B.S. ENVI - TECH PVT. LTD.
CONSULTANTS - ENVIRONMENT & ENERGY

REF: PCIL/ AMC/2022-23 **Date: 05.08.2023**

To,

P. Vijaya Bhaskar Reddy,

Dy.GM (Lab& QC),

M/s. Parasakti Cements Industries Ltd,

Jettipalem (V), Rentachintala (m),

Guntur Dist., Andhra Pradesh.

Sub: **Report of Environmental Audit Statement [FORM-V] for the financial year 2022-23. Regd.**
Ref: PCIL.WO:NO:WO/2300024/2022-23, Dated : 01.04.2023.

Dear Sir,
Please find enclosed four copies report of Environmental Audit Statement [FORM-V] for Cement Plant and Mines of Parasakti Cements Industries Ltd. for the financial year 2022-23.

Thanking you,

Very truly yours,

For **B.S. Envi-Tech Pvt. Ltd,**

V.Vijay Kumar
Authorized Signatory

(Encl: as above)

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CIN No. : U74210TG1999PTC032358

M/s. PARASAKTI LIMESTONE MINE

Jettipalem (Village & Post), Rentachintala (Mandal)
Palnadu (Dist.) – A.P.

ENVIRONMENTAL STATEMENT (AUDIT) FOR THE FINANCIAL YEAR 2022-2023

B.S ENVI-TECH PVT.LTD
12-13-1270/71/73, 4th Floor, Amity Ville,
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Ph No: 040-49783062

ACKNOWLEDGEMENT

M/s. Universal Enviro Associates express since debt of gratitude to **M/s. Parasakti Limestone Mine (M/s. Parasakti Cement Industries Limited)** for the opportunity given by assigning the preparation of Environmental Statement (Audit) for their Mines located near Jettipalem (V) Rentachintala (M), Palnadu (Dist) of Andhra Pradesh. The Environmental Statement (Audit) is prepared for the financial year from April 2022 to March 2023. Special mention needs to be made of executives of M/s. Parasakti Limestone Mines (M/s. Parasakti Cement Industries Limited) for their cooperation and assistance during the preparation of Environmental Statement. We also wish to acknowledge our gratitude to all of them who helped during the data collection and report preparation.

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ANNEXURES:

FORM - V
(See rule 14)

ENVIRONMENTAL STATEMENT REPORT FOR THE FINANCIAL YEAR ENDING THE 31ST MARCH 2023.

PART – A

1	Name and address of the owner/ occupier of the industry operation or process.	**M/s. Parasakti Cement Industries Ltd.,** Myscape WEAVE,5th Floor, Finacial District, Gachibowli, Hyderabad – 500 032. **Factory:** Jettipalem, Rentachintala Mandal, Palanadu District, Andhra Pradesh.
2	Date of last environmental audit Report submitted	September, 2022
3	Production Capacity (units)	1.8 Million tons/annum.
4	Year of establishment	2005

PART – B

Water and Raw Material Consumption		
a) Water consumption	**70.70**	KLD
1.Water spraying, Gardening & Dust suppression	61.40	KLD
2. Workshop (vehicle washing)	2.24	KLD
3. Domestic	7.06	KLD

Name of Products	Water consumption per unit of product (KL/MT)	
	During the previous financial year (2021-2022)	During the current financial year (2022-2023)
Limestone	0.0204 m^3/MT Limestone	0.0196 m^3/MT Limestone

ii) Raw material & chemicals consumption				
Name of raw materials	Name of product	Unit	Consumption of raw material per unit of output	
			During the previous financial year (2021-2022)	During the current financial year (2022-2023)
Explosives	Limestone	Kg/MT	0.104	0.111

PART – C
POLLUTION GENERATED
(Parameter as Specified in the consent issued)

Pollutants	Quantity of Pollutants Discharged (Kg/day) 2021-2022	Concentrations Of Pollutants in Discharges (mg/L) 2022-2023	Percentage of variation from prescribed standards with reasons
a) Waste Water: (There is no waste water during process)			
b) Air: There are no source emissions; only dust generation during mining operation is monitored by establishment ambient air quality sampling stations at various places in mine premises and surrounding areas. The generated data is shown in table 3. Analyzed data shows all the values are within the prescribed standards of APPCB.			

PART - D
HAZARDOUS WASTE

(As specified under Hazardous wastes / Management and handling Rules, 2003)

Hazardous wastes	Total Quantity per year	
	During the previous financial year (2021-2022)	During the current financial year (2022-2023)
From Process		
Waste Lube Oil	7851 KL	8060 KL
Waste Grease	NIL	NIL
Batteries scrap- used Batteries	27 No's	20 No's
From Pollution Control facility		
	NIL	NIL
Quantity recycled or Re-utilized		
	NIL	NIL

Note: Waste Oil, Grease and Batteries scrap- used Batteries generated from HEMM

PART – E
SOLID WASTES

Solid Wastes	Total Quantity	
	During the previous financial year (2021-2022)	During the current financial year (2022-2023)
From Process		
From Process Black cotton soil generating In mining operation		
	57827 MT	1675 MT
From Pollution Control Facilities		
	NA	NA
Quantity recycled or reutilized within the unit		
For Plantation Purpose	15825 MT	1675 MT

PART - F

Please specify the characteristics (in terms of concentration and quantum) of Hazardous as well as solid wastes and indicates disposal particles adopted for both these categories of wastes.

About 8060 KL Used Lube oil have been generated from the Mines. 8060 KL Used Lube oil is internally used for self consumption.

20 No's of Batteries scrap- used batteries is sold to M/S Sri Padmavathi Energy solutions India (p) Ltd Hyd.

Solid waste as black cotton soil, negligible in quantity, generated during mining operation It is used in greenbelt developments.

PART – G

Impact of the pollution control measures on conservation of natural resources and consequently on the cost of production.

Evaluation on this aspect is being carried. Reclamation of mined out area as development of water storage reservoirs will be done to facilitate increase in water regime after completion of mining in lease hold area.

PART - H

Additional investment proposal for environmental protection including abatement of pollution.

1. An amount of Rs. 1,80,000/- per annum is being spent on monitoring for Mines.
2. Total Expenditure on the greenbelt development for the year 2022-23 is Rs.14,59,999/-

PART – I

Any other particulars in respect of environment protection and abatement of pollution.

The Management objective is to achieve the production without affecting the physical, chemical and biological environments of the nearby vicinity.

Development of deep sump in mines has been taken up, so that rain water can be stored for use during summer. The same sump also helps in recharging of the underlying aquifer.

Rain harvesting is practiced and same water is being used for dust suppression. For noise pollution control, down the hole initiation system are used. Over and above greenbelt is developed along the boundary of mine area for reducing the impact of noise due to mining activity on the surrounding Environment. Regular water sprinkling is done at mine face and haulage roads to suppress dust. Conservation of resources is done following approved mining plan.

1. INTRODUCTION

Name of the Mine	:	Parasakti Limestone Mine
Name of the Owner	:	Mr. P.Yashwanth Krishna
Location	:	M/s Parasakti Cement Industries Limited
		POST: JETTIPALEM – 522421.
		Mandal: Rentachintala, District: Palnadu. A.P.
Production Capacity	:	1.8 million tons per annum.

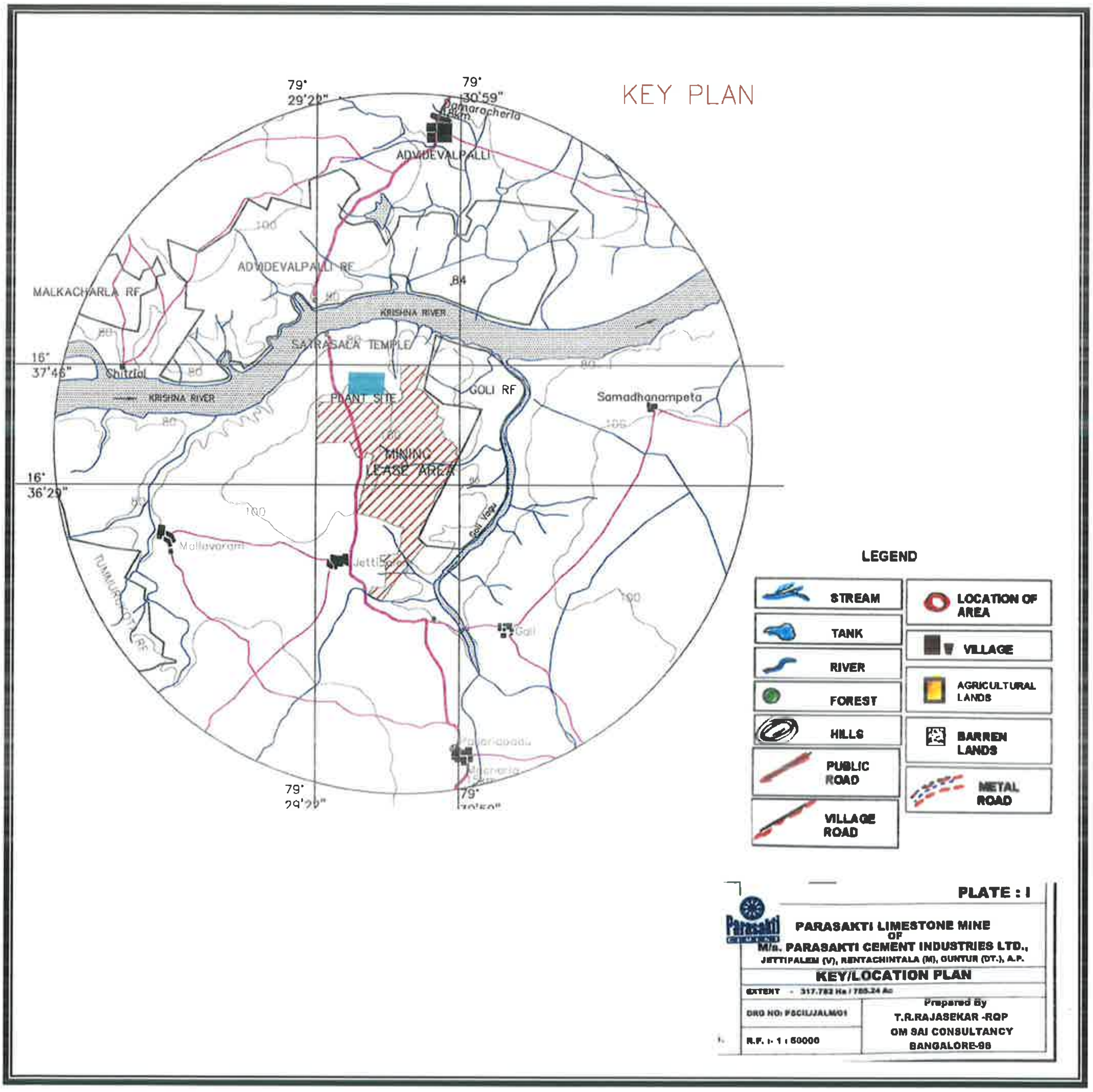
2. OBJECTIVE OF THE STUDY:

The objective of the present study is to review the performance of pollution control systems installed by the industry so as to identify efficient pollution prevention and control systems, which could be beneficial to both environment and its components. And also **Inserted by rule 2 of the Environment (Protection) second Amendment & Rules, 1992 vide G.S.R. 329 (E), dated: 13-3-1992.** Every person carrying on an Industry, operation or process requiring consent under section 25 of the water (prevention and control of pollution) Act 1974 (6 of 1974) or under section 21 of the Air (Prevention and Control of Pollution), Act 1981 (14 of 1981) or both or authorization under the Hazardous wastes (Management and Handling) Rules, 1989 issued under the Environmental (Protection) Act 1986 (29 of 1986) shall submit an environmental audit report for the financial year ending 31st March in Form – V to the concerned state pollution control board on or before the 30th day of September every year.

3. BENEFITS OF ENVIRONMENTAL AUDIT

Environmental audit creates awareness in the conservation of natural resources and helps to improve production safety and health. The benefits of audits are:

1. It helps in reduction of raw material consumption by way of waste minimization and adoption of recovery of waste and recycles the same.
2. Determined the performance of process systems and helps to improve the systems.
3. Efficiency of pollution control systems can be calculated.
4. This gives the awareness of environmental organization in the industry.
5. Data available will help the management for use in the plant modification and adopting pollution control for different types of technology.
6. It helps to identify pollution creating systems and exposure to it by the employees for taking remedial measures.
7. The management will be assisted in complying with local, regional and national laws regulations by adopting standards.
8. It helps to identify hazardous wastes, handling measures taken and exposure to litigation can be reduced.
9. To determine the impact on the surrounding environment due the disposal of its pollutants and identify suitable preventive measures.
10. Energy saving systems can be adopted by considering fuel consumption data.


KEY PLAN
ADVIDEVALPALLI
ADVIDEVALPALLI RF
MALKACHARLA RF
KRISHNA RIVER
SATRASALA TEMPLE
Chitrial
GOLI RF
PLANT SITE
MINING LEASE AREA
Samadhanampeta
Mallavaram
Jetti
Goli
LEGEND
STREAM
TANK
RIVER
FOREST
HILLS
PUBLIC ROAD
VILLAGE ROAD
LOCATION OF AREA
VILLAGE
AGRICULTURAL LANDS
BARREN LANDS
METAL ROAD
PLATE : I
PARASAKTI LIMESTONE MINE
OF
M/s. PARASAKTI CEMENT INDUSTRIES LTD.,
KEY/LOCATION PLAN
DRG NO: PSCIL/JALM/01
R.F. :- 1 : 50000
Prepared By
T.R.RAJASEKAR -RQP
OM SAI CONSULTANCY
BANGALORE-98

M/s. Parasakti Limestone Mine (M/s. Parasakti Cement Industries Limited) has entrusted the task of preparation of Environmental Statement (Audit) to M/s. Universal Enviro Associates (UEA), Hyderabad. An in-depth study was conducted by UEA, to review the process efficiency, waste water generated and the present treatment systems, emissions generated and air pollution control equipment provided mode of solid waste collection and disposal and the other associated problems leading to the pollution and impact on environment.

4. LOCATION:

The Parasakti Limestone Mine of M/s. Parasakti Cement Industries Limited is situated in Jettipalm Village, Rentachintala Mandal, Guntur district of Andhra Pradesh. The area is located between Latitude $16^0$35'24" - $16^0$37'46" N and Longitude $79^0$29'22" - 79^0 30'48" E. The mine is covered in Survey of India Topo sheet no. 56 P/6 & 56 P/10, Krishna River, which is perennial river, is flowing in the Northern direction at a distance of 2.0 Km from the mines area. Salient features of the mine are given in **Table 1.1.**

5. MINING PROCESS:

Parasakti Cement Industries Limited mine is operated by the method of mechanized open cast mining. The operations are conducted as per the mining plan approved by IBM. The operations involved are:

i) Drilling of deep blast holes of 115 mm dia using DTH drill machines with matching capacity air compressors. The spacing and burden is around 5m and 3m respectively.

ii) Blasting the holes using slurry explosives and ammonium nitrate-fuel oil mixture.

iii) The blasted material is loaded into dumpers using excavators.

iv) The dumpers shall be hauled to the crushing plant located near the plant. After crushing, the material shall be conveyed to the stockpile in the factory using a belt conveyor.

B.C soil that covers the limestone deposit is dozed off and separately stacked for aforestation purposes in the worked out top bench around ultimate pit limit and mine avenue roads. This soil is occurring at some places only. Over burden is proposed to be handled during the plan period. A list of mining machinery that are being used at Parasakti Limestone Mine of M/s. Parasakti Cement Industries Limited is given in table 1. The process flow of mining is given in Fig.2.

Fig.1 MINING PROCESS

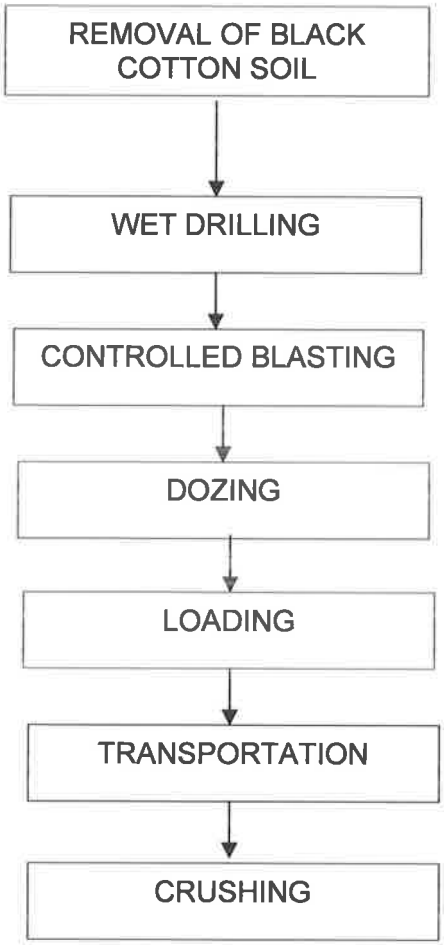


Table 1. List of Mining Machinery

Equipment	No. of Units	Capacity	HP
EXCAVATER	02	3.3 cum	395
EXCAVATER	01	0.8 cum	138
DUMPER	05	35.0Tons	399
DOZER	01	30.0Tons	212
Air Compressor(Non Electric)	01	450 cfm	121
Compressor(Electric)	01	450 cfm	121
Rock Drill	02	115 mm	---
Water Tanker	01	10000 Lts.	139
Explosive Van	01	5.0 Tons	92
Service Van	01	-----	139

6. WATER ENVIRONMENT

Atmospheric precipitation in the form of rain is the only source for both surface water and ground water in the mining area.

As the mining activity is carried out deep into the ground and depending on the ground water table prevailing in the area, ground water flows into mine and will be drained out for continuing the mining activity. The mine drainage water is to be characterized to have an idea of the water quality in the mine area. The mining activity is carried out at elevated area and so far water table was not touched and hence there is no mine drainage, except rain water accumulation during rainy season. Samples were collected from various locations in and around mining area and analyzed. The water quality data is presented in Tables 2.

The generated data for water quality shows that all the samples meet the standards prescribed by statutory authorities.

Water table level with reference to existing ground level is 47 – 48 m. Mining operation has not intersected water table.

Table 2
AVERAGE VALUES OF WATER ANALYSIS

S No.	Parameters	LOCATIONS				
		1	2	3	4	5
1.	Odour	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
2.	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3.	Colour (Hazen units)	2.71	3.1	3.4	5.5	3.9
4.	pH	7.80	7.4	7.6	7.6	7.3
5.	Turbidity (NTU)	2.75	1.4	1.4	3.7	1.4
6..	Total hardness as $CaCO_3$	202	286	318	191	289.0
7.	Iron as Fe	0.17	0.1	0.2	0.1	0.1
8.	Mineral Oil	BDL	BDL	BDL	BDL	BDL
9	Chlorides as Cl	85.7	104	116	90.6	86.4
10	TDS	449	531	743	389	524
11	Calcium as Ca	53.1	76.2	83.7	49.4	73.9
12	Magnesium as Mg	20.95	21.8	24.1	20.1	21.1
13.	Copper as Cu	BDL	BDL	BDL	BDL	BDL
14.	Manganese as Mn	BDL	BDL	BDL	BDL	BDL
15.	Sulphates as as SO_4	42.3	75.4	95.7	70.8	63.1
16.	Nitrates as NO_3	4.6	5.5	5.4	5.0	5.8
17.	Fluoride as F	0.68	0.7	0.9	0.8	0.7
18.	Mercury as Hg	BDL	BDL	BDL	BDL	BDL
19	Cadmium as Cd	BDL	BDL	BDL	BDL	BDL
20.	Selenium as Se	BDL	BDL	BDL	BDL	BDL
21.	Arsenic as As	BDL	BDL	BDL	BDL	BDL
22.	Cynide as Cn	BDL	BDL	BDL	BDL	BDL
23.	Lead as Pb	BDL	BDL	BDL	BDL	BDL
24.	Zinc as Zn	BDL	BDL	BDL	BDL	BDL
25.	Chromium as Cr^{+6}	BDL	BDL	BDL	BDL	BDL
26.	Pesticides	Absent	Absent	Absent	Absent	Absent
27.	Alkalinity as $CaCO_3$	132	178	304	175	193
28.	Boran as B	0.06	0.1	0.1	0.1	0.1
29.	MPN of Coliform Count/100 ml	Nil	Nil	Nil	Nil	Nil

Note: All the values except pH, Taste, Odour, Colour & Turbidity are expressed in mg/L.

1. River Krishna 2. Jettipalem Village 3. Goli Vagu 4. Goli village 5. Samadhanampeta

7. POLLUTION CONTROL IN THE MINE

7.1 Pollution control measures

The Management has given top priority of pollution prevention and control. Adopting various pollution control measures stage wise operation controls the Air pollutants emitted into atmosphere.

7.2 Ambient Air Quality

Ambient air quality monitoring is carried out regularly at mines to know the status of the ambient air quality.

Ambient air quality is monitored for 24 hours at following locations Near Mines Office, Near Haulage Road, Crusher site, Drilling point, Jettipalem Village, for the estimation of PM_{10}, $PM_{2.5}$, SO_2, NOx and CO. Estimated average values for the parameters monitored is represented in the Table 4 the analyzed values for PM_{10}, $PM_{2.5}$, SO_2, NOx and CO are within limits prescribed by APPCB for industrial and mixed use.

Table 3
AVERAGE VALUES OF AMBIENT AIR QUALITY DATA

Parameter → / Location ↓	Particulate Matter (PM_{10}) ($\mu g/m^3$)	Particulate Matter ($PM_{2.5}$) ($\mu g/m^3$)	Sulphur dioxide ($\mu g/m^3$)	Oxides of Nitrogen ($\mu g/m^3$)
1	54.58	26.50	11.48	13.48
2	62.33	31.00	13.08	15.40
3	62.67	29.75	12.91	15.03
4	55.08	26.42	13.32	15.46
5	62.92	30.17	12.32	14.58

Locations:
1. Near Mines Office
2. Near Haulage Road
3. Near Security gate
4. Near crushing area
5. Near Drilling Point

7.3 Waste water Sources and Monitoring

Wastewater from toilets is sent to septic tank followed by soak pit. Water used only dust suppression and wet drilling, no waste water is generated.

7.4 Noise Pollution

Noise pollution control measures are adopted at various stages of operation. Noise Levels are measured at various places in the mines by using a sound level meter the results are given in the table. 4

Table 4
Ambient Noise Levels

S No.	Location	Noise Levels in dB(A)	Noise Levels in dB(A)
		Day Time	Night Time
1	Near Mines Office	61.47	51.85
2	Near Drilling area	65.30	54.80
3	Near Haulage Road	63.12	48.84
4	Jettipalem village	49.87	38.34
5	Satrashala	45.48	37.20

Table - 5
GREENBELT DEVELOPMENT

DETAILS OF SPECIES FOR GREEN BELT DEVELOPMENT FOR THE YEAR 2022-23	
MINES LEASE AREA	
AREA IN ACRES	0.61
NO. OF PLANTS	514
NAME OF THE SPECIES	Felto form, Saptaparani,sugar apple,amlatree,Tamarind
Survival rate (%)	80%
WATER SUPPLY	Drip system and Water Tanker
OUTSIDE LEAS AREA	
AREA IN ACRES	0.91
NO. OF PLANTS	480
NAME OF THE SPECIES	Black plum, Dubai,filtoform,Tamarind
Survival rate (%)	80%
WATER SUPPLY	Drip system and Water Tanker
GRAND TOTAL	
AREA IN ACRES	1.52
NO. OF PLANTS	994

9. HOUSEKEEPING:

Proper cleaning of the different sections is required to maintain healthy environment, to avoid unnecessary loss of product in the form of dust emission and polluting surrounding environment. Water spraying is done inside the mine and premises to control dust emissions from haul road and dump yard. Work shop maintaining properly. Mine premises are clean and green to have good housekeeping. M/s. PARASAKTI LIME STONE MINE is keeping their workings and premises neat tidy. Housekeeping has been found to be well.

10. CONCLUSIONS

There are no effluents like mine drainage etc. from the mine area. The water samples collected in and around mine area are meeting the standards as per IS: 10500 – 1991.

Ambient air quality data generated in core zone i.e., mining area and immediate surroundings are observed to be varying between the limits with mining operations. SO_2 and NOx concentrations are consistent during the whole day hence the SO_2 and NOx emissions due to mining operations are negligible in the area.

Ambient air quality data generated in buffer zone i.e., nearby areas with habitations around the mining area showed consistently very less concentrations for all the parameters analyzed hence there is no impact in the buffer zone due to the mining operations carried out. The mine operations are meeting the overall standards of the statutory authorities.

ANNEXURE – I (MINES)
MONTH WISE WATER CONSUMPTION FOR THE YEAR 2022-23

MONTH	Mines (KL)	Domestic (KL)	Total (KL)
April, 2022	1924.50	222.50	2147.00
May, 2022	2110.50	224.00	2334.50
June, 2022	2144.50	216.50	2361.00
July, 2022	1901.00	219.50	2120.50
August, 2022	1930.50	216.00	2146.50
September, 2022	1874.70	208.50	2083.20
October, 2022	1888.40	218.30	2106.70
November, 2022	1892.40	209.70	2102.10
December, 2022	1892.50	216.20	2108.70
January, 2023	1905.00	215.60	2120.60
February, 2023	1769.40	195.80	1965.20
March, 2023	1992.10	217.80	2209.90
TOTAL	**23225.50**	**2580.40**	**25805.90**

ANNEXURE – II (MINES)
LIMESTONE PRODUCTION AND CONSUMPTION FOR THE YEAR 2022-23

MONTH	PRODUCTION in MT	Despatch
April, 2022	1,40,000	1,10,108
May, 2022	1,05,000	1,24,612
June, 2022	1,05,000	1,15,280
July, 2022	90,000	82,529
August, 2022	85,000	76,444
September, 2022	1,05,000	1,16,357
October, 2022	1,25,000	1,19,601
November, 2022	1,05,000	1,14,383
December, 2022	1,40,000	1,19,439
January, 2023	1,00,000	1,11,817
February, 2023	1,20,000	1,10,252
March, 2023	90,000	1,09,178
TOTAL	**13,10,000**	**13,10,000**

Blasting material consumption for 2022-23		
Month	**Slurry (Kg.)**	**Ammonium Nitrate (Kg.)**
April, 2022	2,250	7,700
May, 2022	4,225	14,000
June, 2022	3,975	11,650
July, 2022	2,050	2,600
August, 2022	2,250	6,900
September, 2022	2,325	6,700
October, 2022	4,275	9,600
November, 2022	2,950	8,950
December, 2022	2,650	10,800
January, 2023	2,675	10,600
February, 2023	2,775	10,350
March, 2023	2,975	11,400
TOTAL	**35375**	**111250**

EXPENDITURE ON POLLUTION CONTROL EQUIPMENT & MONITORING 2022-23

	Cost Rs	TOTAL
YEARLY MONITORING CHARGES	1,80,000	1,80,000
HORTICULTURE	1,11,147	
PLANTATION	13,48,852	
TOTAL PLANTATION & HORTICULTURE		14,59,999
GRAND TOTAL		**16,39,999**