Sarpanch, Singapur (V) - Expressed support to the proposed project and sought assurance from the SCCL management on the implementation of compensation package and other welfare measures for the residents of the affected villages.</p>	<p>Consent awards passed for the requisition lands as stated above.</p>
3	<p>Dr.Babu Rao Goud, Representative, Jana Vignana Vedika - Stated that EIA/EMP report of the proposed project was not based on scientific lines. He opined that EIA/EMP reports were being prepared in favour of industries. He informed that as per the latest amendments to EIA notification, EIA/EMP reports should be made available to public along with executive summaries.</p> <p>He alleged that suitable technology was not available for undertaking opencast mining in the country. He regretted that the Government agencies were causing more inconvenience to public while implementing new projects.</p> <p>He expressed that additional measures should be taken during the implementation of the proposed opencast mine in the densely populated area and demanded strict adherence to pollution control</p>	<p>All the EIA/EMP reports are prepared as per the guidelines prescribed by the Ministry of Environment and Forests, GOI, New Delhi.</p> <p>Pollution control measures are being followed strictly.</p> <p>The details are mentioned in the EIA/EMP as required by the concerned authorities.</p>

Sl. No.	COMMENT/VIEW EXPRESSED DURING PUBLIC HEARING	STATUS OF COMPLIANCE
	<p>standards.</p> <p>He alleged that the coal seam details and workable seams were furnished differently at different places and stripping ratio was not reported properly in EIA/EMP report. He further stated that the data on coal composition and soil quality were not furnished in the EIA/EMP report and extent of pollution can be assessed basing on such data.</p> <p>He pointed out that SPM concentration at Srirampur village during baseline data generation was stated to be more than the limits prescribed by CPCB during summer season. The post project data on SPM concentration near the underground mines of Srirampur area was furnished in the EMP instead of that of similar OC mines operating in the area. He pointed out that the air quality impact prediction studies were not carried out based on emission factors to know the likely concentration of SPM levels in the surrounding villages after commencement of the project. He suggested that the pollution could be reduced by transporting coal through the conveyor belt instead of using heavy duty trucks.</p> <p>He complained that rainfall in the quarry area of 77.70 Ha has to be taken into consideration while designing the pumping arrangements. He said that adequate pumping arrangements were not made in the project for handling of excess seepage water in the quarry during monsoon season and demanded for monitoring the quality of mine discharge water throughout the life of the project. He opined that the surface runoff and seepage due to rain shall also be included in the calculation of mine discharge and details and capacity of sedimentation tanks have not been mentioned. He suggested that the quality of water leaching through external dump yard should be monitored by the project authorities after commencement of the project. He said that the process of treatment of mine discharge before it is supplied for drinking and other purposes at the project has not been mentioned in the EIA/EMP.</p> <p>He stated that, though it was reported in the EIA/EMP that back ground noise levels would slightly increase due to operation of HEMM, the expected rise in the noise levels due to the proposed OCP were not studied and furnished in the report. He felt that the values of the noise levels were not properly incorporated in the EIA/EMP report. He informed that the ENVIS centre of MoEF has reported that the noise levels at 8 incline colony and centenary colony behind shirkey quarters is sometimes exceeding the</p>	<p>Transportation of coal through belt conveyor instead of trucks is very difficult as the distance is around 5 Km. Use of conveyors is for a limited distance.</p> <p>Adequate pumping arrangement was done to deal the quantity of extra water. Data of rainfall has been studied over the past several years and the pumping capacities are decided. The water quality is being regularly monitored and reports are being submitted promptly to the pollution control board.</p> <p>Noise levels are being regularly monitored. No abnormal levels in noise have been observed till date. All precautions including development of green belt, provision of sound proof cabins, AC cabins, ear plugs, etc are being provided without any compromise.</p> <p>Singareni Collieries Company Limited will take all steps to bring back the land use profile as near as possible to pre-mining conditions during land reclamation.</p>

Sl. No.	COMMENT/VIEW EXPRESSED DURING PUBLIC HEARING	STATUS OF COMPLIANCE
	<p>prescribed limits. He suggested for incorporating the noise levels recorded near HEMM in idle and working conditions. The ENVIS report says that though the employees exposed to higher noise levels are being provided with ear muffs and ear plugs, in practice they are not using them due to inconvenience.</p> <p>He complained that the land use profile will change by formation of dump and void at the end of mining operations and SCCL should take responsibility of implementing proper land reclamation measures in the proposed Opencast project.</p> <p>He expressed fear that if the present trend of over exploitation of mineral reserves continues, then future generations will be deprived off these resources. He stated that due to the limited man power requirement of OC projects, the overall man power of the company is decreasing and there will not be any scope for fresh employment generation.</p>	<p>The company will adhere to the production capacity as mentioned in the EIA/EMP. In order to meet the growing demand of electricity by the nation, coal production has to be increased proportionately which can be met only by Opencast mines. However, depth is a constraint in OC mines. Hence, beyond certain depth underground mines are the only alternative.</p>
4	<p>Sri Panuganti Ranga Rao, R/o Sitarampalli (V) - Has stated that there is severe unemployment problem in the affected villages. The villagers are mostly depending on agriculture, dairying. He requested the authorities to earmark 4-5 guntas of land for each displaced family towards residential accommodation in the proposed colonies.</p>	<p>Unemployed youth are given preference for deploying their vehicles about 54 Nos. on unit rate, and 170 persons of surrounding villages were provided jobs in off-loading contractual works. SCCL has provided training for driving VOLVO vehicles</p>
5	<p>Sri Kalaveni Shanker, CPI - Has requested to consider the views of the local people in the implementation of the proposed project.</p>	<p>Are being considered.</p>
6	<p>Sri B.Venkat Rao, Working president, INTUC - Has stressed the need for increasing the coal production to meet the growing demand for power generation. He suggested to the SCCL management to adopt latest technology to control dust and noise pollution. He opined that pollution control board should ensure the proper implementation of pollution control measures by the project authorities.</p> <p>He demanded payment of adequate compensation to the land losers and lavan pattadars depending on their user rights. He assured the public that efforts would be made to obtain justifiable compensation to land losers depending on the existing market rates instead of adopting rates prescribed for registration of lands. He has informed that land losers are ready to give land, if the compensation is paid at the existing market value.</p>	<p>All the latest technologies are being adopted by the company through external agencies to monitor the pollution. The guidelines suggested by the pollution control board are being implemented.</p> <p>Consent awards were passed for all the private lands except covered by structures referred in S.No.1 which is pending. Ex-gratia payment was paid as per GO Ms.1306, to the assignees.</p> <p>Unemployed youth are given preference for deploying their vehicles about 54 Nos. on unit</p>

Sl. No.	COMMENT/VIEW EXPRESSED DURING PUBLIC HEARING	STATUS OF COMPLIANCE
	<p>He has suggested for provision of employment in off-loading works of the proposed Opencast project.</p> <p>Project affected persons, if any, should be provided with dwelling units with infrastructure facilities and demanded compensation to the land losers prior to the commencement of the work of the project.</p>	<p>rate, and 170 persons of surrounding villages were provided jobs in off-loading contractual works. SCCL has provided training for driving VOLVO vehicles</p> <p>The land compensation was already paid leaving the appurtenant land referred in s.no.1. Consent awards were passed for the entire land required for SRPOC-I.</p>
7	<p>Sri Akula Butchaiah, Farmer, Singapur (V) Informed that the 4 affected villages should be provided with all the basic infrastructure facilities like roads, electricity and water supply. He complained that the villagers were experiencing the problems of vibrations daily due to blasting at Medipalli OCP in Ramagundam. However, in the larger interest of the nation, we are ready to accept the commissioning of opencast project and demanded proper compensation to the affected people and also requested to take preventive measures to control vibrations due to blasting.</p>	<p>In order to reduce the blast vibrations, Nonels are being used instead of DF cord even though it is much costlier.</p>
8	<p>Sri Peram Ramesh, R/o Naspur colony, Complained that the Singareni Collieries Company Limited was not providing training to the children of the Singareni Collieries Company Limited employees under self employment generation scheme. He pointed out that OC mine would cause lot of displacement and rapid depletion of coal reserves which would accentuate the problem of unemployment due to mechanization in OC projects.</p>	<p>In order to meet the growing demand of electricity by the nation, coal production has to be increased proportionately which can be met only by Opencast mines. However, depth is a constraint in OC mines. Hence, beyond certain depth underground mines are the only alternative.</p>
9	<p>Sro Kondra Mallaiah, R/o Guttedarpalli (H), Informed that most of the villagers were dependent on agriculture and the compensation paid to them would be inadequate for acquiring alternate lands.</p>	<p>Compensation was paid to the utmost satisfaction of the pattedars by passing consent awards as per GO Ms 1050, Revenue (Land acquisition), 19-10-1992.</p>
10	<p>Sri K.Rajanna, Singapur Informed that the villagers were leading comfortable life by cultivating the land and they would be subjected to problems of resettlement on account of opening of the new OC project.</p>	<p>Compensation was paid to the utmost satisfaction of the pattedars by passing consent awards as per GO Ms 1050, Revenue (Land acquisition), 19-10-1992.</p>
11	<p>Sri Pratap Reddy, Clerk, SRP-2 Incline While welcoming the proposed project sought higher compensation to lands acquired for the project.</p>	<p>Referred in S.No.10</p>
12	<p>Sri Kurre Lingesh, Singapur</p>	

Sl. No.	COMMENT/VIEW EXPRESSED DURING PUBLIC HEARING	STATUS OF COMPLIANCE
	Informed that the villagers were ready to provide land for this project. However, he requested for adequate compensation in the case of double cropped agriculture lands.	Referred in S.No.10
13	Sri Badri Mallesh, Sarpanch, Naspur (V) Demanded proper compensation to the land losers and also sought payment of compensation before starting the project.	Referred in S.No.10
14	Sri Pavan Kumar, R/o Thallapalli (V) Informed that the nearby villages are inhabited by the middle class people and were mainly dependent on agriculture. He expressed apprehensions over the adverse affect on the dairying and other economic activities by the proposed OCP. He demanded adequate compensation to the land oustees.	Referred in S.No.10
15	Sri Bandari Sathaiah, R/o Thallapalli (V) Expressed apprehension on the amount of compensation payable to their agriculture lands and demanded for better compensation.	Referred in S.No.10
16	Sri Akula Babu, Singapur (V) Welcomed the project and assured that the local people were ready to give their lands for the proposed OCP subject to the assurance of the district collector on adequate compensation to the acquired properties.	Referred in S.No.10
17	Sri Ingu Rajaiah, R/o Thallapalli (V) Welcomed the project and assured that if adequate compensation is paid, the local people are ready to give their lands for the proposed OCP.	Referred in S.No.10
18	Sri N.Diwakar Rao, MLA, Luxettipet constituency Suggested that the proposed opencast mining could be undertaken without causing damage to the habitations. He complained vibrations due to blasting and dust would cause problems to the local people and supported the proposed project subject to the willingness of the affected villages. He complained that the Singareni Collieries Company Limited was not providing adequate facilities to the people living nearby mining areas though the company was running in profits. He has informed that the land required for the project is mostly agriculture land and hence demanded adequate compensation to the land losers. He demanded for payment of compensation basing on the prevailing market value to the lands. He assured the local public that he would approach State Government depending on the necessity to evolve a special package exclusively to the land losers. He has stated that the local lands are priced at a minimum of Rs1.20 lakhs per acre in the caser of dry lands and Rs.1.6 lakhs to Rs.2.0 lakhs in case of wet lands near Mancherial.	In order to reduce the blast vibrations, Nonels are being used instead of DF cord even though it is much costlier. The company is extending its hand in developing roads, drains, etc in the surrounding villages through SHAPE funds. Referred in S.No.10
19	Smt. Pappula Gouramma R/o Singapur,	

Sl. No.	COMMENT/VIEW EXPRESSED DURING PUBLIC HEARING	STATUS OF COMPLIANCE
	Stated that the most of the villagers were living on agriculture and hence requested to take up Opencast project in uninhabited areas.	As the coal is a natural resource, the place of mining cannot be changed.
20	Smt. Akkapuram Balamma R/o Singapur, While welcoming the project, requested for payment for adequate compensation.	Referred in S.No.10
21	Sri Posham, R/o Thallapalli (V), Welcomed the project but demanded for proper compensation for the land losers as the villagers are dependent on agricultural lands for their livelihood.	Referred in S.No.10
22	<p>Sri K.V.Pratap, Advocate, Mancherial Stated that locals were concerned about the proposed OC project only on environmental issues. He has complained that Singareni Collieries Company Limited is not doing adequate plantation on OB dumps of existing OC mines at Ramagundam. He informed that 1000 acres of land was acquired by the Singareni Collieries Company Limited for other projects at Ramagundam but failed to pay compensation till date.</p> <p>He opined that there would be impact on surrounding areas due to opening of OC and conversion of underground mines to OC would result in loss of employment. He demanded for continuation of the existing underground mines instead of converting them into an opencast mine.</p>	<p>Plantation is being done on the OC dumps. So far 94.85 Ha of area plantation completed at SRP OCP-I, out of this 24.98 Ha of OB dump reclaimed.</p> <p>The opencast mines are planned only for a limited depth beyond which it is not economically viable with the present technology. Hence, for greater depths underground mines are the only alternative. Keeping in view the increased demand of coal, the coal from greater depths has to be exploited for which new underground mines will have to come obviously and so the employment.</p>
23	Sri Narayana Raj, Principal, Swathi Jr. College, CCC X-roads, Sitarampalli, Has stated that the people are not against Singareni Collieries Company Limited. He suggested that the district administration to constitute a committee comprising of environmental experts to study the impact on environment due to existing OCPs operated by the Singareni Collieries Company Limited. He suggested opening of opencast mines without hindering the development of villages.	The TSPCB, which consists of eminent persons from environment, is monitoring the pollution control measures along with the results of monitoring.



Project Officer,
Srirampur Open Cast Project.

Project Officer
SRP-OCP