PART – II

ENVIRONMENTAL PROTECTION MEASURES AS ON 30.09.2023

1. Production Details

Sl. No	Year	Coal (in MT)	
		As per EC	Actual
1.	2006-07	0.50	0.389
2.	2007-08	0.50	0.490
3.	2008-09	0.50	0.477
4.	2009-10	0.50	0.506
5.	2010-11	0.50	0.495
6.	2011-12	0.50	0.375
7.	2012-13	0.50	0.476
8.	2013-14	0.50	0.466
9.	2014-15	0.50	0.446
10.	2015-16	0.50	0.442
11.	2016-17	0.50	0.462
12.	2017-18	0.50	0.472
13.	2018-19	0.50	0.387
14	2019-20	0.50	0.342
15.	2020-21	0.50	0.265
16.	2021-22	0.50	0.284
17.	2022-23	0.50	0.209
18.	2023-24 (apr-sep)	0.50	0.100

2. Plantation:

1	No of plants planted during last six months period	There is no left over space for plantation. However gap plantation is being taken up wherever necessary.
2	Area covered in Ha	--
3	Expenditure incurred in Rs. Lakhs (Maintenance) during last year	0.54
4	Total area brought under plantation so far in Ha	26.48 Ha
5	Total no of plants planted so far since inception	18376 Nos.
6	Species of plants planted	Eucalyptus, Gulmohar, Acascia, Jamun, Durshanam, Kanuga, Sisu, Pheltoform, Neem, Amla, Subabul, Iffa, Seethaful, Kunkudu and Guavva.
7	Seeds sown so far	--
8	Small plants planted so far	--
9	Total expenditure in Rs. lakhs -	17.744

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

3. Water Balance Statement:

Sl. No	Description	Quantity in KLD
1	Average quantity of water pumped out of the mine	**1115.00**
2.	**Water consumption :**	
A.	**Domestic:**	
	a) Water used for drinking/bathing and other industrial requirement	40.00
	b) Water supplied for nearest township/village for domestic purpose/CHP	NIL
	Sub – Total	**40.00**
B.	**Industrial :**	
	a) Water used for plantation	100.00
	b) Water used for dust suppression	50.00
	c) Water used for stowing	NIL
	Sub - Total	**150.00**
	Total water consumption	**190.00**
3	Excess water let out	925.00
4	Point of disposal (as per CFO)	i) Excess Mine Water: After treatment for agriculture use / gardening. ii) Domestic: STP followed by onland use / gardening
5	Discharge Consent from TSPCB	1774.00

4. Micro-meteorological Monitoring:

Micro-meteorological station was installed at General Manager's Office: The summery of monthly micro-meteorological data generated at Srirampur area from April, 2023 to September, 2023 is as follows:

Month	Wind Speed (m/s)			Temperature (ºC)			Relative Humidity (%)			Rainfall (mm)	
	Mean	Max	Calm %	Mean	Max	Min	Mean	Max	Min	Total	Hourly highest
April, 2023	2.4	6.9	14.17	25.6	46.6	33.0	35.4	79.1	8.3	0.0	0.0
May,2023	1.8	6.1	29.97	35.0	47.8	20.9	23.7	73.0	8.2	63.5	22.3
June, 2023	1.9	6.7	22.22	32.2	45.1	23.7	48.1	93.5	18.7	76.6	18.2
July, 2023	2.1	6.0	8.33	28.6	44.3	20.2	67.1	99.5	16.4	615	52.8
August, 2023	1.7	6.1	26.48	29.9	39.8	19.3	67.4	99.7	20.8	69.2	6.0
September, 2023	1.6	5.0	15.42	28.2	40.6	18.9	46.6	99.8	19.0	194.2	23.3

Summary of micro-meteorological data generated for the study period (April, 2023 to September, 2023)

S.No	Parameter(s)	Min	Max	Mean
1.	Temperature (^{0}C)	18.9	47.8	31.2
2.	Wind Speed (m/s)	Calm (%) 17.69	6.9	1.9
3.	Relative Humidity (%)	8.2	99.8	48.0
4.	Predominant Wind direction for the entire study period	South West(SW), followed by West-South West (W-SW)		
5.	Total Rainfall (mm)	1018.5mm		

5. Ambient Air Quality Monitoring:

Parameters:

In accordance with MoEF Notification, GSR-742 (E), dt. 25.09.2000 and National Ambient Air Quality Standards, the concentration of Suspended Particulate Matter (PM_{10} and $PM_{2.5}$), Sulphur Dioxide (SO_2) 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 $PM_{10,}$ SO_2 and NO_2 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:

Air quality monitoring is being carried out at a frequency of once in a fortnight (24 hourly sampling) at the identified locations near the dust generating sources.

Monitoring Locations:

Air Monitoring Locations

Station Code	Name of the Stations	Latitude	Longitude
CA2	RK-6 Incline Site Office	N 18°52'16.2"	E 79°30'45.7"
BA1	Mudigunta Village	N 18°51’24.7”	E 79°34’31.8”
BA2	Krishna Colony	N 18°34’27.3”	E 80°18’00.9”
BA3	Kankur Village	N 18°52’56.5”	E 79°32’40.4”
BA4	Srirampur Colony	N 18°51’41.6”	E 79°30’24.1”

Monitoring Data:

Location code	Name of the location	PM_{10} (µg/m^3)				$PM_{2.5}$ (µg/m^3)				SO_2 (µg/m^3)				NO_2 (µg/m^3)			
Core Zone		Min	**Max**	**Avg**	**98%tile**	**Min**	**Max**	**Avg**	**98%tile**	**Min**	**Max**	**Avg**	**98%tile**	**Min**	**Max**	**Avg**	**98%tile**
Coal mine standards (commenced after 25.09.2000), GSR 742(E), Dated 25.09.2000		250				**-**				**120**				**120**			
CA 2	RK-6 Incline Site Office	62.00	239.00	184.50	238.56	24.10	60.50	52.03	60.43	9.10	16.80	13.36	16.67	17.10.	24.20	20.34	24.09

Summary of Ambient Air Data Monitoring

Location code	Name of the location	PM_{10} (µg/m^3)				$PM_{2.5}$ (µg/m^3)				SO_2 (µg/m^3)				NO_2 (µg/m^3)			
NAAQ Standards, CPCB Dated: 18.11.2009		**100**				**60**				**80**				**80**			
Buffer Zone		**Min**	**Max**	**Avg**	**98%tile**	**Min**	**Max**	**Avg**	**98% tile**	**Min**	**Max**	**Avg**	**98% tile**	**Min**	**Max**	**Avg**	**98% tile**
BA1	Mudigunta Village	35.0	86.0	70.25	85.12	16.10	45.80	34.85	45.07	7.70	14.10	9.88	13.66	12.10	19.0	14.64	18.57
BA2	Krishna Colony	39.0	91.0	73.0	88.58	18.70	47.20	37.77	46.74	7.80	14.20	10.66	13.96	13.10	18.40	16.14	18.40
BA3	Kankur Village	32.0	82.0	69.08	81.78	18.10	44.90	34.33	44.20	7.60	13.70	10.33	13.52	13.40	18.90	15.71	18.79
BA4	Srirampur Colony	46.0	89.0	76.17	88.12	20.10	48.50	38.96	48.19	8.70	12.70	10.60	12.62	15.10	19.20	16.89	19.05

The summary of the monitoring from April,2023 to September, 2023 is as follows:

The air quality data monitored at the work zone locations and surrounding residential areas indicate that $PM_{10,}$ concentration is within the stipulated limits at all locations. The $PM_{2.5,}$ SO_2 and NO_2 concentration levels are also well within the stipulated limits at all the locations. The fortnightly air quality data monitored during six months period ending 30.09.2023 is enclosed as **Annexure-I**.

SCCL is taking following control measures in the RK-6 Incline for air pollution control including reduction of particulate emissions:

Air Pollution Control Measures:

i. Water spraying arrangements have been made in underground at all working places, loading points and transfer points.

ii. Arrangements have been made for water spraying on the surface coal handling arrangement.

iii. The coal produced from the mine is transported to Area CHP, where effective mist spray arrangement is provided and maintained at transfer points and at loading points and the conveyor belts have been provided with covered structure.

iv. Cleaning of coal dust is being taken up regularly.

v. Coal transport route has been black topped from the mine to CHP. Internal roads have also been black topped.

vi. Avenue plantation has been developed along the Coal Transportation Road.

vii. All the transport lorries are optimally loaded to prevent spillage of coal and covered with Tarpaulin

CONTROL OF EMISSION OF NOXIOUS GASES:

The measures taken for mitigating the noxious gases are as follows:

i. Coal transportation trucks and other vehicles are periodically maintained.

ii. Notice boards have been displayed on the surface; advising persons to avoid burning of coal/wood/oil grease impregnated waste cotton/garbage etc., in the mine premises as a method of disposal.

iii. Blasting operations at underground is carried out with delay action detonators and ultra safe P5 explosives, which helps in mitigating the emission of gasses from explosives.

iv. Stocks of coal are not allowed to be kept on surface of the mine. If any coal heap has to be kept for some time, water spraying is done over it to control oxidation of coal, and stone dust is spread over the coal heaps for oxidation control.

v. Burning of firewood and coal for domestic purpose in colonies has been stopped due to usage of L.P Gas being distributed free of cost by the company to all the

employees.

- Total manpower of the mine as on 30.09.2023 : 925
- Total L.P Gas connections to the workers as on 30.09.2023 : 881

vi. 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 physic-chemical and bacteriological parameters.

Post project water quality monitoring stations:

Surface Water Sampling Locations

Sl. No.	Sampling code	Sampling Location	Latitude	Longitude
1.	SW-1	Godavari River Upstream (near sitharampalli)	N 18˚ 49’ 33.5”	E 79˚ 28’ 21.5”
2.	SW-2	Godavari River Downstream (shettipalli)	N 18˚ 53’ 41.8”	E 79˚ 40’ 32.6”
3.	SW-3	Naspur Tank	N $18^0$52’5”	E $79^0$87’15”

Groundwater Sampling Locations

Sl. No.	Sampling code	Sampling Location	Latitude	Longitude
1	GW-2	Mudigunta Village	N 18˚ 53’ 08.3”	E 79˚ 32’ 46.3”

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, 2023 to September, 2023 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, 2023 to September, 2023 is as follows:

Characteristics of Effluents

Sl. No.	Sample code	Name of the Location	Latitude	Longitude
1.	EW2	RK-6 Incline Mine Discharge	N 18˚ 52’ 16.2”	E 79˚ 30’ 45.7”

(All values in mg/l except pH)

Location	Zone		pH			
		Min.	Max.	Avg	98%tile	STD
RK-6 Inc. Mine discharge	Core	7.10	7.90	7.58	7.90	5.50-9.0
Location	**Zone**		**TSS (mg/l)**			
		Min.	**Max.**	**Avg**	**98%tile**	**STD**
RK-6 Inc. Mine discharge	Core	14.00	38.00	22.17	36.46	100
Location	**Zone**		**TDS (mg/l)**			
		Min.	**Max.**	**Avg**	**98%tile**	**STD**
RK-6 Inc. Mine discharge	Core	692.0	1042.0	837.50	1018.02	--
Location	**Zone**		**COD (mg/l)**			
		Min.	**Max.**	**Avg**	**98%tile**	**STD**
RK-5 Inc. Mine discharge	Core	12.0	35.0	19.42	33.24	250
			BOD (mg/l)			
		Min.	**Max.**	**Avg**	**98%tile**	**STD**
RK-6 Inc. Mine discharge	Core	1.70	4.40	2.62	4.22	30.0
Location	**Zone**		**Oil & Grease (mg/l)**			
		Min.	**Max.**	**Avg**	**98%tile**	**STD**
RK-6 Inc. Mine discharge		1.00	1.20	1.07	1.19	10.0

Water Pollution Control Measures:

There is no chemical process involved, the mine discharge water may contain coal fines as such the water is being utilized for drinking and domestic purpose after treatment in slow sand filters followed by disinfections. The following control measures are being taken up at the mine to control the water pollution.

i. The mine discharge water is being utilized for dust suppression, plantation, domestic use etc., after necessary treatment.

ii. The excess mine discharge water is being treated in settling tanks before discharge into natural drains.

iii. The domestic sewage from the mine is being treated in septic tank followed by soak pit.

iv. An effective sewerage system is being maintained to treat the colony effluents by Sewage Treatment Plant at Naspur Colony of 3 MLD Capacity, and other colonies effluents treatment is being done with septic tanks followed by soak pits.

v. Post-project water quality monitoring is being carried through an 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 2019 (Winter) to 2023 (Monsoon) is enclosed as Annexure**-IV.**

Water Conservation Measures:

i) Mine water is collected in sumps in side mine and pumped out after settling.

ii) Mine water is filtered and used for domestic, washing the machinery, Plantation and Water Spraying etc,

iii) Ground Water levels are recorded seasonally in near by villages

iv) One ETP is provided area level at Area workshop to trap 70 liters of oil and grease in a year before letting out on surface water body.

v) Ground Water levels recorded in the near by villages is furnished in **Annexure - IV**.

vi) All the hazardous wastes like used oil, used batteries, waste oil, empty oil barrels are being disposed off to authorized recyclers.

vii) Details of Rain water Harvesting structures in Srirampur Area is as below:

Sl. No	**Location of the Rain water Harvesting Pits**	**No.of Rain water Harvesting pits**
1.	G.M's Office	01
2.	Area Stores	02
3.	Auto garage	02
4.	RK-8 Dispensary	01
5.	SRP Dispensary (Deccan Gramina Bank)	01
6.	SC High School, SRP(ITI College)	02
7.	CER Club, Srirampur (Pragathi Stadium)	02
8.	M&R Office, Srirampur	01
9.	MVTC, SRP	01
10.	C-2 Type Quarters, RK-8 Colony	01
11.	'C' Type Quarters, RK-8 Colony	02
12.	Dispensary, Naspur Colony	01
13.	G.T Hostel, Naspur Colony	02
14.	Community Hall, Naspur Colony	01
15.	M& R Office, Naspur Colony	02
16.	Venkateswara Temple, Naspur Colony	01
17.	Sub-station premises, Godavari Colony	01
18.	Sub-station premises, Nagarjuna Colony	01
19.	Guest House, CCC	01
20.	M & R Office, CCC	01
21.	RK-5 GLSR	01
22.	Pump House, CCC	01
23.	SRP OCP-II	03
	Total	**32**

8. Noise Level Monitoring :

The summary of the monitoring from April, 2023 to September, 2023 is as follows:

Location	Zone		Day Time in dB(A)				Night Time in dB(A)				
		Min.	Max.	Avg.	98%tile	STD	STD	Min.	Max.	Avg.	98%tile
RK-6 Incline	Core	62.00	69.50	66.142	69.478	75	70	52.10	62.70	56.342	61.952
Kankur Village	Buffer	41.20	50.30	45.525	50.256	75	70	32.10	40.20	36.508	40.046
Mudigunta Village	Buffer	39.20	49.80	43.325	49.448	55	45	31.30	40.10	35.458	39.902

Note: The Noise level monitoring from April, 2023 to September, 2023 is enclosed as **Annexure-III**

Noise Pollution Control Measures:

i) The main mechanical ventilator is provided with evasee which dampens the noise.
ii) To dampen the noise levels at CHP, impact rollers are provided at transfer points.
iii) Height of fall is minimized at all coal transfer points and internal lining of bins and chutes are done.
iv) In the high noise intensity working areas / zones earmuffs or earplugs are being provided to the workmen.
v) Regular noise level monitoring is being done periodically for taking corrective action, wherever required.
vi) Extensive plantation of green belt and vegetation along the roads and around the offices to create a barrier or screen between the source and the receiver so that the noise is absorbed and the exposure level is minimized.
vii) Cushioning belt liners under the tipplers are being provided under tippler resting pads to reduce the noise while tripling the tubs.
viii) Post-project Noise quality monitoring is being carried out by outside agency [M/s Environment Protection Training and Research Institute (EPTRI) Hyderabad] at the Mine pit office and surrounding villages at a frequency of once in a fortnight as stipulated by MoEF&CC for coal mining industry.

9. 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 2022-23	2023-24 (apr-sep)	Total	Up to 2022-23	2023-24 (apr-sep)	Total
I	Air pollution (Prevention & control)	1398000	0	**1398000**	104883377	94814.72	**104978191.7**
II	Water pollution (Prevention & Control)	0	0	**0**	439679.4	203847.2	**643526.6**
III	Land development	0	0	**0**	0	0	**0**
IV	Plantation	693053	0	**693053**	1169919	27043.5	**1196962.5**
V	Equipment for maintenance of environment protection	0	0	**0**	11805451.26	0	**11805451.26**
VI	Consultancy payments	714200	0	**714200**	0	0	**0**
VII	OB Reclamation / Subsidence management	0	0	**0**	176000	263000	**439000**
VIII	Environment awareness / Environment education	0	0	**0**	29000	1500	**30500**
IX	Noise & Blasting vibration	0	0	**0**	276956.7	36516.48	**313473.18**
X	Others	0	0	**0**	0	0	**0**
	Total	**2805253**	**0**	**2805253**	**118780383**	**626721.9**	**119407105.2**

10. Socio-economic Measures:

i) Common Central Township is provided on non-coal bearing area and it is maintained with facilities such as dispensary, schools, drinking water supply, super-bazaar, recreation clubs, parks, well lighted approach roads, dust bins at various places in the colony, etc., and it is away from the mining activity.

ii) Workmen are encouraged to undergo family planning operations by extending cash incentives and leave etc.,

iii) Weekly vaccination for Polio, DPT, BCG, Measles, DT and Hepatitis 'B' are being

given at Area Hospital and dispensaries.1019 persons were vaccinated during the above period at area level.

iv) Daily Street cleaning and sanitation works are looked after by Health & Civil departments in Srirampur Area. 1937.5 Cu.m of Garbage is removed from the colonies during the above period at area level.

v) Workmen are encouraged to participate in sports and games which are conducted in Company's Pragati Stadium at Srirampur.

vi) Existing number of quarters for this project : 856

vii) Infrastructure development is being taken up in the surrounding areas through specially designed programme called as "Surrounding Habitat Assistance Programme" (SHAPE). Rs.1258.16 lakhs has been spent in the area and as on date Rs.785.14 Lakhs were spent under CSR Programme from 2015-16 onwards in the Area.

viii) Public hearing minutes compliance status enclosed as **Annexure-VII.**

11. Environment Management Committee:

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

1) Agent - Chairman.
2) Area Env. Officer - Secretary.
3) Mine Manager - Member
4) Area Civil Engineer, - Member
6) Area Survey officer - Member.
7) Area Estates Manager - Member.
8) Area Forest Officer - Member.
9) Regional Hydro geologist - Member.

The minutes of EMC meeting held on 28.08.2023 is enclosed as **Annexur**

12. Land use based on satellite Imagery:

The land use studies for Core and Buffer zones of Ravindra khani - 6 Incline had been conducted in the year 2022 by Greencindia Enterprise Private Limited, Hyderabad.

Land use / Land cover details of 10km Buffer zone:

Land Use Land Cover Class	2022	
	Area in Hectares	Area Percentage
Water Bodies	2149.32	5.51
Mining Area	1637.72	4.20

Industrial Establishments	183.88	0.47
Built-up Land	2569.83	6.59
Open Forest	2453.23	6.29
Dense Forest	9107.62	23.36
Roads	893.91	2.29
Barren Land	584.46	1.50
Fallow Land	1272.02	3.26
Plantation	2984.14	7.65
Single Crop	4423.37	11.35
Double Crop	7289.88	18.70
Land with/without scrub	3433.59	8.81
TOTAL AREA	38982.97	100.00

Land use / land cover details of core zone:

The Satellite data of the core zone area of 306.13 Ha. The classified data of the Mine core zone. The extents of various Land Use/Land Cover classes pertaining to the study area.

Land Use Land Cover Class	Area in Hectares	Area in Percentage
Coal Dump	1.08	0.4
Plantations Greenbelt	17.39	5.7
Roads	7.48	2.4
Service Buildings	4.00	1.3
Dense Forest	174.41	57.0
Open Forest	101.18	33.1
Water Bodies	0.58	0.2
Total Area	**306.12**	**100.10**

Change Detection:

Land use land cover comparison statement of Ravindra Khani – 6 Incline Underground Coal Mine Expansion Project Core Zone for 2019 and 2022.

	2019		2022		
Land Use Land Cover Class	**LULC area in Hectares(2019)**	**Area in Percentage**	**LULC area in Hectares (2022)**	**Area in Percentage**	**Area change (in%) form 2019 to 2022****
Coal Dump	1.05	0.34	1.08	0.4	**0.06**
Plantations Greenbelt	14.57	4.76	17.39	5.7	**0.94**
Roads	2.83	0.92	7.48	2.4	**1.48**
Service Buildings	6.26	2.04	4.00	1.3	**-0.74**
Dense Forest	219.97	71.85	174.41	57.0	**-14.85**
Open Forest	61.45	20.07	101.18	33.1	**13.03**
Water Bodies	0	0	0.58	0.2	**0.20**
Total Area	**306.13**	**99.98**	**306.12**	**100.10**	**---**

** Positive and Negative value implies LULC specific class area (in %) correspondingly increases or decrease from 2019 to 2022. The formula used for calculating LULC changes is (% ofarea change = Percentage of LULC class area for 2022 - Percentage of LULC class area for 2019).

13. Subsidence management details:

Seam wise developing / depillaring details:

Sl. No	Seam	Area in Ha.	Depth (m)		Total Thickness	Working thickness(m	Caving/ stowing.
			Min.	Max.			
1.	2S	5.49	45	102	4.50	4.50	Caving
2.	4S	7.82	44	155	1.90	1.90	Caving
3.	5S	8.60	43	167	2.70	2.70	Caving

c) Total surface area effected due to subsidence so far : 215.8 Ha

- Max. Crack width observed : 0.85 M
- Max. Subsidence occurred : 2.17 Mtrs
- Whether the vegetation effected if any : NIL
- If affected, give details. : Nil

d) Mode of treatment given to substantiate subsidence effect:

- Total man-shifts worked in subsidence area for crack filling : 323
- Total dozer-shifts worked for subsidence reclamation : NA
- Area filled up with OB/ subsoil material : Nil
- Quantity of OB / Subsoil dumped : Nil
- Maximum height of dump : Nil

e) i) Expenditure incurred for last six month for subsidence treatment: Rs. 2,63,000/-.
ii) Expenditure incurred for subsidence treatment so far : Rs.11,68,267.9/-.

Agent,
RK-5&6 Group of mines.

Agent
RK-5 & 6 Group of Mines
Srirampur Area.

MONITORING DATA OF RAVINDRA KHANI – 6 (RK-6) INCLINE FOR THE PERIOD FROM APRIL, 2023 TO SEPTEMBER, 2023.

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ANNEXURE –I

POST PROJECT AMBIENT AIR QUALITY MONITORING DATA FOR THE PERIOD FROM APRIL, 2023 TO SEPTEMBER, 2023 OF RK-6 INCLINE.

- Location of the Ambient Air Quality monitoring Station : Top of the Canteen, RK-6 Incline site office
- Direction (w.r.t. RK–6 Incline.) : Besides of the project.

Sl. No	Station Name	Date of Sampling	Parameters (µg/ Cu. Mtr.)			
			PM_{10}	$PM_{2.5}$	SO_2	NO_2
1.	RK-6 Incline site office	04.04.2023	229	56.7	16.1	19.5
		24.04.2023	239	60.2	14.7	21.7
		05.05.2023	232	58.7	15.4	24.2
		22.05.2023	229	57.4	16.2	23.7
		05.06.2023	237	60.5	16.8	22.5
		22.06.2023	193	58.4	12.6	19.6
		07.07.2023	62	24.1	11.6	17.6
		22.07.2023	142	42.8	13.4	19.7
		07.08.2023	174	51.2	11.4	19.1
		22.08.2023	184	53.2	12.6	21.3
		07.09.2023	157	53.1	10.4	18.1
		22.09.2023	136	48.1	9.1	17.1
	Minimum		**62.00**	**24.10**	**9.10**	**17.10**
	Maximum		**239.00**	**60.50**	**16.80**	**24.20**
	Average		**184.50**	**52.03**	**13.36**	**20.34**
	98% tile		**238.56**	**60.43**	**16.67**	**24.09**
	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 : Mudigunta

Direction (Mudigunta.): 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
2.	Mudigunta village	04.04.2023	76	41.7	14.1	19.1
		24.04.2023	73	38.8	11.2	14.6
		05.05.2023	68	36.2	9.2	13.8
		22.05.2023	77	45.8	12.1	16.7
		05.06.2023	70	37.4	10.7	14
		22.06.2023	82	35.8	8.4	14.6
		07.07.2023	35	16.1	7.7	12.1
		22.07.2023	65	29.2	8.1	12.9
		07.08.2023	81	32.1	8.4	14.1
		22.08.2023	86	42.5	8.4	13.4
		07.09.2023	68	30.5	10.6	16.1
		22.09.2023	62	32.1	9.6	14.3
	Minimum		**35.00**	**16.10**	**7.70**	**12.10**
	Maximum		**86.00**	**45.80**	**14.10**	**19.10**
	Average		**70.25**	**34.85**	**9.88**	**14.64**
	98% tile		**85.12**	**45.07**	**13.66**	**18.57**
	NAAQ Standards, CPCB dtd.18.11.2009		**100**	**60**	**80**	**80**

❖ Location of the Ambient Air
Quality monitoring Station : Krishna Colony
❖ Direction (w.r.t. RK–6 Incline.): 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
3.	Krishna Colony	04.04.2023	80	42.1	13.1	18.4
		24.04.2023	78	45.1	12	16.4
		05.05.2023	72	43.9	11.5	15.9
		22.05.2023	80	47.2	14.2	17.9
		05.06.2023	76	40.2	11.5	15.9
		22.06.2023	91	41.2	9.6	15.7
		07.07.2023	39	18.7	8.2	13.1
		22.07.2023	57	25.1	7.8	16
		07.08.2023	74	39.5	9.6	15.6
		22.08.2023	79	39.5	9.2	14.6
		07.09.2023	76	35.1	11.1	18.4
		22.09.2023	74	35.6	10.1	15.8
	Minimum		**39.00**	**18.70**	**7.80**	**13.10**
	Maximum		**91.00**	**47.20**	**14.20**	**18.40**
	Average		**73.00**	**37.77**	**10.66**	**16.14**
	98% tile		**88.58**	**46.74**	**13.96**	**18.40**
	NAAQ Standards, CPCB dtd.18.11.2009		**100**	**60**	**80**	**80**

❖ Location of the Ambient Air
Quality monitoring Station : Top of Residential house, Kankur village
❖ Direction (w.r.t. RK–6 Incline.): 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
4.	Kankur village	04.04.2023	73	39.2	12.9	17.8
		24.04.2023	75	40.2	13.7	18.9
		05.05.2023	79	37.8	10.1	14.7
		22.05.2023	82	44.9	11.7	15.6
		05.06.2023	71	38.1	9.6	13.5
		22.06.2023	80	36.2	11.8	18.4
		07.07.2023	32	18.1	8.6	14.2
		22.07.2023	63	30.1	10.3	16.4
		07.08.2023	62	30.1	7.6	13.7
		22.08.2023	81	41.7	10.6	16.7
		07.09.2023	63	25.4	9.4	15.2
		22.09.2023	68	30.1	7.6	13.4
	Minimum		**32.00**	**18.10**	**7.60**	**13.40**
	Maximum		**82.00**	**44.90**	**13.70**	**18.90**
	Average		**69.08**	**34.33**	**10.33**	**15.71**
	98% tile		**81.78**	**44.20**	**13.52**	**18.79**
	NAAQ Standards, CPCB dtd.18.11.2009		**100**	**60**	**80**	**80**

❖ Location of the Ambient Air
Quality monitoring Station : Top of Residential house, Srirampur colony
Direction (w.r.t. RK–6 Incline.): 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
5.	Srirampur Colony	06.04.2023	83	47.1	10.8	15.4
		26.04.2023	81	43.1	9.4	17.4
		08.05.2023	76	41.8	12.1	16.4
		24.05.2023	84	48.5	12..6	18.1
		07.06.2023	80	43.7	11.7	17.4
		24.06.2023	76	32.8	10.4	16.9
		10.07.2023	52	20.4	10.0	16.2
		25.07.2023	46	20.1	9.1	15.4
		09.08.2023	89	42.3	8.7	15.1
		24.08.2023	85	46.9	12.7	19.2
		09.09.2023	81	39.5	12.3	18.5
		24.09.2023	81	41.3	9.4	16.7
	Minimum		**46.0**	**20.1**	**8.7**	**15.1**
	Maximum		**89.0**	**48.5**	**12.7**	**19.2**
	Average		**76.2**	**39.0**	**10.6**	**16.9**
	98% tile		**88.1**	**48.2**	**12.6**	**19.0**
	NAAQ Standards, CPCB dtd.18.11.2009		**100**	**60**	**80**	**80**

ANNEXURE-II.

Physico-Chemical and Bacteriological Characteristics of Surface Water

Physico-Chemical and Bacteriological Characteristics of Surface Water as per CPCB Water Quality Criteria.

Sl.No	Parameters	Unit	Test Method	CPCB Water Quality Criteria					RESULT		
				Class A	Class B	Class C	Class D	Class E	SW-1 Godavari River Upstream	SW-2 Godavari River Downstream	SW-3 Naspur Tank
	Date of sampling								**28.04.2023**	**28.04.2023**	**28.04.2023**
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	8.0	8.0	7.9
2	Electrical Conductivity	µmhos/cm	2510-B	-	-	-	-	2250 µmhos/ cm	1455	1070	582
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	-	6.9	6.6	6.7
4	Bio chemical Oxygen Demand (3 days 27^o C)	mg/L	IS: 3025	2 mg/l or less	3 mg/l or less	3 mg/l or less	-	-	1.6	2.2	2.3
5	Total Coliforms	MPN/ 100mL	9221 B	50 or less	500 or less	5000 or less	-	-	94	140	140
6	Free Ammonia (as N)	mg/L	4500-NH_3–F	-	-	-	1.2 mg/L or less	-	BDL	BDL	BDL
7	Boron as B	mg/L	3120-B	-	-	-	-	Less than 2 mg/L	0.16	0.28	0.17
8	SAR	-	-	-	-	-	-	Less than 26	1.14	1.12	1.81

Physico-Chemical Characteristics of Surface Water at Selected Locations in the Study Area

S. No	Parameters	Unit	Test Method	SW-1 Godavari River Upstream	SW-2 Godavari River Downstream	SW-3 Naspur Tank
	Date of sampling			**28.04.2023**	**28.04.2023**	**28.04.2023**
1	Colour	Hazen	2120. B	5	5	5
2	Odour	TON	2150. B	No odour observed	No odour observed	No odour observed
3	Temperature	^oC	2550. B	25.1	25.0	25.1
4	Turbidity	NTU	2130. B	0.26	0.44	0.49
5	Total Dissolved Solids at 180^o C	mg/L	2540.C	865	626	345
6	Total Suspended Solids at 105^o C	mg/L	2540. D	17	11	8
7	Chemical Oxygen Demand	mg/L	5220. D	4	8	8
8	Chlorides as Cl^-	mg/L	4500-Cl^-.B	260	197	78
9	Sulphates as SO_4^{2-}	mg/L	4500-SO_4^{2-}.E	106	86	29
10	Fluoride as F^-	mg/L	4500-F^-.C	0.52	0.41	0.21
11	Calcium as Ca	mg/L	3500-Ca.B	84	80	21
12	Magnesium as Mg	mg/L	3500-Mg.B	51	47	15
13	Sodium as Na	mg/L	3500-Na.B	167	97	91
14	Potassium as K	mg/L	3500-K.B	33.7	11.8	3.1
15	Nitrites as NO_2	mg/L	4500-NO_2^-.B	BDL	BDL	BDL
16	Nitrates as NO_3	mg/L	4500-NO_3^-.B	43	10.3	9.6
17	Total Phosphates	mg/L	4500-P-D	BDL	BDL	BDL
18	Ammonical Nitrogen as NH_3-N	mg/L	4500-NH_3-C	BDL	BDL	BDL
19	Phenolic compounds as C_6H_5OH	mg/L	5530-D	BDL	BDL	BDL
20	Oil & Grease	mg/L	5520. B	<1	<1	<1
21	Carbonates as CO_3	mg/L	2320. B	Nil	Nil	Nil
22	Bi-carbonates as HCO_3	mg/L	2320. B	180	135	140
23	Fecal Coliforms	MPN/100mL	9221 E	11	17	13
24	Zinc as Zn	mg/L	3120. B	0.11	0.10	0.24
25	Iron as Fe	mg/L	3120. B	0.58	0.35	0.74

S. No	Parameters	Unit	Test Method	SW-1 Godavari River Upstream	SW-2 Godavari River Downstream	SW-3 Naspur Tank
	Date of sampling			**28.04.2023**	**28.04.2023**	**28.04.2023**
26	Arsenic as As	mg/L	3120. B	BDL	BDL	BDL
27	Lead as Pb	mg/L	3120. B	BDL	BDL	BDL
28	Cadmium as Cd	mg/L	3120. B	BDL	BDL	BDL
29	Total Chromium as Cr	mg/L	3120. B	BDL	BDL	BDL
30	Nickel as Ni	mg/L	3120. B	BDL	BDL	BDL
31	Copper as Cu	mg/L	3120-B	BDL	BDL	BDL
32	Selenium as Se	mg/L	3120-B	BDL	BDL	BDL

Physico-Chemical, Bacteriological Characteristics of Groundwater Collected within the Study Area
Organoleptic and Physical Parameters

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT
						GW-2 Mudigunta
	Date of sampling					**28.04.2023**
1	Colour	Hazen	2120. B	5	15	<5
2	Odour	TON	2150. B	Agreeable	Agreeable	Agree.
3	pH	-	4500-H^+B	6.5 to 8.5	No relaxation	7.4
4	Taste	FTN	2160. B	Agreeable	Agreeable	Agree.
5	Turbidity	NTU	2130. B	1	5	0.42
6	Total Dissolved Solids at 180^{o}C	mg/L	2540.C	500	2000	652

General Parameters Concerning Substances Undesirable in Excessive Amounts

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT
						GW-2 Mudigunta
	Date of sampling					**28.04.2023**
1.	Calcium as Ca	mg/L	3500-Ca.B	75	200	54
2.	Magnesium as Mg	mg/L	3500-Mg.B	30	100	52
3.	Chlorides as Cl-	mg/L	4500-Cl-.B	250	1000	124
4.	Sulphates as SO42-	mg/L	4500-SO42- .E	200	400	88
5.	Fluoride as F-	mg/L	4500-F-.C	1.0	1.5	0.79
6.	Nitrates as NO3	mg/L	4500-NO3-.B	45	No relaxation	37
7.	Total Alkalinity as CaCO3	mg/L	2320. B	200	600	310
8.	Total Hardness as CaCO3	mg/L	2340. C	200	600	354
9.	Sulphide as H_2S	mg/L	4500-S2-F&D	0.05	No relaxation	BDL
10.	Total Ammonia-N	mg/L	IS 3025 (Part 34)	0.5	No relaxation	BDL
11.	Phenolic compounds as C6H5OH	mg/L	5530-D	0.001	0.002	BDL
12.	Residual free chlorine	mg/L	4500-Cl-.B	0.2	1.0	BDL
13.	Mineral oil	mg/L	IS:3025 (part 39)	0.5	No relaxation	absent
14.	Anionic Detergents (as MBAS)	mg/L	IS:13428:2005K	0.2	1.0	<0.2
15.	Aluminium as Al	mg/L	3120-B	0.03	0.2	0.08
16.	Barium as Ba	mg/L	3120. B	0.7	No relaxation	0.17
17.	Boron as B	mg/L	3120-B	0.5	2.4	BDL
18.	Iron as Fe	mg/L	3120-B	1.0	No relaxation	0.55
19.	Zinc as Zn	mg/L	3120-B	5	15	0.25
20.	Copper as Cu	mg/L	3120-B	0.05	1.5	BDL
21.	Manganese as Mn	mg/L	3120-B	0.1	0.3	BDL
22.	Selenium as Se	mg/L	3120-B	0.01	No relaxation	BDL
23.	Silver as Ag	mg/L	3120. B	0.1	No relaxation	BDL

Parameters Concerning Toxic Substances

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT
						GW-2 Mudigunta
	Date of sampling					**28.04.2023**
1	Cadmium as Cd	mg/L	3120-B	0.003	No relaxation	BDL
2	Cyanide as CN-	mg/L	4500-CN^-.F	0.05	No relaxation	BDL
3	Lead as Pb	mg/L	3120-B	0.01	No relaxation	BDL
4	Molybdenum as Mo	mg/L	3120. B	0.07	No relaxation	BDL
5	Nickel as Ni	mg/L	3120-B	0.02	No relaxation	BDL
6	Total Arsenic as As	mg/L	3120-B	0.01	0.05	BDL
7	Total Chromium as Cr	mg/L	3120-B	0.05	No relaxation	BDL
8	Mercury as Hg	µg/L	3500-Hg.B	0.001	No relaxation	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
	2,4-D, Carboryl (Carbonate) Malathion Methyl Parathion Anilophos, Chloropyriphos	Qualitative Analysis	6630. D	Absent	0.001	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, Fluoranthene, Fluorene, Indeno (1,2,3-(d) Pyrene, Naphthalene, Phenanthrene, Pyrene, Methyl Naphthalene	µg/L	6440.C	-	-	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
						GW-2 Mudigunta
	Date of sampling					**28.04.2023**
1	Total Coliforms	MPN/100 mL	9221 B	-	-	<1.8
2	Fecal Coliforms	MPN/100 mL	9221 E	-	-	<1.8

Physico-Chemical and Bacteriological Characteristics of Surface Water

Physico-Chemical and Bacteriological Characteristics of Surface Water as per CPCB Water Quality Criteria

Sl.No	Parameters	Unit	Test Method	CPCB Water Quality Criteria					RESULT		
				Class A	Class B	Class C	Class D	Class E	**SW-1** Godavari River Upstream	**SW-2** Godavari River Downstream	**SW-3** Naspur Tank
Date of sampling									**02.08.2023**	**02.08.2023**	**02.08.2023**
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	8.1	8.2	7.7
2	Electrical Conductivity	µmhos/cm	2510-B	-	-	-	-	2250 µmhos/cm	379	348	318
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	-	5.9	5.2	5.4
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	-	-	2.2	2.4	3.2
5	Total Coliforms	MPN/ 100mL	9221 B	50 or less	500 or less	5000 or less	-	-	110	110	280
6	Free Ammonia (as N)	mg/L	4500-NH_3–F	-	-	-	1.2 mg/L or less	-	BDL	BDL	BDL
7	Boron as B	mg/L	3120-B	-	-	-	-	Less than 2 mg/L	0.08	0.21	0.13
8	SAR	-	-	-	-	-	-	Less than 26	0.92	0.72	0.84

Physico-Chemical Characteristics of Surface Water at Selected Locations in the Study Area

S. No	Parameters	Unit	Test Method	**SW-1** Godavari River Upstream	**SW-2** Godavari River Downstream	**SW-3** Naspur Tank
Date of sampling				**02.08.2023**	**02.08.2023**	**02.08.2023**
1	Colour	Hazen	2120. B	5	5	5
2	Odour	TON	2150. B	No odour observed	No odour observed	No odour observed
3	Temperature	ºC	2550. B	25.2	25.3	25.3
4	Turbidity	NTU	2130. B	2.5	7.3	7.3
5	Total Dissolved Solids at 180º C	mg/L	2540.C	223	204	188
6	Total Suspended Solids at 105º C	mg/L	2540. D	41	37	43
7	Chemical Oxygen Demand	mg/L	5220. D	16	20	24
8	Chlorides as Cl^-	mg/L	4500-Cl^-.B	31	29	22
9	Sulphates as SO_4^{2-}	mg/L	4500-SO_4^{2-}.E	32	30	24
10	Fluoride as F^-	mg/L	4500-F^-.C	0.45	0.38	0.35
11	Calcium as Ca	mg/L	3500-Ca.B	26	28	18
12	Magnesium as Mg	mg/L	3500-Mg.B	21	22	15
13	Sodium as Na	mg/L	3500-Na.B	26	21	20
14	Potassium as K	mg/L	3500-K.B	1.2	2.4	6.5
15	Nitrites as NO_2	mg/L	4500-NO_2^-.B	0.09	0.11	BDL
16	Nitrates as NO_3	mg/L	4500-NO_3^-.B	4.24	4.22	3.22
17	Total Phosphates	mg/L	4500-P-D	0.02	BDL	0.019
18	Ammonical Nitrogen as NH_3-N	mg/L	4500-NH_3-C	BDL	BDL	BDL
19	Phenolic compounds as C_6H_5OH	mg/L	5530-D	BDL	BDL	BDL
20	Oil & Grease	mg/L	5520. B	<1	<1	<1
21	Carbonates as CO_3	mg/L	2320. B	Nil	Nil	Nil
22	Bi-carbonates as HCO_3	mg/L	2320. B	120	95	115
23	Fecal Coliforms	MPN/100mL	9221 E	4.5	4.5	6.8
24	Zinc as Zn	mg/L	3120. B	0.19	0.29	0.14

S. No	Parameters	Unit	Test Method	SW-1 Godavari River Upstream	SW-2 Godavari River Downstream	SW-3 Naspur Tank
Date of sampling				**02.08.2023**	**02.08.2023**	**02.08.2023**
25	Iron as Fe	mg/L	3120. B	0.61	0.58	0.45
26	Arsenic as As	mg/L	3120. B	BDL	BDL	BDL
27	Lead as Pb	mg/L	3120. B	BDL	BDL	BDL
28	Cadmium as Cd	mg/L	3120. B	BDL	BDL	BDL
29	Total Chromium as Cr	mg/L	3120. B	BDL	BDL	BDL
30	Nickel as Ni	mg/L	3120. B	BDL	BDL	BDL
31	Copper as Cu	mg/L	3120-B	BDL	BDL	BDL
32	Selenium as Se	mg/L	3120-B	BDL	BDL	BDL

Physico-Chemical, Bacteriological Characteristics of Groundwater Collected within the Study Area
Organoleptic and Physical Parameters

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT GW-2 Mudigunta
Date of sampling						**02.08.2023**
1	Colour	Hazen	2120. B	5	15	<5
2	Odour	TON	2150. B	Agreeable	Agreeable	Agree.
3	pH	-	4500-H^+B	6.5 to 8.5	No relaxation	7.4
4	Taste	FTN	2160. B	Agreeable	Agreeable	Agree.
5	Turbidity	NTU	2130. B	1	5	0.59
6	Total Dissolved Solids at 180^o C	mg/L	2540.C	500	2000	761

General Parameters Concerning Substances Undesirable in Excessive Amounts

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT GW-2 Mudigunta
Date of sampling						**02.08.2023**
1.	Calcium as Ca	mg/L	3500-Ca.B	75	200	97
2.	Magnesium as Mg	mg/L	3500-Mg.B	30	100	57
3.	Chlorides as Cl-	mg/L	4500-Cl-.B	250	1000	169
4.	Sulphates as SO42-	mg/L	4500-SO42- .E	200	400	88
5.	Fluoride as F-	mg/L	4500-F-.C	1.0	1.5	0.68
6.	Nitrates as NO3	mg/L	4500-NO3-.B	45	No relaxation	44
7.	Total Alkalinity as CaCO3	mg/L	2320. B	200	600	300
8.	Total Hardness as CaCO3	mg/L	2340. C	200	600	477
9.	Sulphide as H_2S	mg/L	4500-S2-F&D	0.05	No relaxation	BDL
10.	Total Ammonia-N	mg/L	IS 3025 (Part 34)	0.5	No relaxation	BDL
11.	Phenolic compounds as C6H5OH	mg/L	5530-D	0.001	0.002	BDL
12.	Residual free chlorine	mg/L	4500-Cl-.B	0.2	1.0	BDL
13.	Mineral oil	mg/L	IS:3025 (part 39)	0.5	No relaxation	absent
14.	Anionic Detergents (as MBAS)	mg/L	IS:13428:2005K	0.2	1.0	<0.2
15.	Aluminium as Al	mg/L	3120-B	0.03	0.2	BDL
16.	Barium as Ba	mg/L	3120. B	0.7	No relaxation	0.24
17.	Boron as B	mg/L	3120-B	0.5	2.4	0.09
18.	Iron as Fe	mg/L	3120-B	1.0	No relaxation	0.28
19.	Zinc as Zn	mg/L	3120-B	5	15	BDL
20.	Copper as Cu	mg/L	3120-B	0.05	1.5	BDL
21.	Manganese as Mn	mg/L	3120-B	0.1	0.3	BDL
22.	Selenium as Se	mg/L	3120-B	0.01	No relaxation	BDL
23.	Silver as Ag	mg/L	3120. B	0.1	No relaxation	BDL

Parameters Concerning Toxic Substances

S. No.	Parameters	Unit	Test Method	IS: 10500 Requirement (Acceptable Limit)	IS: 10500 Permissible Limit in the absence of alternate source	RESULT
						GW-2 Mudigunta
Date of sampling						**02.08.2023**
1	Cadmium as Cd	mg/L	3120-B	0.003	No relaxation	BDL
2	Cyanide as CN-	mg/L	4500-CN^-.F	0.05	No relaxation	BDL
3	Lead as Pb	mg/L	3120-B	0.01	No relaxation	BDL
4	Molybdenum as Mo	mg/L	3120. B	0.07	No relaxation	BDL
5	Nickel as Ni	mg/L	3120-B	0.02	No relaxation	BDL
6	Total Arsenic as As	mg/L	3120-B	0.01	0.05	BDL
7	Total Chromium as Cr	mg/L	3120-B	0.05	No relaxation	BDL
8	Mercury as Hg	µg/L	3500-Hg.B	0.001	No relaxation	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
	2,4-D, Carboryl (Carbonate) Malathion Methyl Parathion Anilophos, Chloropyriphos	Qualitative Analysis	6630. D	Absent	0.001	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, Fluoranthene, Fluorene, Indeno (1,2,3-(d) Pyrene, Naphthalene, Phenanthrene, Pyrene, Methyl Naphthalene	µg/L	6440.C	-	-	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
						GW-2 Mudigunta
Date of sampling						**02.08.2023**
1	Total Coliforms	MPN/100 mL	9221 B	-	-	<1.8
2	Fecal Coliforms	MPN/100 mL	9221 E	-	-	<1.8

I. **POST PROJECT WATER QUALITY (EFFLUENTS) MONITORING DATA FOR THE PERIOD FROM APRIL, 2023 TO SEPTEMBER, 2023 FOR RK-6 INCLINE.**

❖ Location of the water

Quality monitoring Station: RK-6 Incline mine discharge (filter bed outlet)

Sl. No.	Station name	Date of sampling	Concentration in mg/Liter (Except pH)					
			pH (at 25^0 C)	TSS At 105^0 C	TDS (At 180^0 C)	COD	BOD	Oil & Grease
1.	RK-6 Incline Mine discharge	15.04.2023	7.4	23	764	16	1.7	<1
		29.04.2023	7.7	19	836	20	2.2	<1
		15.05.2023	7.6	14	933	15	2.6	<1
		31.05.2023	7.3	18	775	19	2.4	1
		15.06.2023	7.5	16	692	12	1.9	<1
		30.06.2023	7.1	38	1042	19	2.3	<1
		15.07.2023	7.8	24	811	15	2	<1
		31.07.2023	7.9	14	794	20	2.6	<1
		14.08.2023	7.9	23	925	12	2.6	<1
		31.08.2023	7.7	19	877	23	3.1	<1
		15.09.2023	7.4	27	745	27	4.4	1
		29.09.2023	7.7	31	856	35	3.6	1.2
	Minimum		**7.10**	**14.00**	**692.00**	**12.00**	**1.70**	**1.00**
	Maximum		**7.90**	**38.00**	**1042.00**	**35.00**	**4.40**	**1.20**
	Average		**7.58**	**22.17**	**837.50**	**19.42**	**2.62**	**1.07**
	98% tile		**7.90**	**36.46**	**1018.02**	**33.24**	**4.22**	**1.19**
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, 2023 TO SEPTEMBER, 2023.

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
April,23	Min	7.8	205	205	205	7.4	1.7	3040	380	5	6.7	1.2	11	11	28
	Max	7.9	220	220	215	7.6	1.9	3220	399	3170	7.2	1.3	13	13	32
	Aver	7.85	214	211.33	209.17	7.53	1.84	3151.83	391.73	2318.50	6.94	1.25	11.87	11.67	29.87
May,23	Min	7.7	210	205	205	7.4	1.7	2960	380	45	6.7	1.2	11	11	28
	Max	7.7	210	205	205	7.4	1.7	2960	380	45	6.7	1.2	11	11	28
	Aver	7.82	215.00	215.28	208.13	7.50	1.84	3103.63	392.00	2664.75	6.98	1.25	12.00	11.88	30.00
June,23	Min	7.7	210	210	210	7.4	1.7	2956	382	5	6.9	1.2	11	11	28
	Max	7.9	220	220	220	7.6	1.8	3264	400	3184	7.2	1.3	13	13	32
	Aver	7.80	214.06	215.33	215.00	7.46	1.75	3134.87	394.23	2728.11	6.97	1.25	12.06	12.17	29.73
July,23	Min	7.7	210	205	205	7.4	1.7	2546	382	2452	6.8	1.2	11	11	28
	Max	7.9	220	220	220	7.6	1.9	3940	400	3102	7.1	1.3	13	13	32
	Aver	7.81	215.00	214.38	212.50	7.51	1.79	2934.13	392.26	2801.13	6.95	1.25	12.00	12.33	29.38
Aug,23	Min	7.7	210	205	205	7.4	1.7	2590	300	2580	6.9	1.2	11	11	28
	Max	7.9	220	220	215	7.6	1.9	3342	400	3292	7.1	1.3	13	13	32
	Aver	7.79	213.67	213.75	210.00	7.47	1.79	3003.26	386.55	2924.00	6.97	1.25	12.33	11.83	30.40
sep,23	Min	7.7	205	205	205	7.4	1.7	2760	382	2708	6.9	1.2	11	11	28
	Max	7.9	215	220	215	7.6	1.9	3168	400	3080	7.1	1.3	13	14	32
	Aver	7.79	212.00	211.33	210.00	7.47	1.82	2951.83	392.10	2897.14	6.99	1.25	11.93	12.50	30.13
	standard	-	-	-	-	-	-	-	-	--	**5.5-9.0**	--	**100**	**30**	**250**

ANNEXURE- III

NOISE LEVEL MONITORING DATA FOR THE PERIOD FROM APRIL, 2023 TO SEPTEMBER , 2023 AROUND RK-6 INCLINE

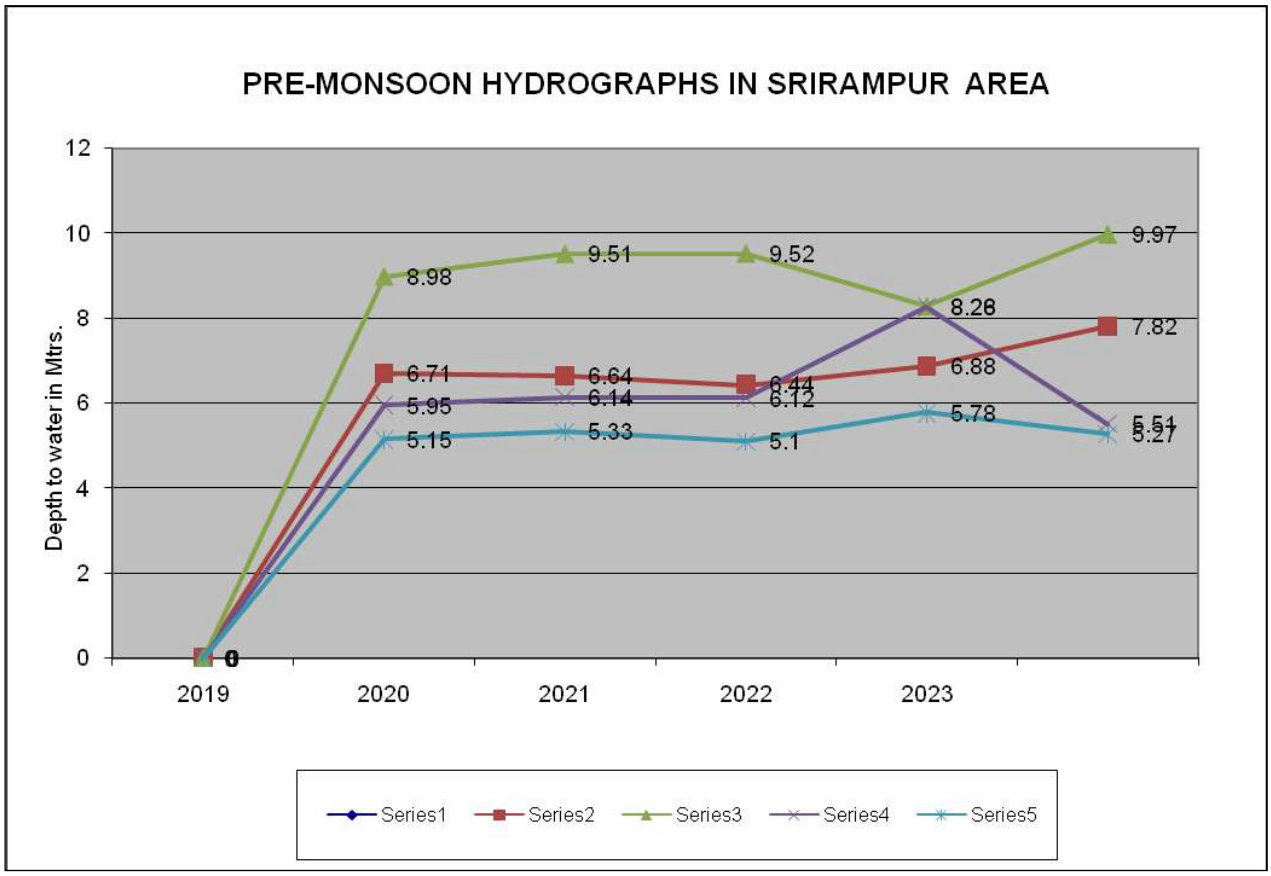
Fortnight	RK-6 Incline			Kankur			Mudigunta		
	Date	L_{day}	L_{night}	Date	L_{day}	L_{night}	Date	L_{day}	L_{night}
Apr–I	05.04.2023	69	56.8	05.04.2023	47.8	33.4	05.04.2023	42.4	33.8
Apr–II	25.04.2023	67.1	57.6	25.04.2023	44.6	36.1	25.04.2023	41.7	34.5
May –I	08.05.2023	65.7	56.2	08.05.2023	43.1	35.4	08.05.2023	39.8	33.1
May -II	23.05.2023	66.4	55.5	23.05.2023	41.9	34.4	23.05.2023	43.1	36.9
June–I	07.06.2023	64.8	57.7	07.06.2023	42.6	37.4	07.06.2023	39.2	34.6
June–II	23.06.2023	63.4	52.1	23.06.2023	45.6	39.5	23.06.2023	43.6	36.2
July–I	08.07.2023	69.4	62.7	08.07.2023	50.3	39.5	08.07.2023	46.9	39.2
July –II	24.07.2023	68.4	59.3	24.07.2023	46.9	38.5	24.07.2023	42.6	31.3
Aug-I	08.08.2023	63.4	52.7	08.08.2023	50.1	39.5	08.08.2023	49.8	40.1
Aug -II	23.08.2023	69.5	58.1	23.08.2023	45.1	32.1	23.08.2023	48.2	38.1
Sep-I	08.09.2023	62	54.6	09.09.2023	41.2	32.1	09.09.2023	39.5	32
Sep -II	23.09.2023	64.6	52.8	23.09.2023	47.1	40.2	23.09.2023	43.1	35.7
Average		**66.142**	**56.342**		**45.525**	**36.508**		**43.325**	**35.458**
Limits		**75**	**70**		**55**	**45**		**55**	**45**

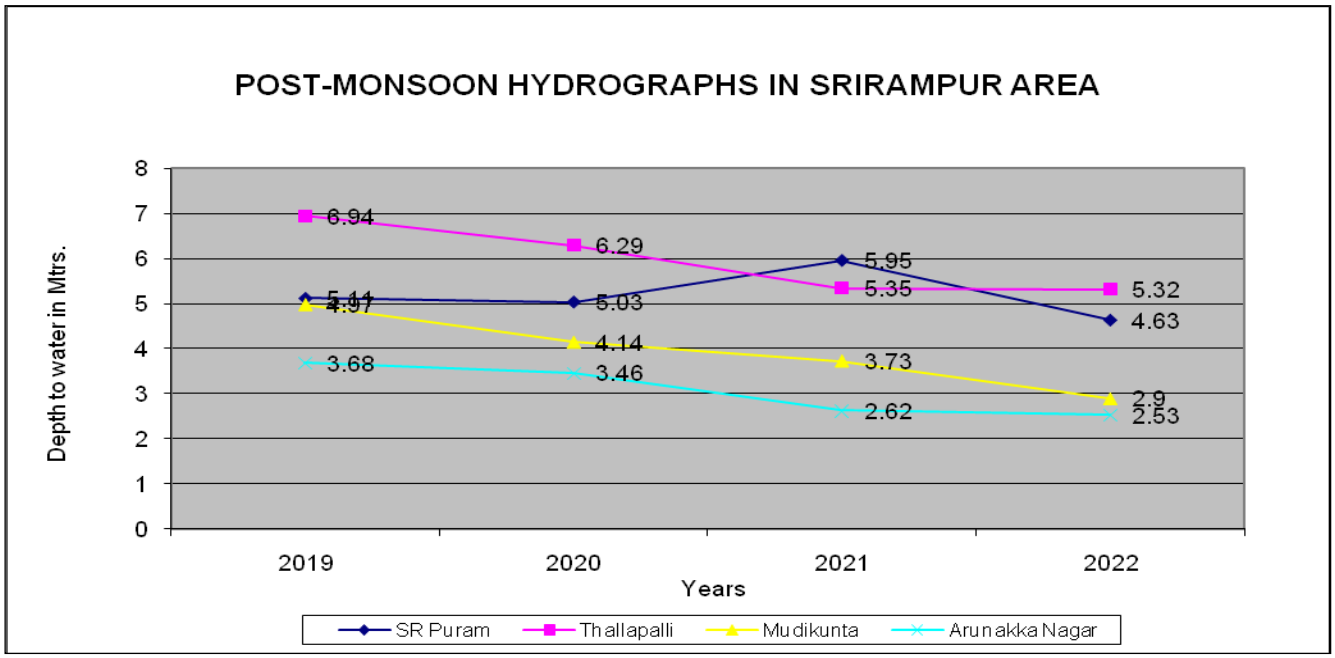
ANNEXURE-IV

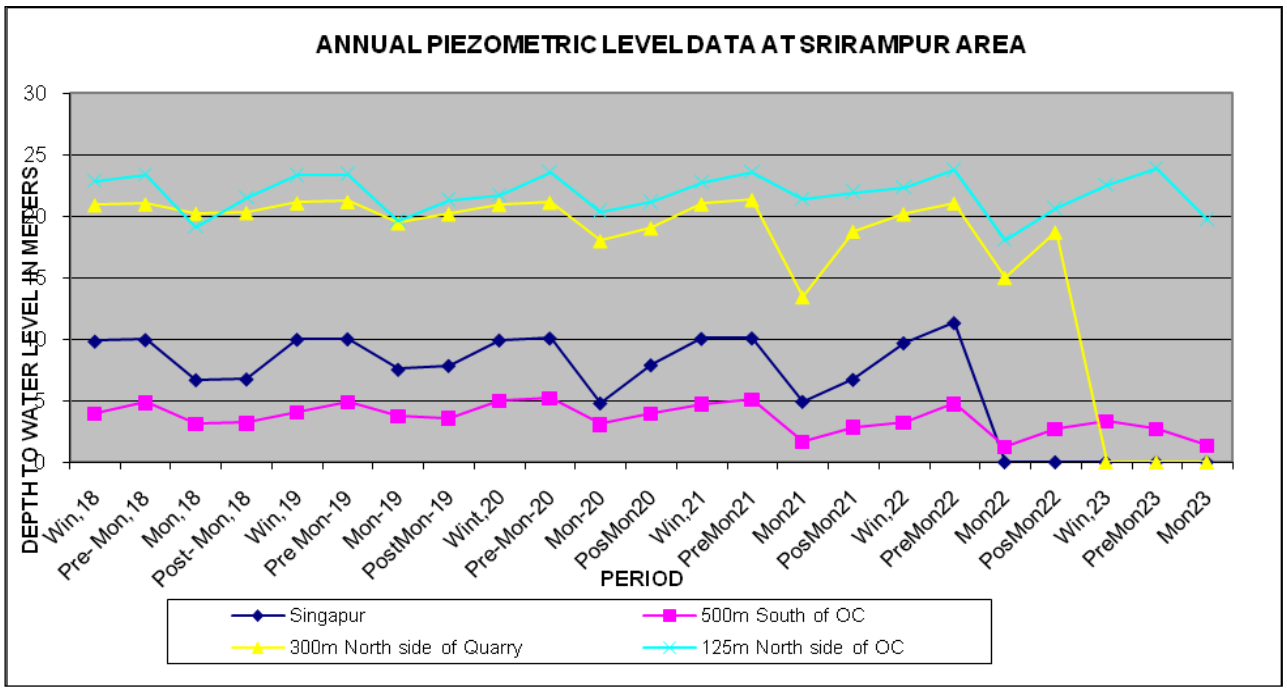
A. ATTITUDE OF PHREATIC SURFACE IN SRIRAMPUR AREA

Sl. No	Name of village	Owner's Name	Type of Well	Dimensions (M)	Total Depth (M)	Geology	Measuring point(MAGL)	Period	Depth to Water (M)				
									2019	**2020**	**2021**	**2022**	**2023**
1	Arunakkanagar near GM office	N.Lingaiah	Domestic	1.00	9.40	Barren Measures Fm	0.30	Winter	5.09	5.01	4.31	3.70	3.84
								Pre-Monsoon	5.15	5.33	5.10	5.78	5.27
								Monsoon	2.89	2.54	1.52	1.50	1.64
								Post-Monsoon	3.68	3.46	2.62	2.53	
2	RK-6 Colony	Q.No.SA-13	Domestic	1.20	10.00	Barkar Fm	0.30	Winter	2.13	2.07	2.44	1.62	1.74
								Pre-Monsoon	2.51	2.48	2.63	4.06	3.53
								Monsoon	1.14	1.19	0.84	0.74	0.81
								Post-Monsoon	1.94	1.90	1.56	1.47	
3	RK-6 Colony/Kurmawada	Karre Posham	Domestic	1.00	6.50	Barkar Fm	GL	Winter	2.53	3.05	2.93	2.83	2.96
								Pre-Monsoon	3.07	3.11	3.17	3.85	1.90
								Monsoon	2.88	1.93	1.20	1.32	1.28
								Post-Monsoon	3.01	2.71	2.10	1.55	
4	RK-6 Colony/Kurmawada	Eshwaraiah	Domestic	1.00	6.50	Barkar Fm	GL	Winter	2.51	2.44	4.50	1.96	AB
								Pre-Monsoon	2.67	2.61	4.66	3.68	--
								Monsoon	2.09	1.96	1.44	WD	--
								Post-Monsoon	2.41	2.66	1.49	AB	
5	S.R.Puram Naspur X Road	Aasami Rajamallamma/ Ippalapalli Kanakaiah	Domestic	1.2	13.50	Talchir	0.6	Winter	6.47	6.35	6.37	6.03	6.18
								Pre-Monsoon	6.71	6.64	6.44	6.88	7.82
								Monsoon	4.29	4.84	4.45	4.21	4.29
								Post-Monsoon	5.11	5.03	5.95	4.63	
6	Sitharamp alli / on the way to intake well	Surimilla Lachanna	Domestic	2.5x3.5	6.90	Sullavai	0.60	Winter	7.43	7.38	7.14	2.98	2.92
								Pre-Monsoon	7.51	7.79	7.31	7.27	4.47
								Monsoon	6.18	4.34	1.75	1.63	2.23
								Post-Monsoon	7.21	4.58	2.48	2.71	
7	Sitharamp alli/on the way to Thallapalli	M.Gopaiah	Domestic	1.20	11.50	Sullavai	GL	Winter	12.84	12.64	12.00	10.29	10.31
								Pre-Monsoon	12.98	13.04	12.63	12.28	13.30
								Monsoon	10.16	6.81	5.70	4.54	5.00
								Post-Monsoon	11.15	10.82	6.95	7.13	
8	Tallapalli/On the way to Intake well	Rukum. Ramaiah	Domestic	2.40	9.10	Sullavai	0.70	Winter	2.49	2.19	2.37	1.91	2.08
								Pre-Monsoon	2.70	2.67	2.73	2.93	2.17
								Monsoon	1.13	2.08	1.35	1.18	2.03
								Post-Monsoon	1.31	2.14	1.85	1.80	
9	Tallapalli/end of the village towards OC	B.Rajaiah	Domestic	1.20	10.50	Sullavai	1.10	Winter	7.89	7.56	7.22	5.85	5.97
								Pre-Monsoon	8.98	9.51	9.52	8.28	9.97
								Monsoon	3.1	3.15	4.55	3.74	4.40
								Post-Monsoon	6.94	6.29	5.35	5.32	
10	Singapuram/opp.panchayat office	Nammala Srinivasu	Domestic	2.40	7.40	Sullavai FM	0.30	Winter	3.94	4.07	5.16	3.33	3.18
								Pre-Monsoon	4.61	5.51	5.33	5.48	4.17
								Monsoon	2.13	2.71	1.70	1.30	1.83
								Post-Monsoon	2.44	2.83	2.35	2.48	
11	Singapuram/near teak plantation	Aggu Sailu	Agriculture	4.00	10.50	Sullavai	GL	Winter	AB	AB	AB	--	--
								Pre-Monsoon	AB	AB	AB	--	--
								Monsoon	AB	AB	AB	--	--
								Post-Monsoon	AB	AB	AB	--	

12	Ramaraopet/Near bridge	Gunta. Chandraiah	Domestic	1.30	5.20	Talchir FM	0.60	Winter	6.31	5.29	6.24	5.08	5.22
								Pre-Monsoon	5.38	5.72	6.28	6.92	--
								Monsoon	2.71	2.97	2.52	1.02	1.08
								Post-Monsoon	5.24	5.11	AB	3.48	
13	Guttedarpalli/Near RWS tank	R.Venkati	Domestic	2.50	8.50	Barkar Fm	0.50	Winter	Dry	Dry	AB	--	--
								Pre-Monsoon	Dry	Dry	AB	--	--
								Monsoon	Dry	Dry	AB	--	--
								Post-Monsoon	Dry	AB	AB	--	
14	Indaram	A.Rajamallu/ opp.BP bunk	Domestic	3x4	11.50	Barren Measures Fm	0.40	Winter	6.17	6.13	6.14	--	6.17
								Pre-Monsoon	6.89	7.37	7.35	7.54	3.60
								Monsoon	3.51	3.85	3.65	3.28	3.44
								Post- Monsoon	3.96	3.94	--	4.10	
15	Indram/ opp. Garden	M.Sankar/Podusani Bhaskar reddy	Domestic	1.00	13.00	Barren Measures Fm	0.90	Winter	AB	AB	AB	--	--
								Pre-Monsoon	AB	AB	AB	--	--
								Monsoon	AB	AB	AB	--	--
								Post- Monsoon	AB	AB	--	--	
16	Indaram/IK-1&1A X-roads	Rajanna	Agriculture	6.50	8.50	Barren Measures Fm	0.70	Winter	AB	AB	AB	--	--
								Pre-Monsoon	AB	AB	AB	--	--
								Monsoon	AB	AB	AB	--	
								Post- Monsoon	AB	AB	--		
17	Tekumatla	Rice mill/ Kamalakar	Domestic	1.60	10.50	Barren Measures Fm	0.60	Winter	9.70	9.67	9.84	--	9.74
								Pre-Monsoon	Dry	Dry	10.53	--	11.37
								Monsoon	9.21	8.22	9.00	7.81	7.68
								Post- Monsoon	9.63	9.75	--	8.10	
18	Tekumatla /behind Panchayat office	V.Ramireddy	Domestic	1.00	11.00	Barren Measures Fm	GL	Winter	2.13	3.66	2.55	3.74	3.88
								Pre-Monsoon	5.32	5.71	5.28	5.32	--
								Monsoon	1.66	2.34	2.10	1.88	3.10
								Post- Monsoon	3.64	2.41	--	2.72	
19	Indaram	Govt. Well	Domestic	2.00	9.00	Barren Measures Fm	0.50	Winter	6.79	6.68	6.34	4.76	4.86
								Pre-Monsoon	Dry	7.13	6.89	7.56	7.37
								Monsoon	Dry	3.82	3.92	3.51	3.73
								Post- Monsoon	5.44	4.95	--	--	
20	Indaram/side of HP Petrol bunk	M. Uppalaiah	Domestic	1.20	7.00	Barren Measures Fm	0.60	Winter	6.24	6.18	6.08	6.24	6.33
								Pre-Monsoon	6.61	6.74	6.57	6.84	6.40
								Monsoon	4.74	4.31	2.05	1.91	2.01
								Post- Monsoon	4.81	4.67	--	--	
21	Rasulpalli	Madhukar	Domestic	1.00	8.00	Barren Measures Fm	0.70	Winter	3.71	3.62	3.46	2.90	2.98
								Pre-Monsoon	5.14	5.54	5.22	4.37	3.05
								Monsoon	1.96	2.18	1.56	1.41	1.48
								Post- Monsoon	3.22	2.89	--	--	
22	Mudikunta	G.Rajaiah	Domestic	1.00	11.40	Barren Measures Fm	0.40	Winter	5.90	5.89	4.93	5.00	5.08
								Pre-Monsoon	5.95	6.14	6.12	8.26	5.51
								Monsoon	4.54	3.61	2.72	2.50	2.70
								Post- Monsoon	4.97	4.14	3.73	2.90	
23	Mudikunta	Ellamma temple	Domestic	1.00	4.50	Barren Measures Fm	0.40	Winter	2.98	AB	AB	--	--
								Pre-Monsoon	AB	AB	AB	--	--
								Monsoon	AB	AB	AB	--	
								Post- Monsoon	AB	AB	--	--	
24	Kankur/near school	Govt. Well /Regunta.Mallesh	Domestic	4.00	9.00/ 10.0	Barren Measures Fm	0.40/ 0.50	Winter	Dry	6.55	AB	6.75	6.82
								Pre-Monsoon	Dry	AB	7.30	7.31	2.85
								Monsoon	7.39	AB	3.83	1.00	2.00
								Post- Monsoon	7.84	AB	--	--	
25	Jaipur	Behind AE Off. Near bus stop	Domestic	1.50	12.00	Kamthi FM	0.80	Winter	3.93	3.84	4.26	2.96	2.99
								Pre-Monsoon	4.05	5.11	5.91	4.87	3.80
								Monsoon	2.34	2.18	1.50	0.81	0.88
								Post- Monsoon	2.66	3.06	--	1.08	


PRE-MONSOON HYDROGRAPHS IN SRIRAMPUR AREA
Depth to water in Mtrs.
12
10
8
6
4
2
0
2019
2020
2021
2022
2023
8.98
9.51
9.52
9.97
6.71
6.64
6.44
6.88
7.82
5.95
6.14
6.12
8.28
5.51
5.15
5.33
5.1
5.78
5.27
0
Series1
Series2
Series3
Series4
Series5


POST-MONSOON HYDROGRAPHS IN SRIRAMPUR AREA
Depth to water in Mtrs.
8
7
6
5
4
3
2
1
0
2019
2020
2021
2022
Years
6.94
6.29
5.95
5.35
5.32
5.11
5.03
4.63
4.97
4.14
3.73
2.9
3.68
3.46
2.62
2.53
SR Puram
Thallapalli
Mudikunta
Arunakka Nagar

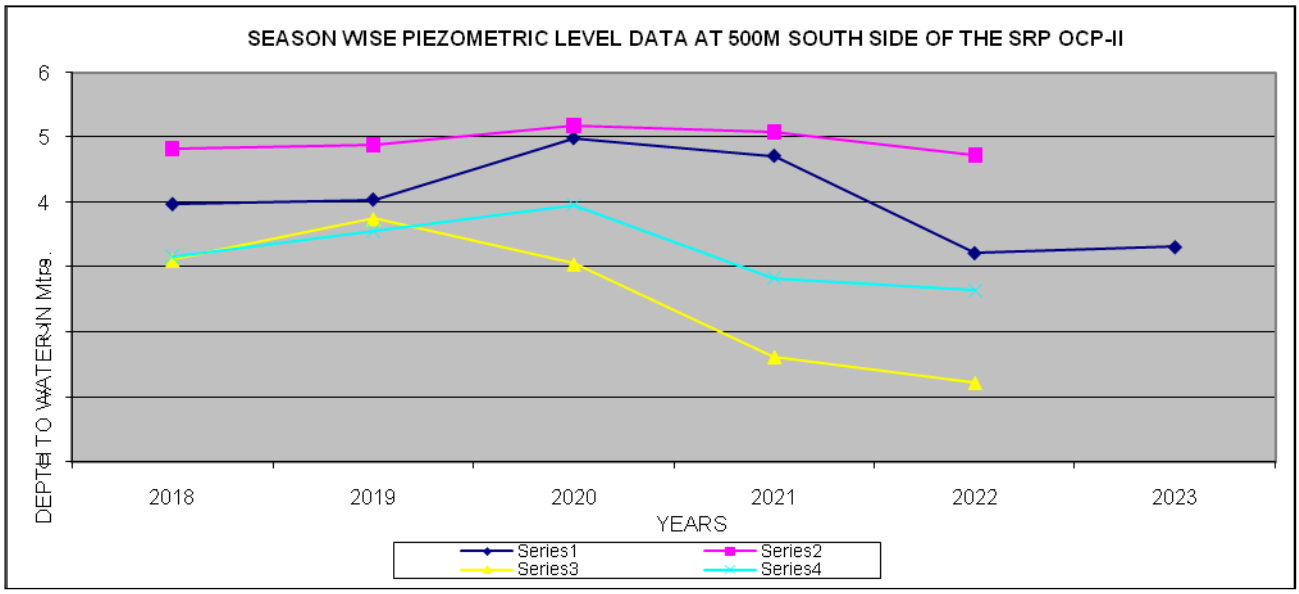


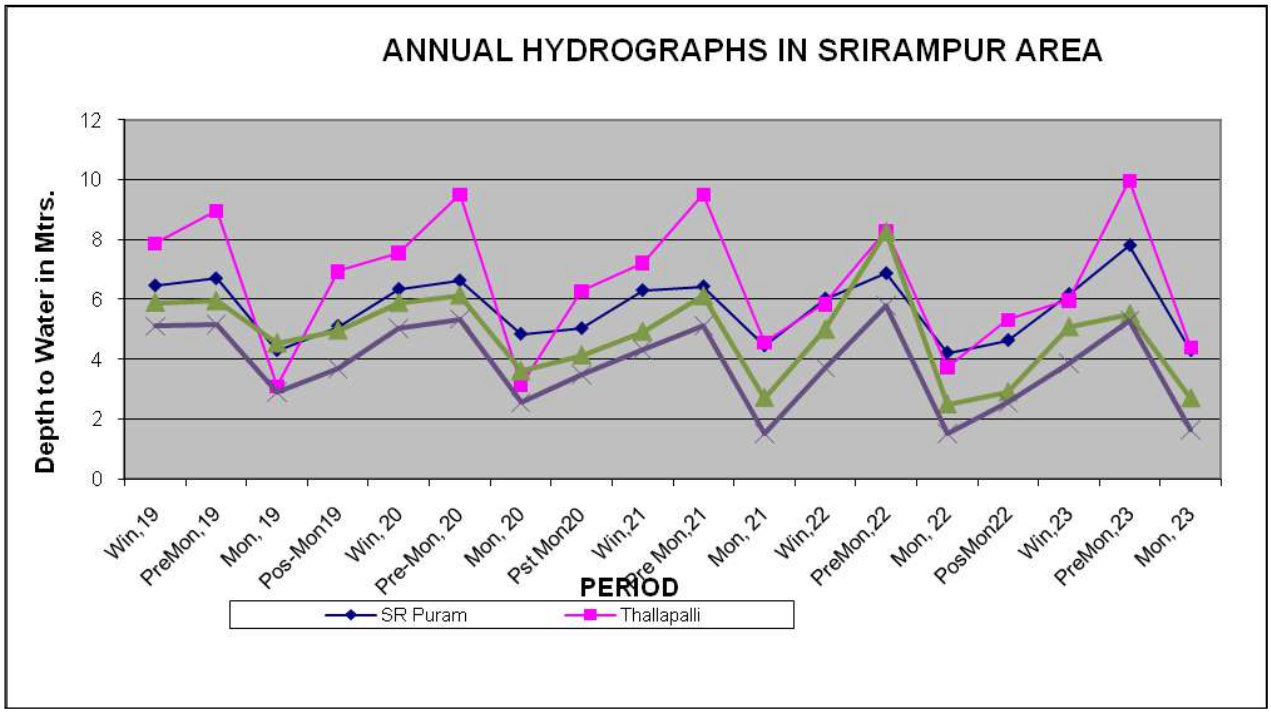
A. PIEZOMETRIC LEVEL DATA OF SRIRAMPUR AREA.

Well No.	Location	Depth (m)	Dia (m)	Measuring point (m above ground level)	Period	Depth to Water (m)					
						2018	**2019**	**2020**	**2021**	**2022**	**2023**
SRP_OCP.II PW-5	About 500 m south of the quarry and 150m north of Indaram Tank (N18^{0}49'35.43" – E 79^{0}30'57.60")	208	0.10	0.30	Winter	3.97	4.04	4.98	4.71	3.22	3.31
					Pre-Monsoon	4.82	4.88	5.18	5.08	4.72	2.70
					Monsoon	3.11	3.75	3.05	1.62	1.22	1.31
					Post-Monsoon	3.16	3.56	3.96	2.83	2.64	
SRP_OCP.II PW-7	Near Singapur village (N18^{0}49'46.47" – E 79^{0}30'25.52")	50	0.10	0.20	Winter	9.82	9.97	9.91	10.04	9.68	*NA
					Pre-Monsoon	9.94	10.01	10.07	10.08	11.32	AB
					Monsoon	6.68	7.53	4.79	4.92	*NA	AB
					Post-Monsoon	6.74	7.84	7.89	6.71	*NA	
SRP_OCP.II PW-8	Near Project Office sub-station. About 125m from N side of quarry surface limit. (N18^{0}51'4.12" – E 79^{0}29'39.90")	50	0.10	0.40	Winter	22.90	23.35	21.72	22.73	22.32	22.52
					Pre-Monsoon	23.41	23.43	23.57	23.62	23.75	23.90
					Monsoon	19.13	19.67	20.4	21.42	18.06	19.73
					Post-Monsoon	21.48	21.33	21.14	21.97	20.63	
SRP_OCP.II PW-10	Road to SRP bus stand, about 300m from N side of quarry surface limit (N18^{0}51'7.10" – E 79^{0}30'11.26")	50	0.1	0.50	Winter	20.90	21.07	20.94	20.99	20.19	NA*
					Pre-Monsoon	20.98	21.17	21.11	21.32	21.05	NA*
					Monsoon	20.21	19.44	17.98	13.42	15.00	NA*
					Post-Monsoon	20.28	20.19	1.03	18.77	18.70	
*SRP_CSIRO PW-11	West side External dump area, Near to Thallapalli village. (N18^{0}49'54.731" – E 79^{0}29'11.085	50	0.1	0.2	Winter	1.97	2.32	2.38	2.23	2.09	2.18
					Pre-Monsoon	2.38	2.53	2.57	2.64	3.17	2.60
					Monsoon	1.05	NA	0.91	1.15	1.05	NA*
					Post-Monsoon	2.00	2.07	2.00	1.89	1.88	
*SRP_CSIRO PW-12	West side External dump area. Near to Thallapalli village (N18^{0}49'50.573" - E 79^{0}29'06.202")	50	0.1	0.2	Winter	2.07	2.87	2.84	2.68	2.80	2.73
					Pre-Monsoon	2.28	2.91	2.93	3.01	4.65	2.80
					Monsoon	2.08	2.12	2.08	1.81	2.03	1.83
					Post-Monsoon	2.14	2.35	2.17	2.29	2.66	
*SRP_CSIRO PW-13	West side External dump area. Road to Godavari river (N18^{0}49'45.286" –	50	0.1	0.2	Winter	2.99	3.05	3.17	3.63	3.92	3.97
					Pre-Monsoon	3.28	3.76	3.84	4.07	4.56	3.70
					Monsoon	3.11	2.98	3.08	2.97	4.21	2.83
					Post-Monsoon	3.06	3.11	3.27	3.85	4.48	

	E 79^{0}29'06.811")										
*SRP_CSIRO PW-14	West side External dump area. Road to Godavari River (N18^{0}49'32.305" – E 79^{0}28'50.154")	50	0.1	0.2	Winter	4.73	4.77	4.68	4.37	4.62	4.54
					Pre-Monsoon	5.25	4.82	4.91	5.77	6.25	5.80
					Monsoon	4.12	4.18	4.13	3.92	4.06	3.38
					Post-Monsoon	4.19	4.24	4.28	4.22	4.45	

Note : NA:Not applicable and AB: Abonded.
Piezometric well No.SRP OCP-I, PW-1,2,3,4,6&9 were abonded





ANNEXURE - V

MINUTES OF THE ENVIRONMENTAL MANAGEMENT COMMITTEE MEETING HELD ON 28.08.2023 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 Addl Manager (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 28.08.2023 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 Agent, RK-5&6 Group
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 Addl Manager(ENV), SRP
9 Sr. Estates Officer, SRP
10 Coll. Mgr., / RK-6
11 Dy. Supdt. Survey Officer/ RK-6

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ANNEXURE - A

3.9.1 Flora & Fauna in Core Zone

Habitat: Core zone is covered forestland of area about 337.15 ha. The habitat is well maintained with artificial rising of plants around the Core area with natural forest species. The tree species listed below are above 5 mts height and herbs and shrubs attracts the birds and butterflies. This area is good habitat for reptiles and amphibians.

FLORA

i). Trees:

S.No.	Scientific Name	Family	Common Name	Status
1.	*Acacia auriculiformis*	Mimosaceae	Ari	C
2.	*Azadirachta indica*	Meliaceae	Vepa	C
3.	*Cassia fistula*	Caesalpiniaceae	Rela	VC
4.	*Cassia siamea*	Caesalpiniaceae	Seema tangedu	C
5.	*Chloroxylon swietenia*	Flindersiaceae	Billudu	C
6.	*Diospyros melanoxylon*	Ebenaceae	Tuniki aku	UC
7.	*Madhuca indica*	Sapotaceae	Ippa	C
8.	*Morinda pubescens*	Rubiaceae	Toguru	C
9.	*Ficus religiosa*	Moraceae	Raavi	C
10.	*Pongamia pinnata*	Fabaceae	Kanuga	A
11.	*Prosopis chilensis*	Mimosaceae	Thumma	C
12.	*Tectona grandis*	Verbenaceae	Teaku chettu	C

ii). Shrubs:

S.No.	Scientific Name	Family	Common Name	Status
13.	*Abutilon indicum*	Malvaceae	Tutturubenda	VC
14.	*Barleria prinonitis*	Acanthaceae	Mullagorinta	C
15.	*Calotrpis gigantean*	Asclepiadaceae	Jilledu	A
16.	*Cassia auriculata*	Caesalpiniaceae	Thangedu	A
17.	*Cassine glauca*	Celastraceae	Nerini,Neridi	C
18.	*Jatropa gossypifolia*	Euphorbiaceae	Nepalamu	C
19.	*Pavetta indica*	Rubiaceae	Kommi	C
20.	*Hyptis sueolens*	Lamiaceae	Konda tulasi	A
21.	*Lantana camara*	Verbenaceae	Ranabheri	C
22.	*Plectranthu parviflora*	Rubiaceae	Balusu	C
23.	*Vitex negundo*	Verbenaceae	Vavili	A
24.	*Zizyphus maurtiana*	Rhamnaceae	Regu	C
25.	*Ricinus communis*	Euphorbiaceae	Amudamu	A

iii). Herbs:

S.No.	Scientific Name	Family	Common Name	Status
26.	*Croton banplandianum*	Euphorbiaceae	Kukkamirapa	A
27.	*Evolvulus alsinoides*	Convolvulaceae	Vishnukranthamu	VC
28.	*Indigofera tinctorea*	Fabaceae	Nili	C
29.	*Solanum surattense*	Solanaceae	Ramamulaga/Kasi	C
30.	*Tephrosea purpurea*	Fabaceae	Vempali	VC

iv). Lianas (Climbers/ Woody climbers):

S.No.	Scientific Name	Family	Common Name	Status
31.	*Cuscuta reflexa*	Solanaceae	Akashavalli	R

32.	*Hemidesmus indicus*	Periplocaceae	Sugandhipala	C
33.	*Tylophora indica*	Asclepiadaceae	Kukkapala	C

v).Grasses;

S.No.	Scientific Name	Family	Common Name	Status
34.	*Aristida ascensions*	Poaceae	Cheepurugaddi	C
35.	*Cynodon dactylon*	Poaceae	Garika	VC
36.	*Cyperus javanicus*	Cyperaceae	Thunga musthalu	VC

vi). Aquatic Plants:

S.No.	Scientific Name	Family	Common Name	Status
37.	*Hydrilla verticillata*	Hydrocharitaceae	Pacchimokka	R
38.	*Ipomoea cornea*	Convolvulaceae	Samudra pala	C
39.	*Phyla nodiflora*	Verbenaceae	Bokkenaku	UC
40.	*Typha angustata*	Typhaceae	Jambhu	C

FAUNA

S.No	*Scientific Name*	Common Name	Status
1	*Felis chaus*	Jungle cat	R
2	*Herpestes edwardsi*	Common mongoose	C
3	*Hystrix indica*	Porcupine	UC
4	*Lepus nigricollis*	Hare	C
5	*Ardeola grayii*	Indian Pond Heron	VC
6	*Bubulcus ibis*	Cattle egret	VC
7	*Egretta gazetta*	Small egret	VC
8	*Galloperdix spadicea*	Red spur fowl	C
9	*Gallus sonneratii*	Grey jungle fowl	C
10	*Naja naja*	Cobra	C
11	*Ptyas mucosus*	Rat snake	C
12	*Vipera ruselli*	Russels viper	UC
13	*Hemidactylus brooki*	Brook's Gecko	C
14	*Hemidactylus flaviviridis*	Northern house Gecko	C
15	*Calotes versicolor*	Common Garden Lizard	VC
16	*Calotes rouxi*	Forest Calottes	VC
17	*Sitana ponticeriana*	Fan-throated lizard	VC
18	*Mabuya carinata*	Common Skink	C

A: ABUNDANT;C : COMMON; VC: VERY COMMON; UC: UNCOMMON; R: RARE

There are no endemic / endangered flora & fauna species found in the Core Zone

3.9.2 Flora & Fauna in Buffer Zone :

Habitat: Buffer zone falls in forestland. The forest type is Dry deciduous mixed forest comprises vegetation in dense patches, scrubs and type formations.

FLORA

i). Trees:

S.No.	Scientific Name	Family	Common Name	Status
1.	*Acacia nilotica*	Mimosaceae	Nallatumma	C
2.	*Albizia amera*	Mimosaceae	Chikireni	C
3.	*Albizia lebbeck*	Mimosaceae	Dirsina, Sirisa	C
4.	*Bambusa arundianacea*	Poaceae	Bongu Veduru	VC

5.	*Cassia auriculata*	Caesalpiniaceae	Thangedu	VC
6.	*Cassia fistula*	Caesalpiniaceae	Rela	C
7.	*Chloroxylon swietenia*	Flindersiaceae	Billudu	C
8.	*Diospyros melanoxylon*	Ebenaceae	Tuniki aku	C
9.	*Eucalyptus globules*	Myrtaceae	Neelagiri thailamu	UC
10.	*Ficus benjamina*	Moraceae	Bembedu	UC
11.	*Ficus religiosa*	Moraceae	Raavi	UC
12.	*Limonia acidissima*	Rutaceae	Velaga	UC
13.	*Litsea glutinosa*	Lauraceae	Narra alagi	R
14.	*Morinda pubescens*	Rubiaceae	Toguru	R
15.	*Phoenix sylvestris*	Palmae	Eethachettu	C
16.	*Pithecelobium dulce*	Mimosaceae	Seemachinta	C
17.	*Pongamia pinnata*	Fabaceae	Kanuga	VC
18.	*Prosopi chilensis*	Mimosaceae	Thumma	C
19.	*Tamarindus indica*	Caesalpiniaceae	Chinta/Tamarind	C
20.	*Tectona grandis*	Verbenaceae	Teaku chettu	C

ii). <u>Shrubs:</u>

S.No.	Scientific Name	Family	Common Name	Status
21.	*Acacia caesia*	Mimosaceae	Korinda	C
22.	*Agave Americana*	Agavaceae	Kithanara	C
23.	*Alangium salvifolium*	Alangiaceae	Uduga	C
24.	*Barleria prionitis*	Acanthaceae	Mullagorinta	UC
25.	*Calotropis gigantean*	Asclepiadaceae	Jilledu	VC
26.	*Carissa carandas*	Apocynaceae	Wakkayalu	C
27.	*Cleistanthus collinus*	Euphorbiaceae	Nalla vadisa	C
28.	*Hyptis sueolens*	Lamiaceae	Konda tulasi	C
29.	*Ricinus communis*	Euphorbiaceae	Amudamu	C
30.	*Vitex negundo*	Verbenaceae	Vavili	VC
31.	*Wrightia tinctorea*	Apocynaceae	Palakodisa	C
32.	*Ziziphus mauritiana*	Rhamnaceae	Regu	C

iii). <u>Herbs:</u>

S.No.	Scientific Name	Family	Common Name	Status
33.	*Croton banplandianum*	Euphorbiaceae	Kukkamirapa	C
34.	*Evolvulus alsinoides*	Convolvulaceae	Vishnukranthamu	C
35.	*Solanum surattense*	Solanaceae	Ramamulaga/Kasi	C
36.	*Tephrosea purpurea*	Fabaceae	Vempali	VC

iv). <u>Lianas (Climbers/ Woody climbers)</u>

S.No.	Scientific Name	Family	Common Name	Status
37.	*Coccinea grandis*	Cucurbitaceae	Donda	C
38.	*Cuscuta reflexa*	Solanaceae	Akashavalli,	VC
39.	*Hemidesmus indicus*	Periplocaceae	Sugandhipala	C
40.	*Tylophora indica*	Asclepiadaceae	Kukkapala	C

v). Aquatic Plants

S.No.	Scientific Name	Family	Common Name	Status
41.	*Hydrilla verticillata.*	Hydrocharitaceae	Pacchimokka	C
42.	*Ipomoea cornea*	Convolvulaceae	Samudra pala	C
43.	*Phyla nodiflora*	Verbenaceae	Bokkenaku	C
44.	*Typha angustata*	Typhaceae	Jambhu	C

vi). <u>Crops/Cultivated Plants</u>

S.No.	Scientific Name	Family	Common Name	Status
45.	*Gossypium herbacium*	Malvaceae	Cotton	C
46.	*Mangifera indica*	Anacardiaceae	Mamidi	C
47.	*Zea maize*	Poaceae	Mokkajonna	C

D. FAUNA:

S.No.	Scientific Name	Common Name	Status
1	*Axis axis*	Chital or Spotted deer	C
2	*Felis chaus*	Jungle cat	UC
3	*Presbytis entellus*	Common langur	C
4	*Sus scrofa*	Wild boar	C
5	*Aeridotheres tristris*	Common myna	C
6	*Copsychus saularis*	Mag-pie robin	C
7	*Corvus splendens*	Common crow	VC
8	*Dicrurus adsimilis*	Black drogon	C
9	*Pitta branchyura*	Indian pitta	C
10	*Psittacula cupatria*	Large Indian parakeet	UC
11	*Psittacula krameri*	Rose ringed parakeet	UC
12	*Pycnotus cafer*	Redvented bulbul	UC
13	*Saxicoloides fulicata*	Indian robin	VC
14	*Steptopelia senegalensis*	Ring dove	C
15	*Turdoides curdatus*	Common babbler	VC
16	*Turdoides striatus*	Jungle babbler	VC
17	*Naja naja*	Binoccllate cobra	C
18	*Sitana ponticeriana*	Fan throated lizard	VC
19	*Typhlina amina*	Common blind snake	VC

A: ABUNDANT;C : COMMON; VC: VERY COMMON; UC: UNCOMMON; R: RARE

As seen from the above list, there are no endemic or endangered species present in this zone.

Annexure-VII

Illumination Report RK – 6 Incline, Srirampur Area for the period April 2023 to September 2023.

S.No	Place/Area to be Illuminated	April - 2023		May-2023		June-2023		July-2023		august-2023		september-2023	
		Minimum illumination in Lux	Measured illumination Levels in Lux	Minimum illumination in Lux	Measured illumination Levels in Lux	Minimum illumination in Lux	Measured illumination Levels in Lux	Minimum illumination in Lux	Measured illumination Levels in Lux	Minimum illumination in Lux	Measured illumination Levels in Lux	Minimum illumination in Lux	Measured illumination Levels in Lux
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	At every shaft landing and shaftbottom/siding which is in regular use	50H	NA										
2.	Travelling roadways(1D/20L/5S, MWD/16L/4S) and haulage roadways(MID,2D,3D Haulages in 5 Seam; MID,2D,3D,3AD Haulages in 4 Seam) including manriding roadway and every incline in use	10H,10V	23H,16V	10H,10V	15H,12V	10H, 10V	25H,10 V	10H, 10V	24H,17V	10H, 10V	38H,24 V	10H, 10V	24H,17V
3.	Haulage roadway junctions(MID/3L,MID/19L, MID/21L,MID/22L,3D/21L,3D/22L Junctions in 5 Seam and MID/21L 3AD/21L,3D/5L Junctions in 4Seam)at which tubs are coupled or uncoupled	30H	28H	30H	32H	30H	38H	30H	20H	30H	34H	30H	30H
4.	At every places of loading(Tramming Levels) and unloading(Tipplers at Surface bankhead)	30H,20V	-	30H,20V	-	30H,20V	-	30H,20V	-	30H,20V	-	30H,20V	-
5.	At every room and place containing any engine, motor or other apparatus in regular use(150HP Hauler room, 300HP MMV Room,200HP MMV Room, 132/3.3KV Substation Room in	30H	30H	30H	31H	30H	33H	30H	38H	30H	26H	30H	35H

	Surface and 2D/19L,3D/19L Haulers in 5 Seam; 2D/22L,3AD/19L,3D/4L Haulers in 4Seam in Underground).												
6.	Working faces and goaf edges of depillaring panels (4N12 & 5N12 simultaneous depillaring panels)	20H,30V	-	20H,30V	-	20H,30V	-	20H,30V	-	20H,30V	-	20H,30V	-
7.	Man Way(Man Riding)	15H	24H	15H	18H	15H	18H	15H	19H	15H	21H	15H	24H
8.	Pumping Stations(3D/4L/5S 40HP Pump and 1D/15L/5S 75HP Pumps)	30H	39H	30H	35H	30H	35H	30H	29H	30H	34H	30H	34H
9.	Area under Filling/Stowing	10H	NA										
10.	Conveyors	NA											
	1.Transfer points and drive/tail end area	40H	NA										
	2.along conveyor	20H	NA										
11.	Hand picking points	50H	NA										
12.	Loco charging station	50H	NA										
13.	Underground garage/workshop	50H	NA										
14.	1)Electrical Substations(4LS/MWD/5S, 14LS/MWD/5S,8LN/MID/5S, 1R/15L/5S,12LN/3D/4S)	100H 50V	94H,42V	100H,50V	101H,57V	100H,50V	102H,51V	100H,50V	99H,53V	100H,50V	108H,54V	100H, 50V	94H,53V
	2)Other places of operations of electrical apparatus /equipment (Compressors in underground at 23LS/2D/5N12,19LN/2D/5S8,	20H,20V	-	20H,20V	-	20H,20V	-	20H,20V	-	20H,20V	-	20H,20V	-

	17LS/MID/5S8,20LN/MID/4S8, 18LN/3AD/4S8,22LN/MID/4N12 and one compressor on surface for testing purposes)												
15.	At every First–Aid Station (20LN/MWD/5S,25LN/MID/4S)	50H	55H	50H	53H	50H	58H	50H	55H	50H	44H	50H	48H
16.	Miners station/rest shelter (20LN/MWD/5S,25LN/MID/4S)	25H	28H	25H	26H	25H	30H	25H	21H	25H	21H	25H	32H
17.	Coal handling plant	NA											
	2	3	4	5	6	7	8	9	10	11	12	13	14
	1)places of crushing, screening ,segregation and loading/un loading	40H	NA										
	2)operation points	50H	NA										
	3)other places(in general)	20H	NA										
18.	Workshop at surface	100H,50 V	NA										
19.	General working areas as determined by the manager in writing 1. Bit grinder room, Black smith shed, Bankhead shed, Test Bench, Canteen, Lamp room, manway office, Rest station and Temple premises.	10H at the level of surface to be illuminated	11	10H at the level of surface to be illuminated	15	10H at the level of surface to be illuminated	13	10H at the level of surface to be illuminated	13	10H at the level of surfaceto be illuminated	11	10H at the level of surface to be illuminated	13

Supdt of Mines
RK- 6 Incline

Supdt of Mines
RK-6 Incline

Gist of Public Hearing conducted for RK-6 Incline Underground Coal Mine Expansion Project of The Singareni Collieries Company Limited (SCCL) on 16.02.2023 at 10.00 AM., at Shanthi Stadium, Krishna Colony, Srirampur, Naspur Mandal, Mancherial District

S.No.	Representation	Proponent Replies	Time line	Monetary provision in Rs.
1	Provide employment to educated youth including women employment and to conduct skill development training programmes and to improve educational facilities in surrounding villages for un employed youth.	About 2600 Jobs were provided to the un employed youth of the surrounding villages in outsourcing jobs in mines/departments of Srirampur area and will also continue to give priority in providing jobs to local youth in outsourcing and other contract jobs. Vocational training is also being imparted to the unemployed youth of nearby villages in various fields which helped them to secure jobs in army and police departments. So far 853 unemployed persons have been trained to get jobs in Army/Police other jobs, out of which 70 were appointed in Army/Police jobs. Further, SCCL is also providing necessary training to local villagers for skill development so that they can get employment/self employment. So far about 1506 un employed youth were given training in different fields like computer hardware & software, fashion designer, bags making, beautician, tailoring, sari rolling, embroidery, screen printing, lamination, driving, army/police training and electrician etc., and will be continued as per the requirement of the local youth. In future also, SCCL will provide necessary training to local people to improve their skill so that they can get employment and also give the priority in outsourcing employment to the land losers and local people where their services are required.	Every year	Under CSR Policy of the company (Training @ 3.00 Lakhs/year)

S.No.	Representation	Proponent Replies	Time line	Monetary provision in Rs.
2	Providing infrastructure developments like C.C. Roads, side drainage arrangements, Bore wells and street lighting etc., to surrounding villages.	Infrastructure development works are being carried out as per the CSR policy of the company and DMFT funds are also being used for infrastructure development. Under CSR activities, So far about Rs.21.3578 Crores were spent for different development activities like laying of roads, CC drains, street lighting, bore wells, drinking water supply, bore wells, construction/renovation of school rooms, construction of toilets and community halls etc. in the surrounding villages of Srirampur area under CSR and about Rs. 415.19 Crores were deposited to District Collectorate account as DMFT fund for carrying the development activities in the surrounding villages of the project. Further as per the requirements of the surrounding villages infrastructure development will be carried out in future also as per CSR policy of the company. As requested Solar street lighting will be provide in Kankur, Gudipalli villages by fixing 19 No. of Street Lights (@ Rs. 50,000 per unit) in needy villages. As requested 1000 LPH RO Plant will be installed in three villages for safe drinking water. As requested development of parks with open gym facility will be provided in the surrounding Kankur, Gudipalli villages and naspur. As requested Repair /widening of existing road leading from SRP 3&3A mine to Royal Talkies will be taken up.	2 years 3 years 3 years 1 year	9.50 Lakhs 27.00 Lakhs 23.22 Lakhs 17.00 Lakhs
3	Providing Medical facilities in the surrounding villages.	SCCL is arranging medical camps in surrounding villages of RK-6 Incline . Doctor with paramedical staff and medicines is being sent with Ambulance to Indaram, Tekumatla, Ramaraopet, Singapur, Guttedarupalli and Thallapalli villages, one day in a week for each village. So far about 12,272 persons got benefited. SCCL will conduct free medical camps in future also.	Regularly	10.00 Lakhs/Year

S.No.	Representation	Proponent Replies	Time line	Monetary provision in Rs.
4	Air, water, noise pollution are effecting the surrounding villages and controlling measures shall be taken and monitoring shall be done as per statute.	All the controlling/mitigation measures to reduce air, water and noise pollution in the mines and in the surrounding villages are being done as mentioned in the EIA/EMP. SCCL is monitoring Air quality ($PM_{10,}$ $PM_{2.5}$ SO_X and NO_X) surface water quality, ground water quality and noise levels in mines and in the 10 km buffer zone by EPTRI, Hyderabad and the results of all the parameters are well within the CPCB standards.	Continuous	92.05 Lakhs/Year
5	Green belt development in and around the project and surrounding villages to control pollution and development of gardens/parks in the nearby villages.	Till now about 1485.00 ha of plantation was carried out in Srirampur area and 26.80 ha at RK-6 Incline expansion mine. In addition, 4 parks have been developed in this area and about 7 lakh fruit bearing and other local species saplings were distributed in the surrounding villages during the last five years. SCCL is also undertaking extensive plantation in the vacant land under Haritaharam and Vriksharopan Abhiyan programmes. And it will be continued.	Every Year Every Year	
6	CSR, and DMFT funds are to be spent in Project effected Villages also and District Collector requested to see that the funds are properly utilized in the effected villages only.	SCCL is taking up infrastructure development works like lying of roads, construction of Drains, Sanitation, Education, Drinking Water Supply etc., in surrounding villages as a part of corporate social responsibility. Till now about Rs. 21.357 Crores of CSR funds were spent for development activities in the affected villages like CC roads, digging of bore wells, repair of school buildings, water supply, free medical camps in past few years and SCCL will continue to develop the infrastructure facilities in the affected villages in future also under CSR. DMFT fund of about 415.19 Crores deposited with the District Collector Mancherial. These funds were being utilized by District Collector in consultation with local MLA with the proposal of priority works recommended by SCCL for development of the affected villages. In addition CSR fund of 2% of 3 years average profit of the	Every year	Under CSR policy as per requirement

S.No.	Representation	Proponent Replies	Time line	Monetary provision in Rs.
		company will be allotted for development activities in the SCCL areas, which also be spent for carrying out the works in the effected villages.		
7	He requested to provide grave yard for RK-6 Hutment area.	The proposed land by villagers for grave yard near RK-6 Hutment area falls in the reserve forest area. Hence, it was informed that if the Municipality provides land for the grave yard, other necessary arrangements will be taken up by SCCL with the approval of the competent authority.		

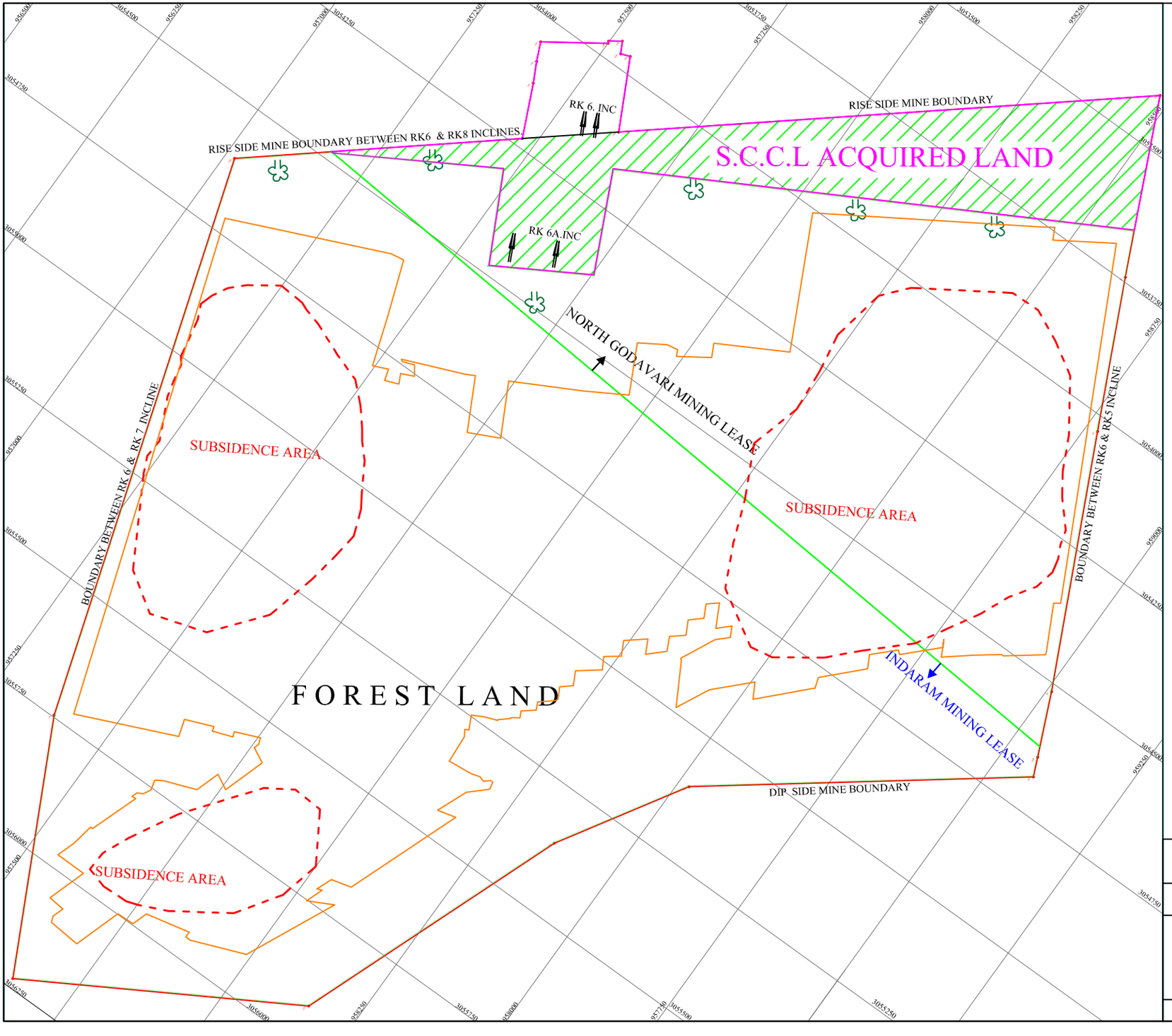
Agent,
RK-5&6 Group of Mines
Srirampur Area.

Agent
RK-5 & 6 Group of Mines
Srirampur Area.

Office of the General Manager
S.C.C.L.
SRIRAMPUR

General Manager
Srirampur Area.

General Manager
SRIRAMPUR



YEAR	BLOCK No'S	AREA IN Sq.m	No. OF PLANTS
UP TO 1990	I	2,842.00	160
1991	II	3,704.00	232
1992	III	2,293.00	275
1993	IV	9,067.00	110
1994	V	4,802.00	466
1995	VI	2,684.00	138
1996	VII	3,692.00	150
1997	VIII	2,727.00	610
1999	IX	4,197.00	201
2000	X	7,000.00	798
2001	XI	6,719.00	205
2002	XII	5,046.00	565
2003	XIII	13,162.00	775
2004	XIV	1,133.00	200
2011	XV	3,360.00	355
2012	XVI	1,92,372.00	13,136
	TOTAL	2,64,800.00	18,376

INDEX

1) FOREST LAND	276.30 Ha
2)S.C.C.L ACQUIRED LAND	29.7 Ha
3) TOTAL MINE TAKE AREA (FOREST LAND)	306 Ha
4) TOTAL AREA BROUGHT UNDER PLANTATION	26.48 Ha

THE SINGARENI COLLIERIES COMPANY LIMITED
(A GOVERNMENT COMPANY)
SRIRAMPUR AREA

RAVINDRAKHANI No. 6 INCLINE

PLANTATION AND LAND USE PLAN

CERTIFIED THAT THE PLAN IS CORRECT

SURVEYOR

MANAGER

R.F. :- 1: 10,000