M/s. PARASAKTI LIMESTONE MINE

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

ENVIRONMENTAL STATEMENT (AUDIT) FOR THE FINANCIAL YEAR 2021-2022

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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), Guntur (Dist) of Andhra Pradesh. The Environmental Statement (Audit) is prepared for the financial year from April 2021 to March 2022. 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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FORM - V
(See rule 14)

ENVIRONMENTAL STATEMENT REPORT FOR THE FINANCIAL YEAR ENDING THE 31ST MARCH 2022.

PART – A

1	Name and address of the owner/ occupier of the industry operation or process.	**M/s. Parasakti Cement Industries Ltd.,** Plot No. 8-3-214/21, Srinivasa Nagar Colony (West), Hyderabad – 500 038. **Factory:** Jettipalem, Rentachintala Mandal, Palanadu District, Andhra Pradesh.
2	Date of last environmental audit Report submitted	September, 2021
3	Production Capacity (units)	1.8 Million tons/annum.
4	Year of establishment	2005

PART – B

Water and Raw Material Consumption		
a) Water consumption	**77.39**	KLD
1.Water spraying, Gardening & Dust suppression	67.65	KLD
2. Workshop (vehicle washing)	2.60	KLD
3. Domestic	7.14	KLD

Name of Products	Water consumption per unit of product (KL/MT)	
	During the previous financial year (2020-2021)	During the current financial year (2021-2022)
Limestone	0.0193 m^3/MT Limestone	0.0204m^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 (2020-2021)	During the current financial year (2021-2022)
Explosives	Limestone	Kg/MT	0.122	0.104

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

Pollutants	Quantity of Pollutants Discharged (Kg/day) 2020-2021	Concentrations Of Pollutants in Discharges (mg/L) 2021-2022	Percentage of variation from prescribed standards with reasons
a) Waste Water: (There is no waste water during process)			
b) Air: There is 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 (2020-2021)	During the current financial year (2021-2022)
From Process		
Waste Lube Oil	1.449 KL	7851KL
Waste Grease	NIL	NIL
Batteries scrap- used Batteries	NIL	27No'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 (2020-2021)	During the current financial year (2021-2022)
From Process		
From Process Black cotton soil generating In mining operation		
	23100 MT	57827 MT
From Pollution Control Facilities		
	NA	NA
Quantity recycled or reutilized within the unit		
For Plantation Purpose	11550 MT	15825 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 7851KL Used Lube oil have been generated from the Mines. 7851KL Used Lube oil is internally used for self consumption.

27No'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 is stored in dumps and 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. 1,75,820/- per annum is being spent on monitoring for Mines.
2. Total Expenditure on the greenbelt development for the year 2021-22 is Rs.19,57,476/-

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: Guntur. A.P.
Production Capacity	:	1.8 million tons per annum.

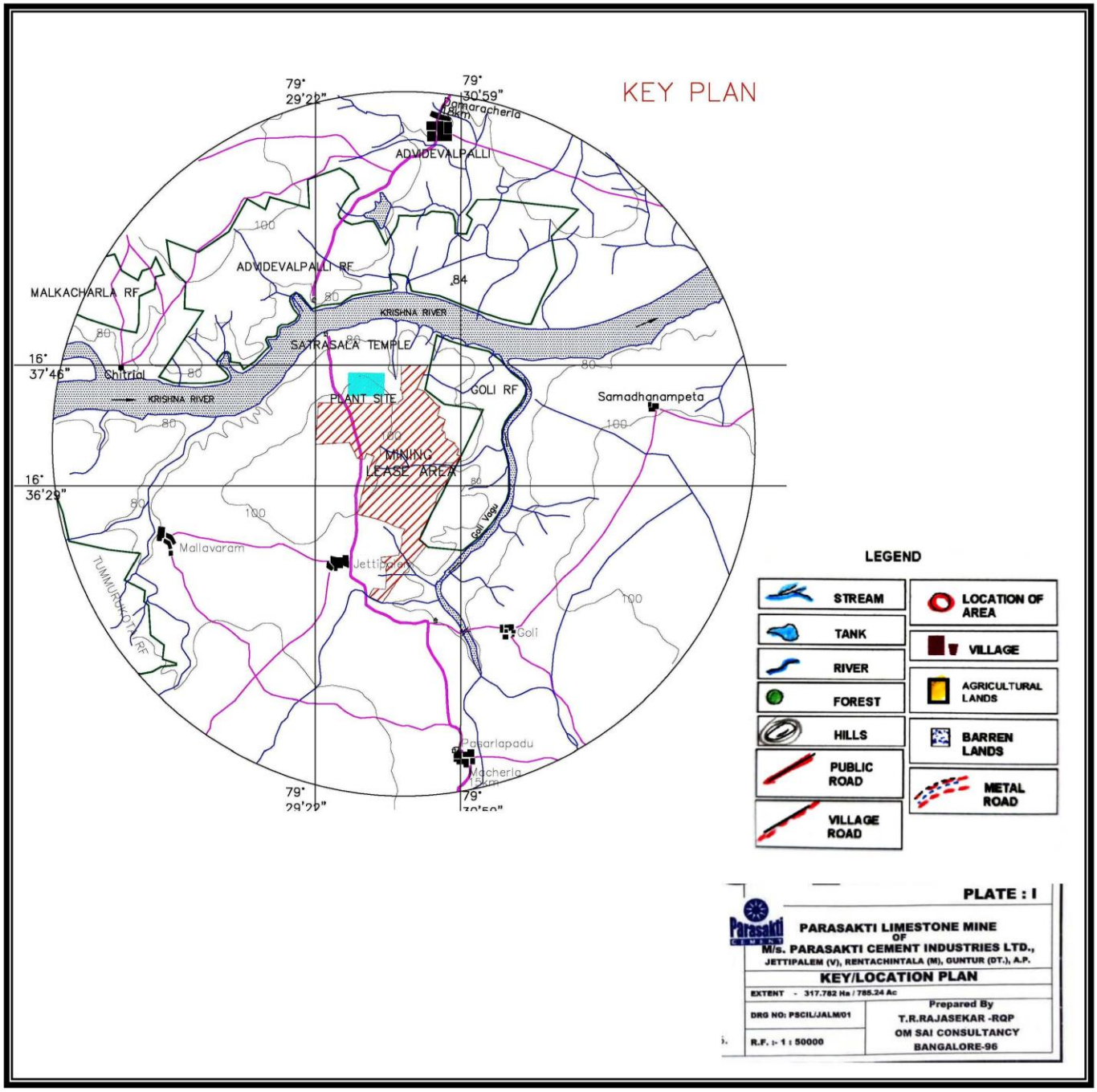
2. OBJECTIVE OF THE STUDY:

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
79° 29'22"
79° 30'59"
Gamaracherla 1.5km
ADVIDEVALPALLI
ADVIDEVALPALLI RF
MALKACHARLA RF
KRISHNA RIVER
SATRASALA TEMPLE
16° 37'46"
Shirrial
PLANT SITE
GOLI RF
Samadhanampeta
MINING LEASE AREA
16° 36'29"
Mallavaram
Jettipalem
Goli Vagu
TUMMURUKOTA RF
Goli
Pasarlapadu
Macherla 15km
79° 29'22"
79° 30'59"
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.,
JETTIPALEM (V), RENTACHINTALA (M), GUNTUR (DT.), A.P.
KEY/LOCATION PLAN
EXTENT - 317.782 Ha / 785.24 Ac
DRG NO: PSCIL/JALM/01
R.F. :- 1 : 50000
Prepared By
T.R.RAJASEKAR -RQP
OM SAI CONSULTANCY
BANGALORE-96

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 forestation 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

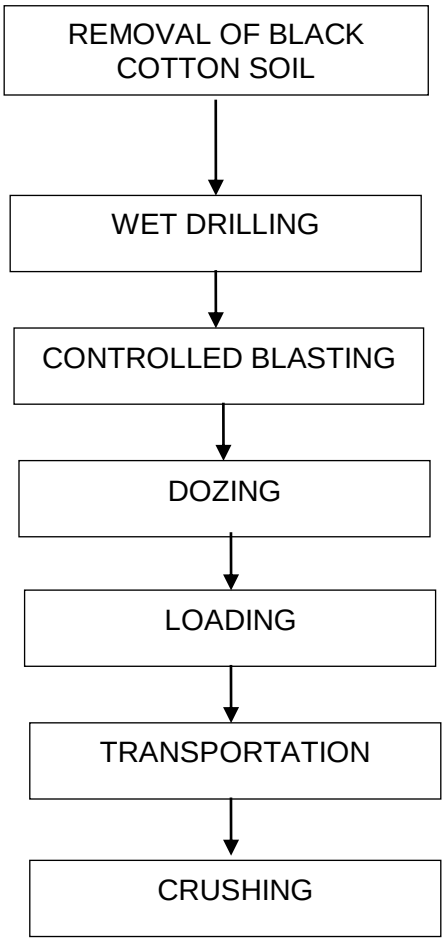


Table 1. List of Mining Machinery

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

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 ($\mu g/m^3$)	Carbon Monoxide ($\mu g/m^3$)
1	56.20	22.43	13.03	17.92	565.41
2	62.10	25.53	14.47	18.82	571.25
3	56.27	22.30	13.85	18.30	577.08
4	61.1	25.45	14.42	18.91	587
5	60.75	24.94	12.81	16.96	589.66

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	56.8	50.51
2	Near Drilling area	60.3	50.7
3	Near Haulage Road	56.4	51.2
4	Jettipalem village	40.3	38.3
5	Satrashala	45.3	39.40

Table - 5
GREENBELT DEVELOPMENT

DETAILS OF SPECIES FOR GREEN BELT DEVELOPMENT FOR THE YEAR 2021-22	
MINES LEASE AREA	
AREA IN ACRES	0.934
NO. OF PLANTS	1250
NAME OF THE SPECIES	Kanuga, Dubai
Survival rate (%)	80%
WATER SUPPLY	Drip system and Water Tanker
OUTSIDE LEAS AREA	
AREA IN ACRES	2.71
NO. OF PLANTS	1250
NAME OF THE SPECIES	Kanuga, Dubai
Survival rate (%)	80%
WATER SUPPLY	Drip system and Water Tanker
GRAND TOTAL	

AREA IN ACRES	3.54
NO. OF PLANTS	2500

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 is meeting the overall standards of the statutory authorities.

ANNEXURE – I (MINES)
MONTH WISE WATER CONSUMPTION FOR THE YEAR 2021-22

MONTH	Mines (KL)	Domestic (KL)	Total (KL)
April, 2021	1975	220	2195.00
May, 2021	1977	226.5	2203.50
June, 2021	1961	221	2182.00
July, 2021	2112.5	228	2341.00
August, 2021	2037.5	227	2264.50
September, 2021	1987	223	2210.00
October, 2021	2073	226.5	2299.50
November, 2021	2012.5	223.5	2236.00
December, 2021	1688	228.5	1916.50
January, 2022	1777	224	2001.00
February, 2022	1623.5	203	1826.50
March, 2022	2013	231	2244.00
TOTAL	**23237**	**2682.5**	**25919.5**

ANNEXURE – II (MINES)
LIMESTONE PRODUCTION AND CONSUMPTION FOR THE YEAR 2021-22

MONTH	PRODUCTION in MT	Despatch
April, 2021	183428	172496
May, 2021	139715	133269
June, 2021	122758	135472
July, 2021	125497	116735
August, 2021	121920	140972
September, 2021	113400	121114
October, 2021	64040	41276
November, 2021	132450	102911
December, 2021	10260	66790
January, 2022	41484	51260
February, 2022	105000	109733
March, 2022	105000	124732
TOTAL	**1264952**	**1316760**

Blasting material consumption for 2021-22		
Month	**Slurry (Kg.)**	**Ammonium Nitrate (Kg.)**
April, 2021	6050	18400
May, 2021	4275	9600
June, 2021	3000	11300
July, 2021	4375	10200
August, 2021	2550	6400
September, 2021	4025	5200
October, 2021	1950	4100
November, 2021	3475	10300
December, 2021	1675	7100
January, 2022	1475	3550
February, 2022	1950	7100
March, 2022	2675	10000
TOTAL	**37475**	**103250**

EXPENDITURE ON POLLUTION CONTROL EQUIPMENT & MONITORING 2021-22

	Cost Rs	**TOTAL**
YEARLY MONITORING CHARGES	1,62,840	1,62,840
HORTICULTURE	82,480	82,480
PLANTATION	19,45,001	19,45,001
TOTAL PLANTATION & HORTICULTURE		20,27,481
GRAND TOTAL		**21,90,321**