

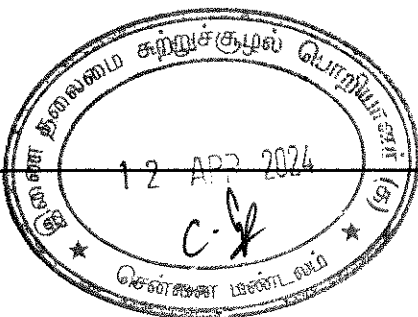
Environmental Statement – Form-V

For the Year 2023-24



**M/s. NATCO PHARMA LTD
CHEMICAL DIVISION CHENNAI**

**No. 74/7B, Vaikkadu TPP Salai,
Manali, Chennai- 600 103
Tamil Nadu**



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FORM V

(See Rule – 14)

**ENVIRONMENTAL STATEMENT REPORT FOR THE FINANCIAL YEAR ENDING
31ST MARCH 2024****PART A**

1	Name and address of the owner / occupier of the Industry operation or process	Mr.P.S.R.K Prasad NATCO PHARMA LIMITED, 74/7B, VAIKKADU TPP SALAI, MANALI, CHENNAI – 600103.
2	Industry Category Primary – (STC Code) Secondary – (SIC Code)	17 Red Category (Scale of Industry: Large)
3	Production Capacity	11.30 TPA List of Products with capacities given below
4	Year of Establishment	08.08.2007
5	Date of last Environment statement submitted	11.04.2023

S.No	Description	Document No
01	CTO-Air (Valid Till 31.03.2024)	CONSENT ORDER NO. 2307247971467 DATED: 28/02/2023 PROCEEDINGS NO. T6/TNPCB/F.0846AMB/RL//AMB/A/2023 DATED: 28/02/2023
02	CTO-Water (Valid Till 31.03.2024)	CONSENT ORDER NO. 2307147971467, DATED: 28/02/2023 PROCEEDINGS NO. T6/TNPCB/F.0846AMB/RL/AMB/W/2023, Dated: 28/02/2023

List of Products with Capacities			
S.No	Name of the Product	Consented Quantity (TPA)	Product Manufactured During the year (2023-2024) unit in Kgs
1	Bendamustine Hydrochloride	0.12	14.04 Kgs
2	Bortezomib	0.01	1.70 Kgs
3	Decetabine	0.08	1.49 Kgs
4	Everolimus	0.03	15.56 Kgs
5	Trabectedine	0.01	1.98 Kgs
6	Busulfan	0.05	-
7	Lenalidomide	0.07	0.03 Kgs
8	Nelarabine	0.01	-
9	Thiotepa	0.01	4.87 Kgs
10	Azacitidine	0.07	-
11	Chlorambucil	0.01	-
12	Doxorubicin Hydrochloride	0.01	-
13	Fulvestrant	0.01	-
14	Pomolidomide	0.2	7.28 kgs
15	Carmustine	0.04	-
16	Melphalan	0.01	-
17	Nilotinib Hydrochloride	0.15	-
18	Rizatriptan Benzoate	0.1	-
19	Temsirolimus	0.01	-
20	Lapatinib Ditosylate Monohydrate	0.3	-
21	Palbociclib	0.7	-
22	Pazopanib Hydrochloride	0.4	-
23	Sorafenib Tosylate	0.4	-
24	Sunitinib Malate	0.3	-
25	Dabigatran Etxilate	0.6	-
26	Deferasirox	0.3	-
27	Lansoprazole	0.6	-
28	Lanthanum Carbonate Dihydrate	0.7	-
29	Ledipasvir	0.4	-
30	Ondansetron Hydrochloride Dihydrate	0.5	-
31	Pirfenidone	0.5	-
32	Sacubitril	0.4	-
33	Ticagrelor	0.5	-
34	Cabozantinib-S-Malate	0.5	-
35	Dasatinib Monohydrate	0.5	-
36	Erlotinib Hydrochloride	1	-
37	Geftinib	0.5	-
38	Imatinib Mesylate	1	9.86 Kgs
39	Total production Capacity (Maximum 16 products at a time)	11.1 TPA	56.81 Kgs
40	R & D Products	0.2 TPA	-
41	Total production Capacity (Maximum 16 products at a time) and R & D activity	11.3 TPA	56.81 Kgs (0.056 TPA) (9 products manufactured in the year)

PART B

WATER AND RAW MATERIAL CONSUMPTION

I. Water Consumption (During the previous financial year (2022-2023):

Process : 1.64 KLD
 Utilities & Kettle Washings : 27.0 KLD
 Scrubber Make up : 2.00 KLD
 Domestic : 20.00 KLD
 Cooling & Boiler Feed : 15.00 KLD
 Gardening (for green belt) : 35.00 KLD

Total Consented Quantity, during the previous financial year (2022-2023) : 100.64 KLD

Name of Products	Process Water Consumption for Manufactured Product output in (KL)	
	During the previous financial year (2022-2023)	Remarks
Chlorambucil	0.05 KL	
Fulvestrant	0.01 KL	
Melphalan	0.002 KL	
Geftinib	2.13 KL	
Imatinib Methane Sulfonate	5.91 KL	
Temozolomide	1.08 KL	

I. Water Consumption (2023-2024) as per Current year- CTO:

Source of Water	CMWSSB
Particulars	Qty (KLD)
1. Process	3.47
2. Washings	30
3. Boiler	21
4. DM Regeneration	10
5. Scrubber	12
6. QC and R&D	10
7. Utility Rejects	25
8. Fire hydrant makeup	5
9. WC-II: Domestic	21
10. Cooling Towers	23
11. Gardening	30
Total Consented Quantity	190.47 KLD

Process Water Consumption for Manufactured Product output in (KL)			
S.No	Name of the Product	Water Consumption During the year (2023-2024) Qty (KL)	Remarks
1	Bendamustine Hydrochloride	1.253	
2	Bortezomib	0.425	
3	Decetabine	0.000	
4	Everolimus	1.478	
5	Trabectedine	0.327	
6	Busulfan	0.000	
7	Lenalidomide	0.005	
8	Nelarabine	0.000	
9	Thiotepa	1.218	
10	Azacitidine	0.000	
11	Chlorambucil	0.000	
12	Doxorubicin Hydrochloride	0.000	
13	Fulvestrant	0.000	
14	Pomolidomide	0.473	
15	Carmustine	0.000	
16	Melphalan	0.000	
17	Nilotinib Hydrochloride	0.000	
18	Rizatriptan Benzoate	0.000	
19	Temsirolimus	0.000	
20	Lapatinib Ditosylate Monohydrate	0.000	
21	Palbociclib	0.000	
22	Pazopanib Hydrochloride	0.000	
23	Sorafenib Tosylate	0.000	
24	Sunitinib Malate	0.000	
25	Dabigatran Etxilate	0.000	
26	Deferasirox	0.000	
27	Lansoprazole	0.000	
28	Lanthanum Carbonate Dihydrate	0.000	
29	Ledipasvir	0.000	
30	Ondansetron Hydrochloride Dihydrate	0.000	
31	Pirfenidone	0.000	
32	Sacubitril	0.000	
33	Ticagrelor	0.000	
34	Cabozantinib-S-Malate	0.000	
35	Dasatinib Monohydrate	0.000	
36	Erlotinib Hydrochloride	0.000	
37	Geftinib	0.000	
38	Imatinib Mesylate	1.628	
39	R & D Products	0.000	

II. Raw Material Consumption:

Name of Raw material	Name of Products	Consumption of Raw material per unit of Output	
		During the Previous financial year (2022-2023)	During the current financial year (2023-2024)
(Report Enclosed in Annexure-I & II)	(Report Enclosed in Annexure-I & II)	(Report Enclosed in Annexure-I)	(Report Enclosed in Annexure-II)

PART C

POLLUTION DISCHARGED TO ENVIRONMENT / UNIT OF OUTPUT

(Parameter as specified in the consent issued)

(a) Water : (Analysis carried out by TNPCB LAB, AMBATTUR) April 2023 – March 2024

Report Enclosed in Annexure-III

Description	Quantity of Pollutants Discharged, (mass/day) (Kgs/ day)	Average Concentrations of Pollutants in ZLD (mass / volume) (mg/Lit)	Percentage of Variation from Prescribed standards with reasons
pH	.	7.07	All the values are within the prescribed standard limits
Total Suspended Solids	0.108	4.00	
Total Dissolved Solids	0.941143	34.86	
Chlorides	0.324	12.00	
Sulphates	0.2052	7.60	
Oil and Grease	0	0.00	
BO D for 3 Days at 27°C	0.054	2.00	
C O D	0.216	8.00	
Phosphate	0.00405	0.15	
Cyanide	0.000135	0.01	
Phenolic Compounds	0.000135	0.01	
Sulphide	0.027	1.00	
Hexavalent chromium	0.00027	0.01	
Lead	0.000405	0.02	
Mercury	-	NA	

Note: Average Quantity of Treated Water Discharge for Reuse for Cooling Tower make-up: 27 KLD

b). Air: (Stack Monitoring carried out by TNPCB LAB, Chennai) Dated:15.09.2023

Report Enclosed in Annexure-IV

S. No	Description of Chimney/Stack	Concentration of Pollutants discharged (mass / volume) (mg/Nm ³)			Quantity of Pollutants discharged (mass /day) (Kgs/day)		
		PM	SO ₂	NO _x	PM	SO ₂	NO _x
1.	Boiler 3 tons	22	56	228	3.97	10.12	41.19
2.	DG 1010KVA	21	BDL	368	0.91	0	15.96

PART D

Hazardous Wastes

(As specified under Hazardous Wastes / Management & Handling Rules, 1989)

S.No	Hazardous Wastes	Total Quantity (MT)	
		During the current financial year (2022-2023) Generation	During the current financial year (2023-2024) Generation
1.	From Process		
	28.1) Process Residue & Waste	2.963	4.03
	28.2 Spent catalyst	0	0.0
	28.3 Spent carbon	0	0.014
	28.4 Off specification products	0	0
	28.5 Date expired products	0	0
	28.6 Spent Solvents	3.20	26.68
	5.1 Used or spent oil	0	0.76
	5.2 Wastes or Residues containing oil	0	0.21
2.	From pollution control facilities		
	(35.3) Chemical sludge from waste water treatment	16.48	9.72
	(35.3) Evaporation Salts	7.40	5.50

PART E

Non-Hazardous Solid Wastes

S.No	Non- Hazardous Wastes	Total Quantity (MT)	
		During the Previous financial year (2022-2023)	During the current financial year (2023-2024)
1.	From Process		
(i)	Wooden Packing Materials, carton boxes, metal scraps, used glass wares& Plastics	6	2.2
2.	From pollution control facilities		
(i)	Wooden pallets & Waste papers	5	3.3

All Non-hazardous wastes are disposed through scrap dealers.

PART F

Report Enclosed in Annexure-V

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for categories of wastes

Hazardous waste:

The generated quantity of Hazardous waste from plant is being collected in close drums and then stored at Hazardous waste storage room. As per Hazardous Waste (Management, Handling & Transboundary Movement) Rule, 2016. These hazardous wastes are Disposal to authorized recycler. The comprehensive analysis report of hazardous waste are given below.

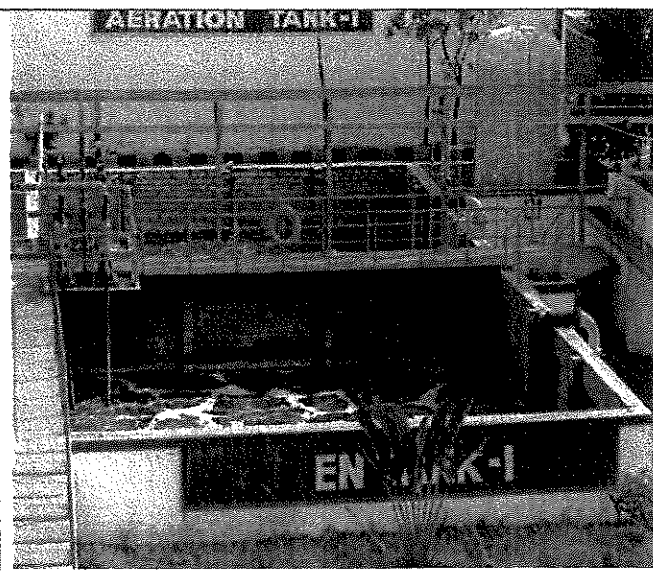
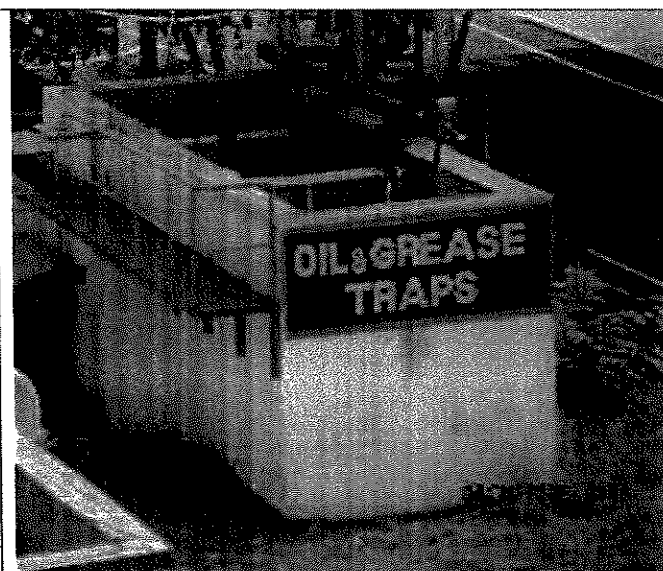
S.NO	Parameters	Hazardous waste			
		Process Residue & waste (Organic solid Waste)	Process Residue & waste (Inorganic solid Waste)	Chemical Sludge from waste water treatment (ETP Sludge)	Evaporation Salts
1.	pH	6.95	6.85	7.64	7.26
2.	Calorific value	7534 Cal/gm	<2500 Cal/gm	3124Cal/gm	<200 Cal/gm
3.	Bulk Density	0.29 gm/cc	1.16 gm/cc	0.98 gm/cc	1.20 gm/cc
4.	Flash Point °C	>250	>250	>250	>250
5.	LOD @ 105 °C	<1%	2.85%	3.75 %	20.12 %
6.	Loss on Ignition @ 550 °C (Dry basis)	87.68 %	6.02 %	56.85 %	8.24 %
7.	Water soluble In-Organics	< 0.1 %	< 0.20 %	2.59 %	50.28%
8.	Water soluble Organics	< 0.1 %	< 0.12 %	0.62 %	2.16 %
9.	Lead	<1 mg/L	<1 mg/L	<1 mg/L	<1 mg/L
10.	Copper	<0.5 mg/L	<0.5 mg/L	<0.5 mg/L	<0.5 mg/L
11.	Mode of Disposal	Generation, Collection, Storage & Utilization in cement kilns through preprocessor			collected & stored securely in our Hazardous waste storage room & looking for scientific disposal

PART G

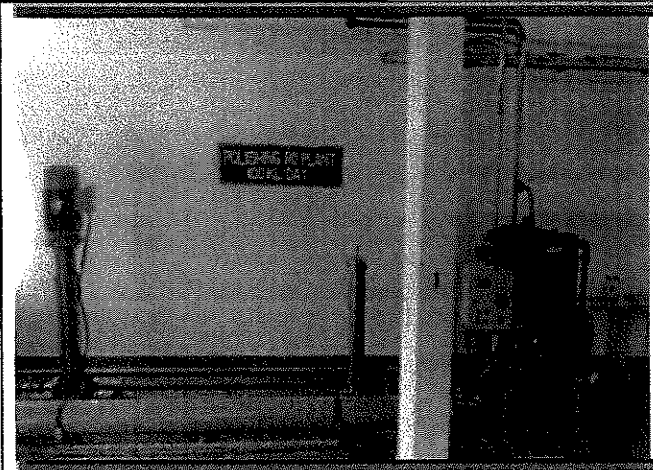
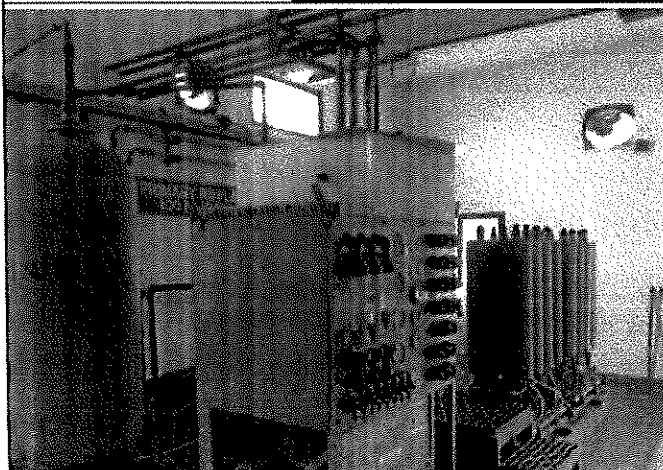
Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of productions:

Total water consumption by the unit is below the consented limit (190.47 KLD). The effluent generation has not exceed 57 KLD And “**Zero Liquid Discharge**” methods are adopted to treat the effluent generated in the plant. Low TDS & High effluents are being segregated at source. Low TDS effluent are sent to ETP for primary treatment. After the primary treatment, the treated water is being sent to Reverse Osmosis plant for recovery of fresh water (Permeate) and recovered permeate water are totally recycled for the plant utilities. RO rejects are being sent to evaporation system to treat along with High TDS effluents.

Low TDS Treatment Plant



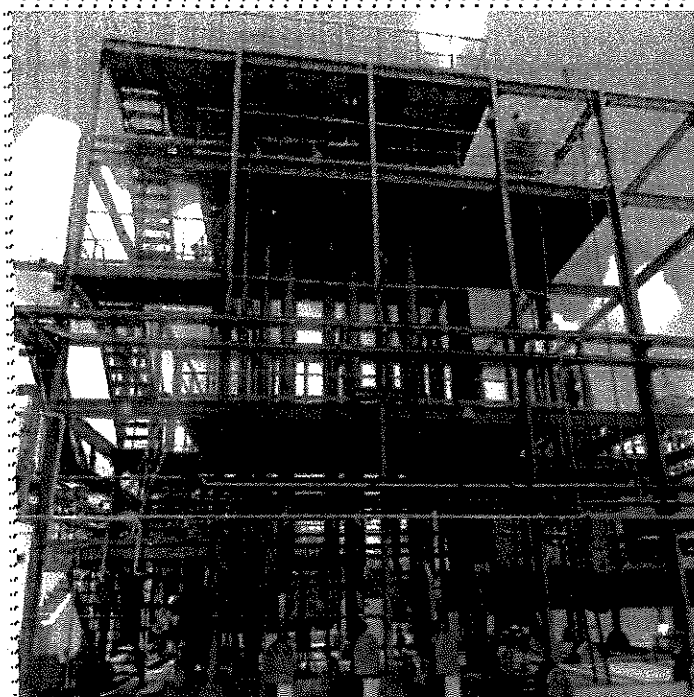
Primary & Secondary Reverse Osmosis plant



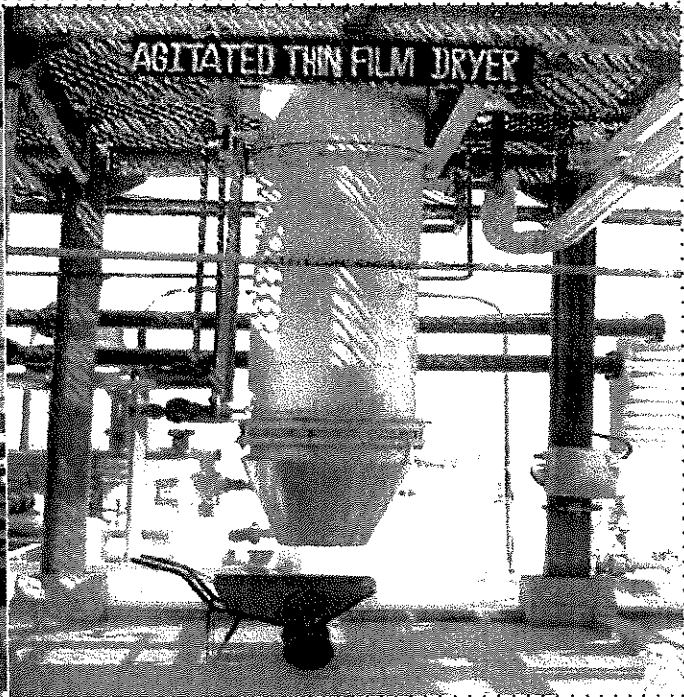
Four stage Multi Effect Evaporator & Agitated Thin Film Drier

High TDS effluents and R.O. reject water are sent to Multi Effect -Evaporation Plant followed by Agitated Thin Film Drier (ATFD). The salts generated from AFTD are sent to TNWML. ATFD Steam condensate has collected and recycled to process utilities. The domestic waste water has treated and the recovered sludge sent to TNMWL as per TNPCB direction.

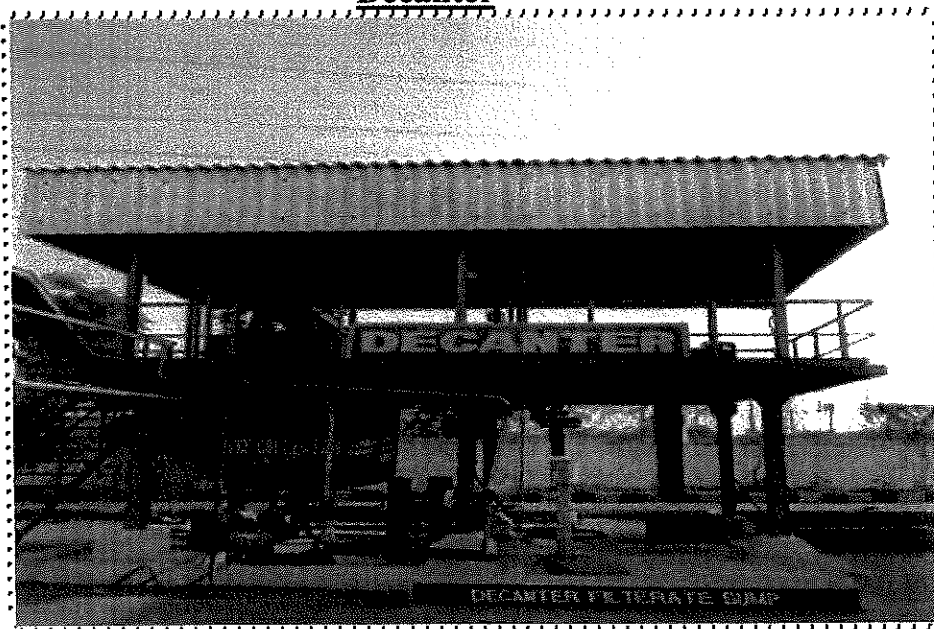
MEE



ATFD



Decanter

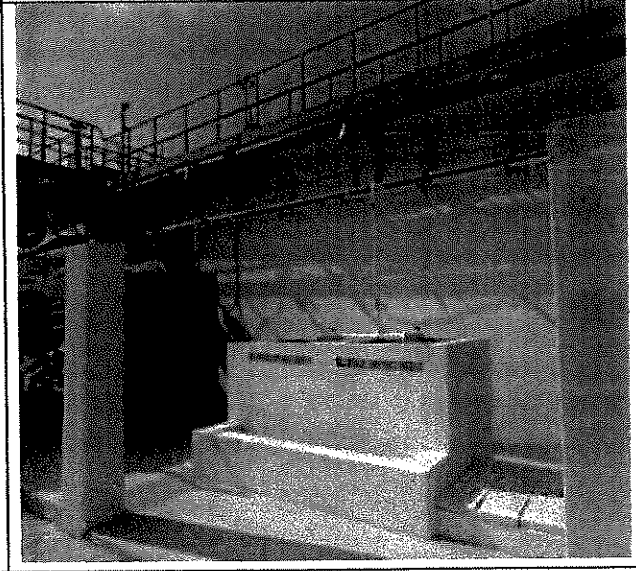
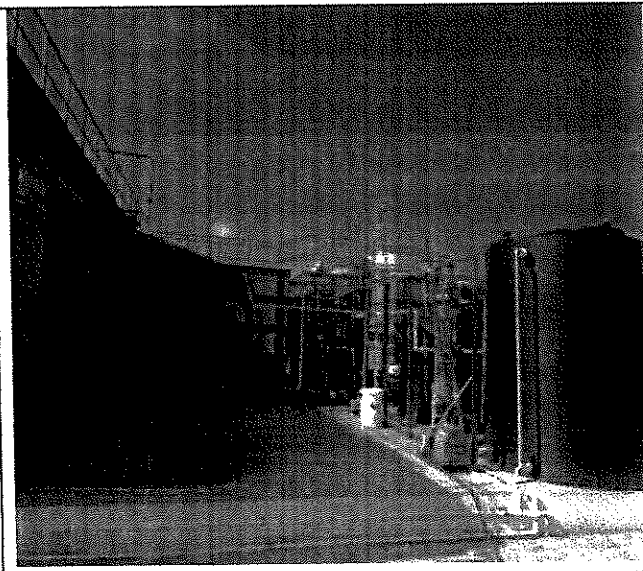
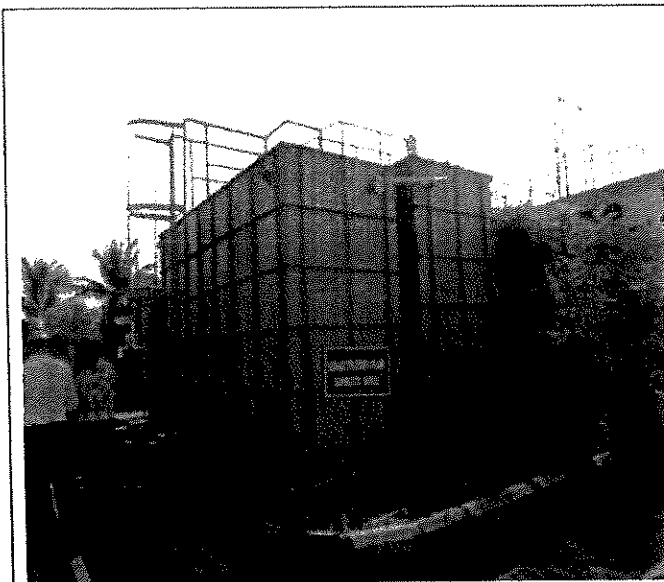


NEW SEWAGE TREATMENT PLANT

Sewage Treatment Plant (STP) of 30 KLD capacity installed & commissioned separately in our unit and STP Inlet (Domestic Sewage) & STP Outlet (Treated water) flowmeters connectivity provided to TNPCB-CAC/WQW.

Sewage collection soak pits are not available in our facility, all of our sewage collection pit constructed with RCC structure.

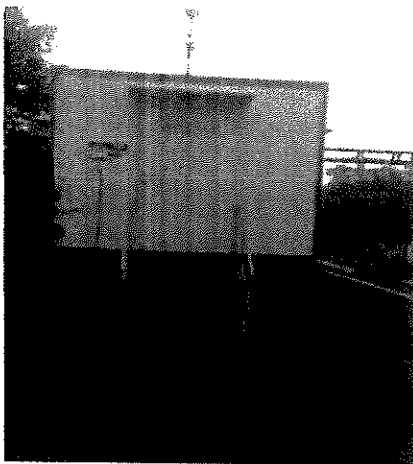
STP installation photos attached below



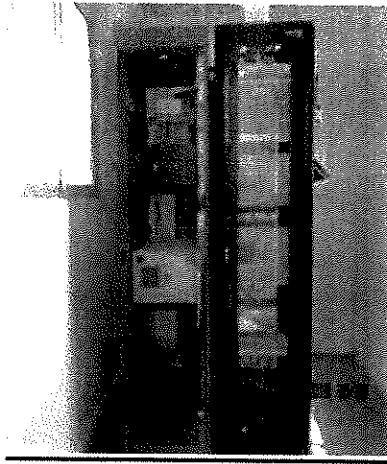
On-line Ambient Air Quality Monitoring station

The gaseous emissions SO₂, NO_x, CO and particulate matter (PM 2.5 & PM10) are being monitored continuously with the AAQMS station provided in the site and the data's are being connected to TNPCB and CPCB in online. Boiler Stack (CEMS) SO₂, NO_x & SPM analyzers installed & connected to CAC-TNPCB. DG Stack Emissions are being measured through NABL approved laboratory at regular intervals on monthly basis & also yearly stack monitoring survey (Boiler & DG) are getting done by TNPCB District Environmental lab and all the results are being complied with prescribed standards and submitted of report to TNPCB.

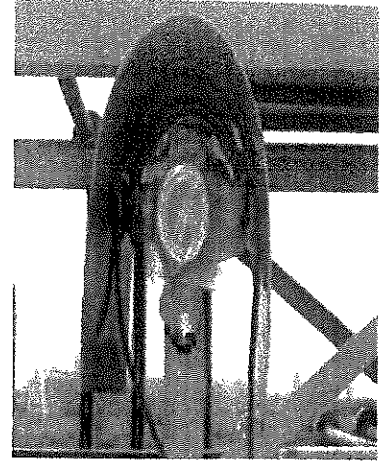
Ambient Air Quality (Natco Mobile van Station – SNAP Shot)
For (NO_x, So₂, PM 2.5 & PM10 and CO) & For (VOC-MEEP, ETP & Production area)



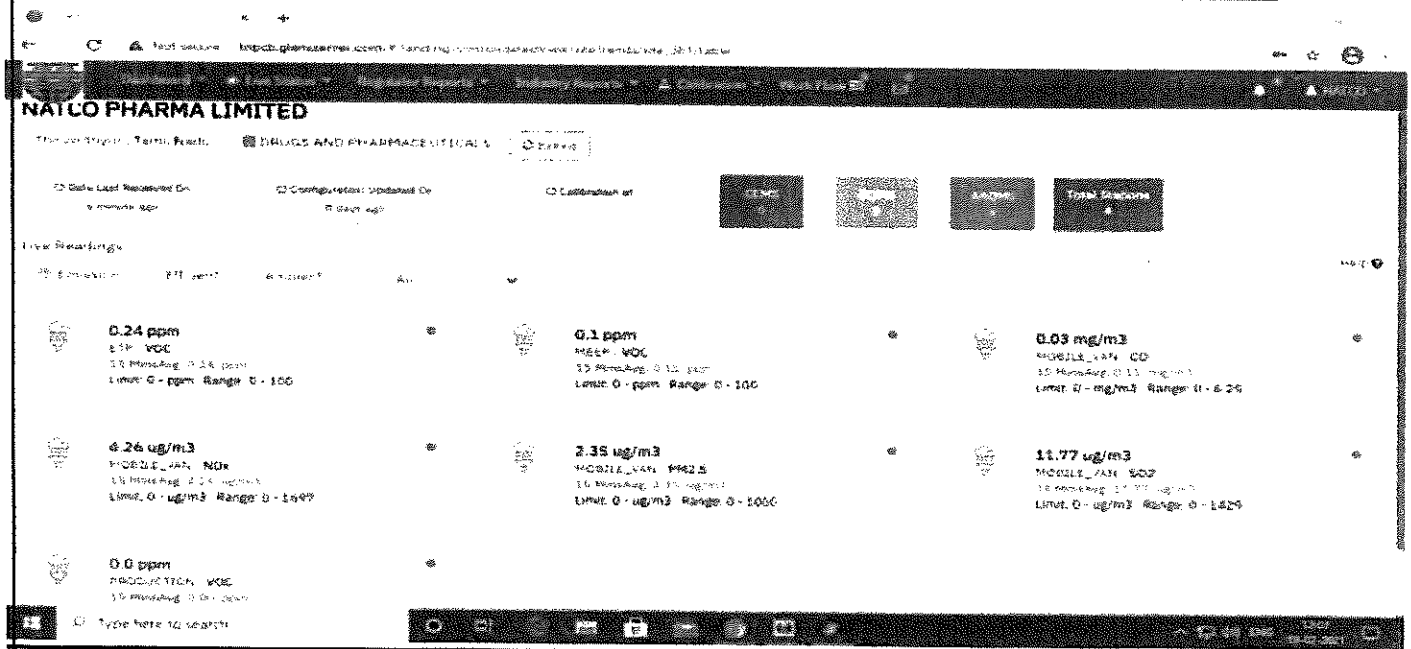
Mobile Van-AAQMS



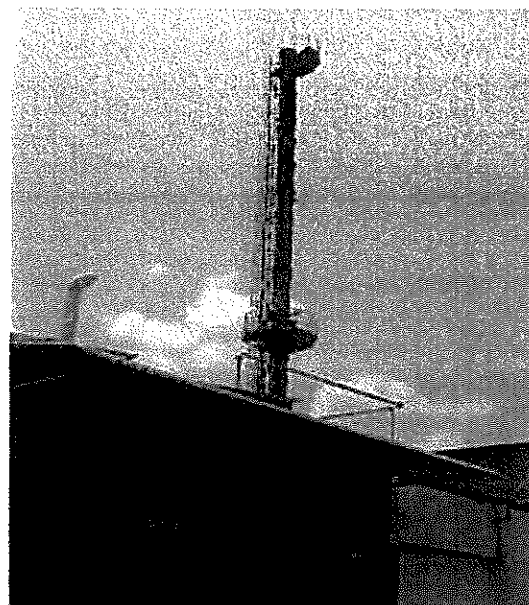
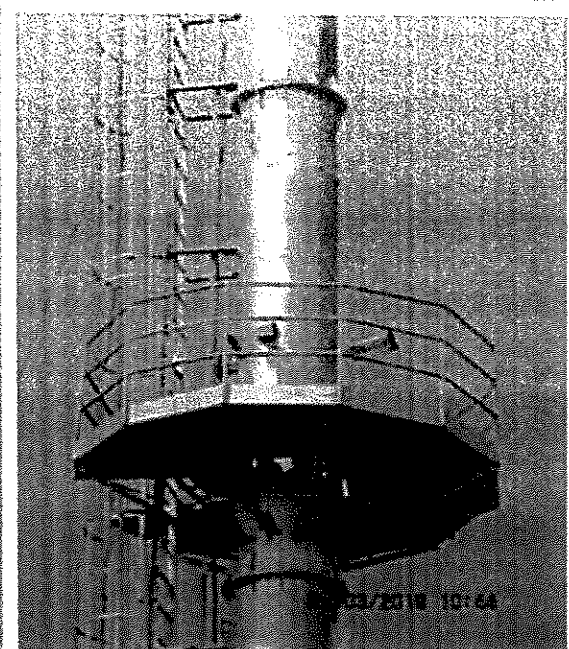
AAQ Analyzers



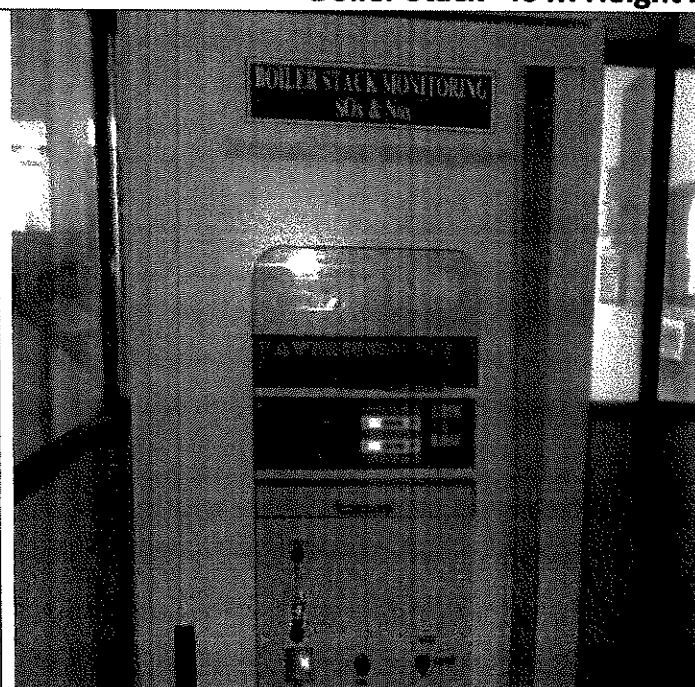
VOC Analyzers



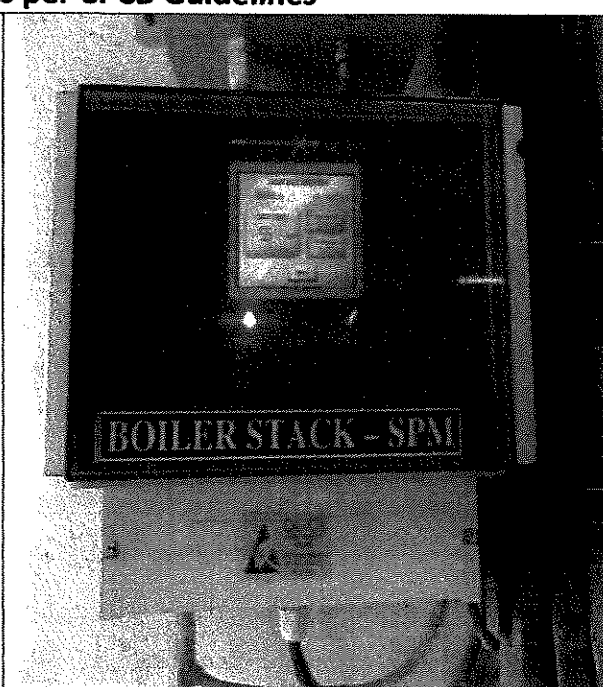
Boiler Stack & Monitoring



Boiler Stack -40 M Height As per CPCB Guidelines

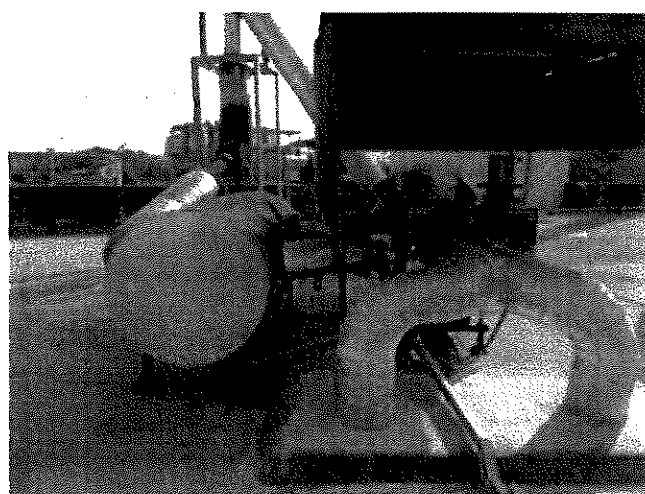
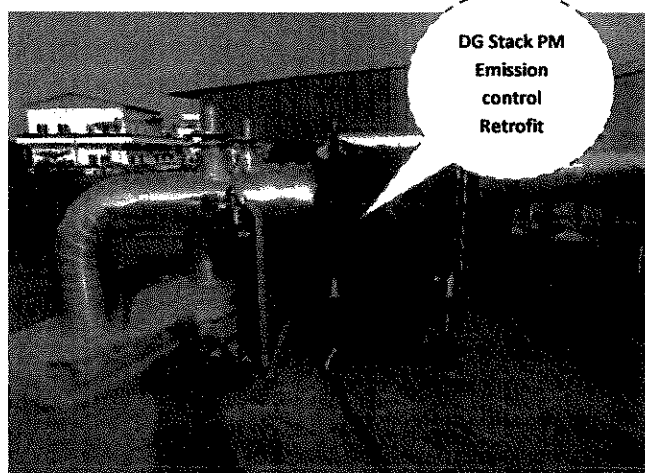
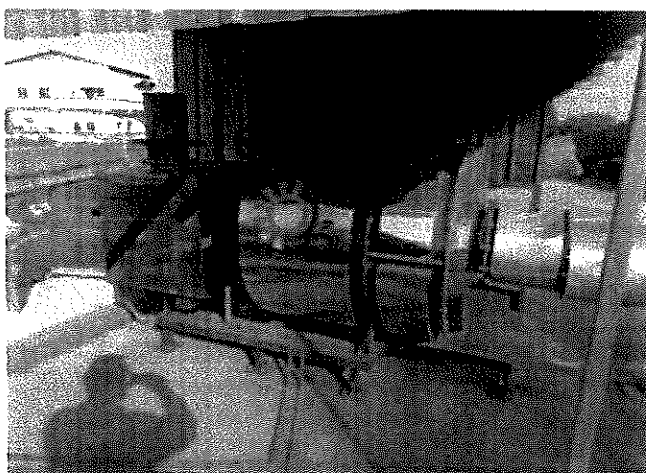
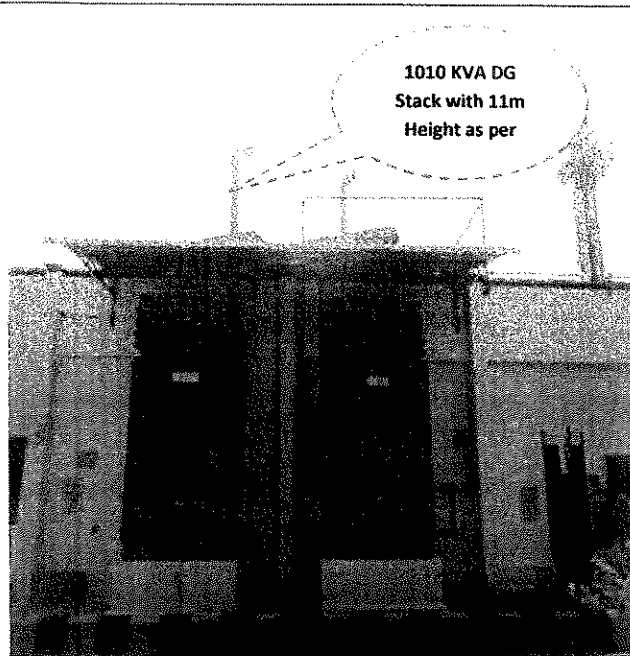


Boiler Stack- Sox & Nox Analyzer



Boiler Stack - SPM Analyzer

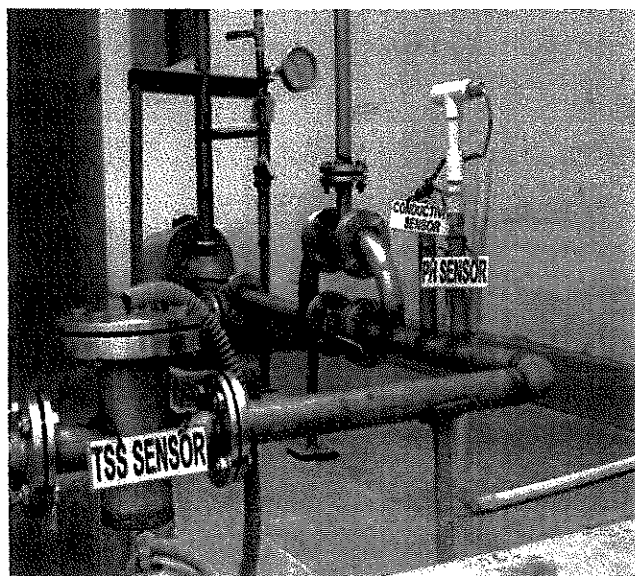
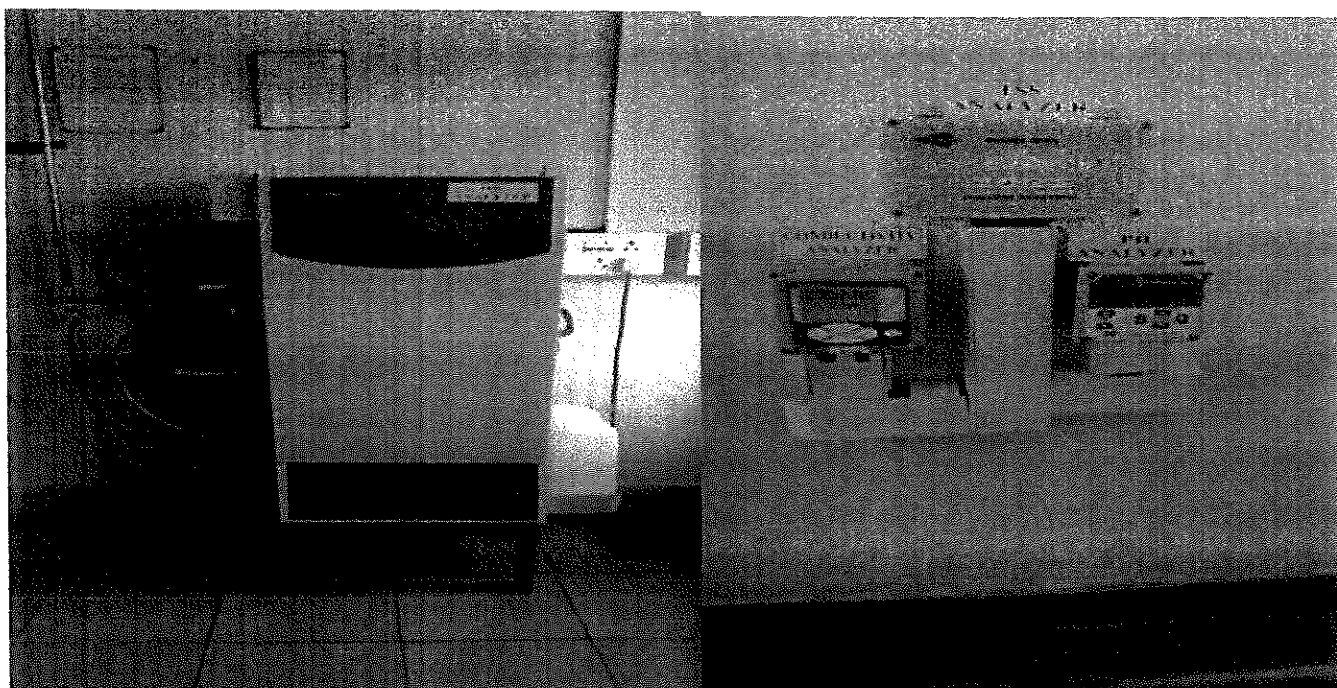
DG Stack & Pollution Control Measures



Online Water Quality Watch System

To ensure the Zero Liquid Discharge System (ZLDS) EMFM provided in ETP inlet & treated water discharge, Parameters such as pH, TSS, TDS, BOD, COD, EMFM (Flow meter) and CCTV are connected to online and the real time monitoring data connectivity has been established to TNPCB - Water Quality Watch and Central Pollution Control Board (CPCB), also the results are found being complied with TNPCB/CPCB prescribed standards at any point of time

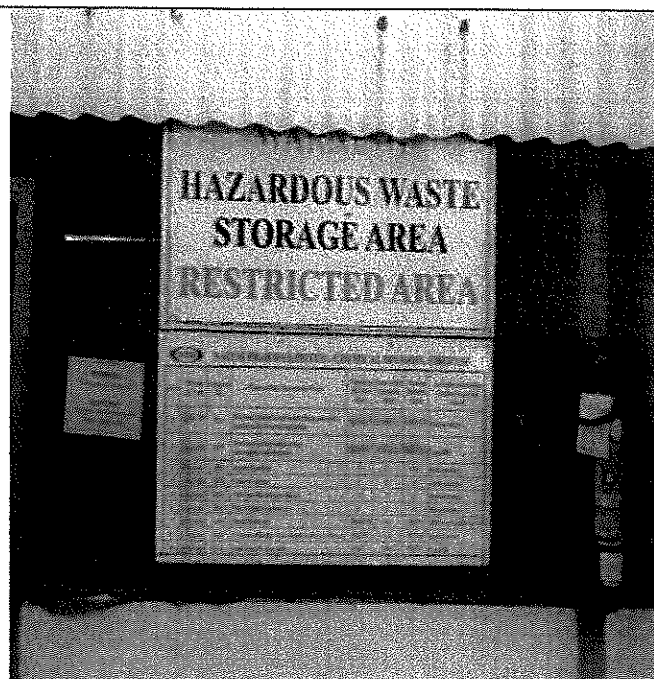
Photos of analyzers & WOW parameters



Hazardous Waste storage shed

Hazardous and toxic waste generated during the process are stored properly in the shed in closed drums. As per TNPCB directions, the unit has sent all the generated waste to TNWML for incineration & land filling as per agreement with TNWML. Hazardous waste authorization has obtained by the unit and all the solid/hazardous waste are disposed to TNWML periodically as per Hazardous Waste (Management & Handling) rules.

Hazardous Waste Storage Area

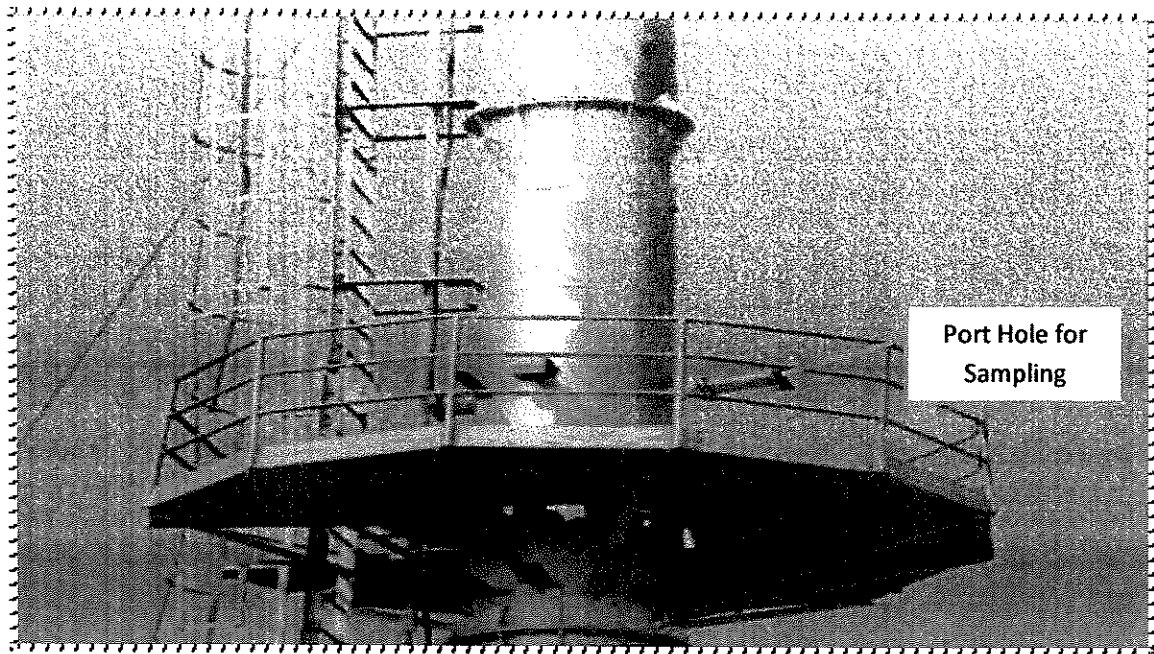


Hazardous Waste Display Board at Front Gate Entry

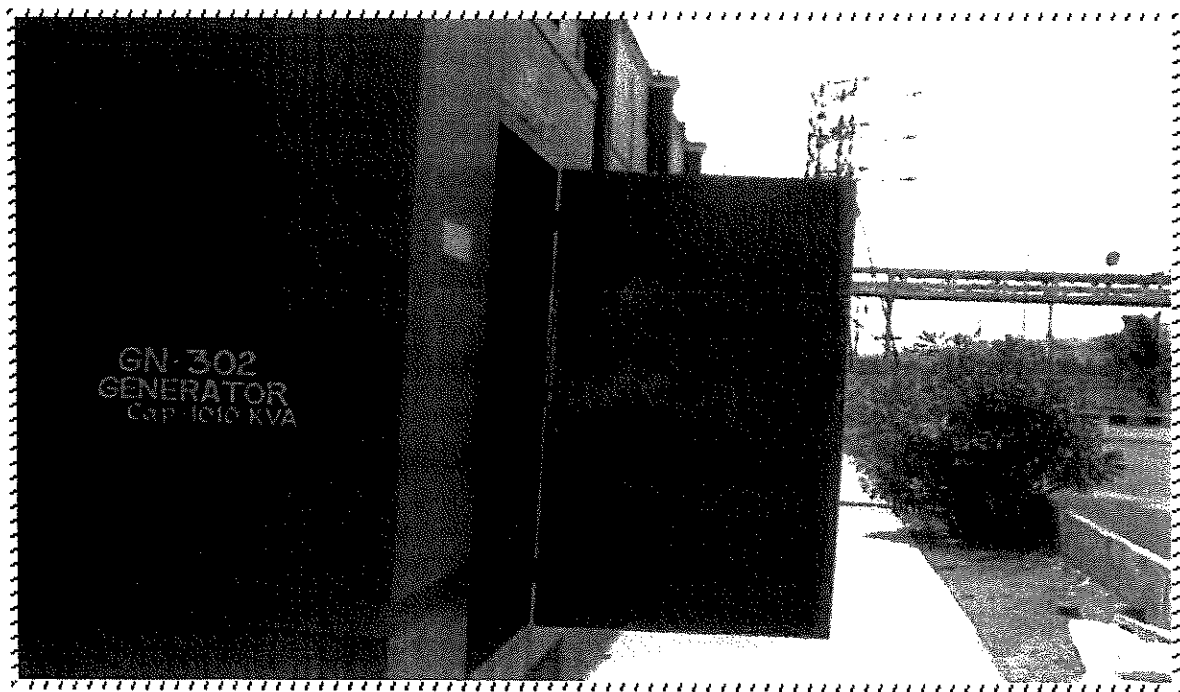


Air pollution control measure

Boiler Stack monitoring system

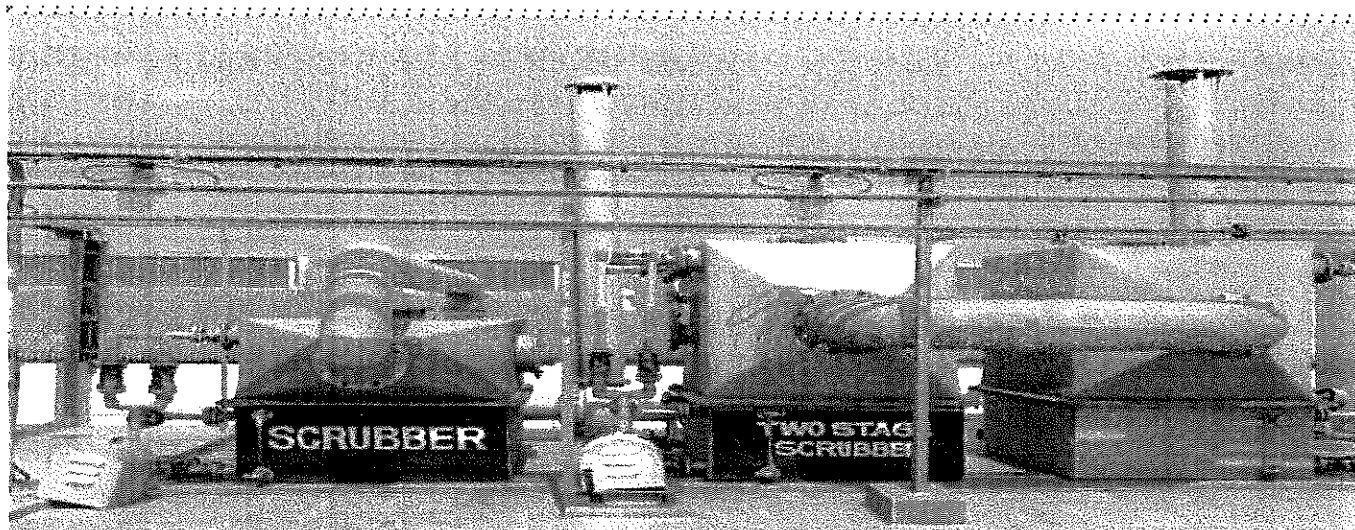


DG Acoustic Panel



Process emission control measure

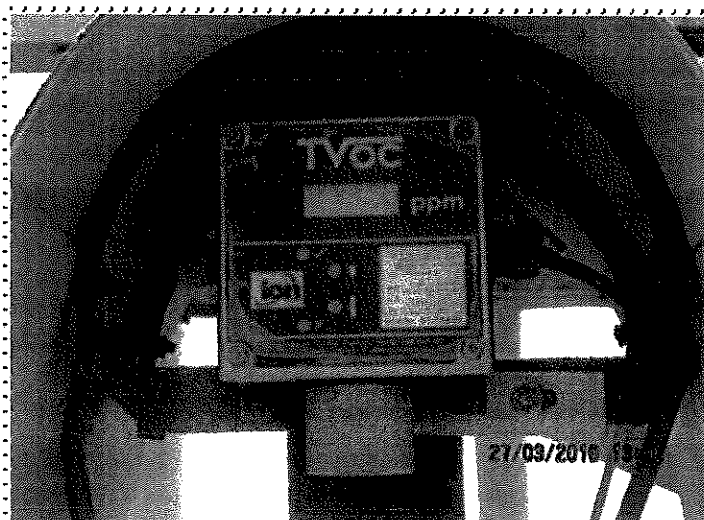
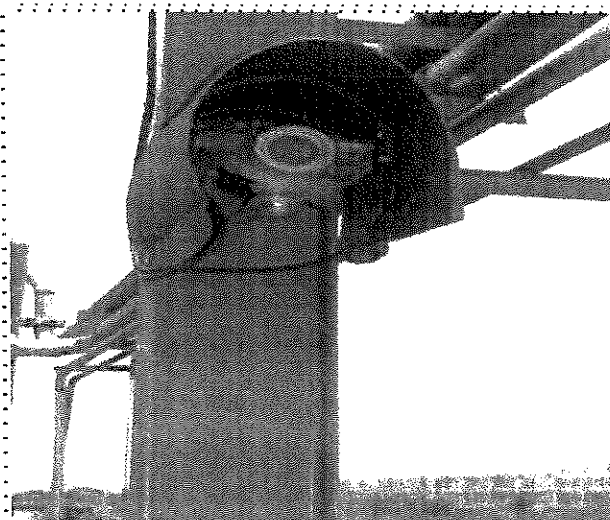
The scrubbers (Two-stage & Single stage scrubber) installed are operated efficiently to control the process emissions with proper neutralizing (alkali) media. Scrubbing solution for pH is being measured continually and monitored regularly to have better control. Scrubber are provided to incinerator to control the air emission, Incinerator has not operation, since from the inception. The scrubber effluent is being sent to ETP for further treatment.



On-line continuous VOC Monitoring system

Necessary arrangements such as VOC analyser, LEL (Lower Explosive Limit) analyser are installed for monitoring of vent exhaust from solvent recovery system and in the work environment. The prescribed standards given by the board has being complied and results uplinked online data connected to care air Centre (TNPCB).

Also Portable VOC analyzer are used to check the exposure in work environment in daily basis and readings are below the limit. Fugitive emissions in the work zone environment, product, and raw materials storage area are being monitored regularly by installing VOC analyzer in the area and the prescribed standards given by the board has being complied & the results uplinked online data connected to care air Centre (TNPCB).

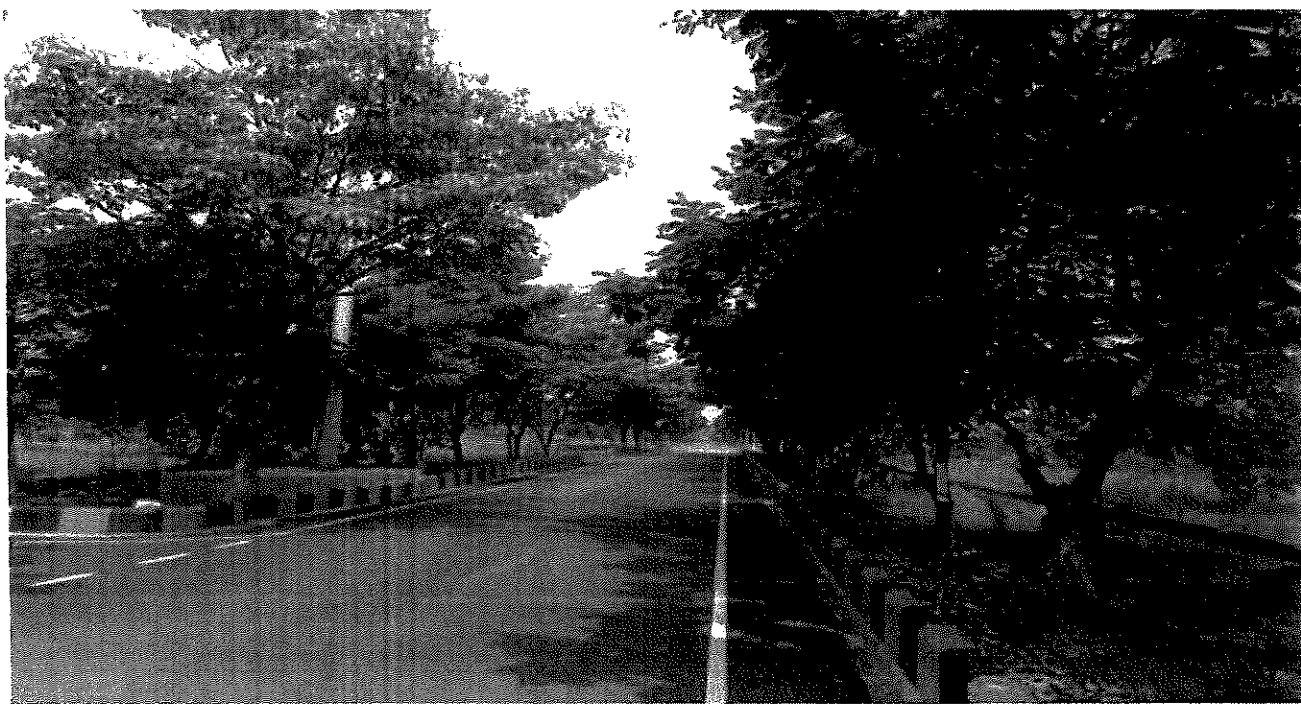


Greenbelt Development in site

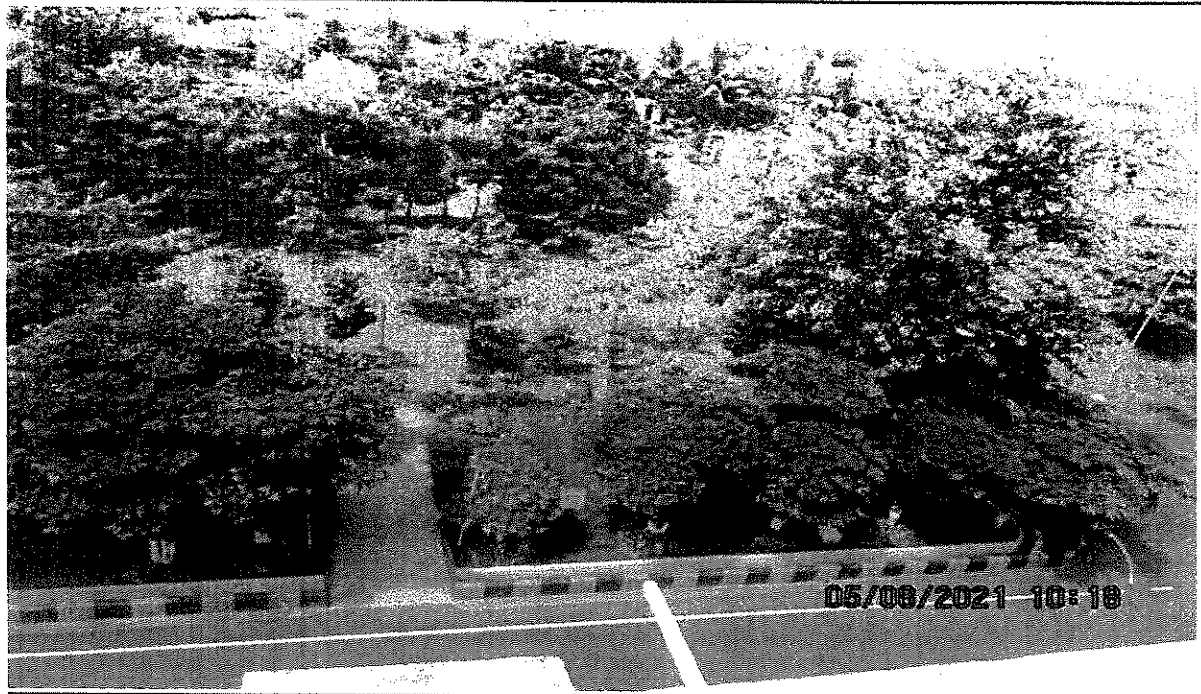
The total extent of land available within the unit premises is 95419 Sq.meters, in that company has developed 38200 Sq.mtrs **(40.03 %)** of green belt. The Land area breakup details given in the below table & Photos attached for Green belt.

S No.	Description	Land Area	
		(SQ.Meters)	(%)
1	Ground Coverage Area	26979.69	28.27
2	Solid Waste storage area	170	0.18
3	Green Belt Area	38200	40.03
4	Road Area	19870	20.82
5	Vacant Area for Future Expansion	10199.32	10.69
Total Land Area		95419	100

Existing Green Belt Photos



GPS Point	
Latitude	Longitude
13°11'12.71"N	80°15'59.47"E

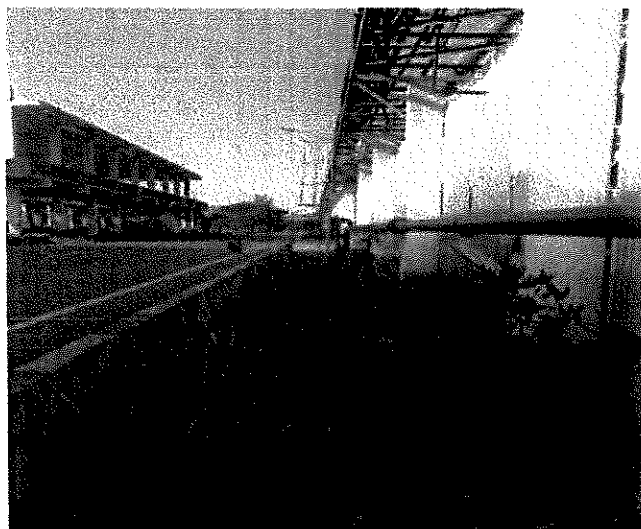


GPS Point	
Latitude	Longitude
13°11'21.60"N	80°16'1.91"E



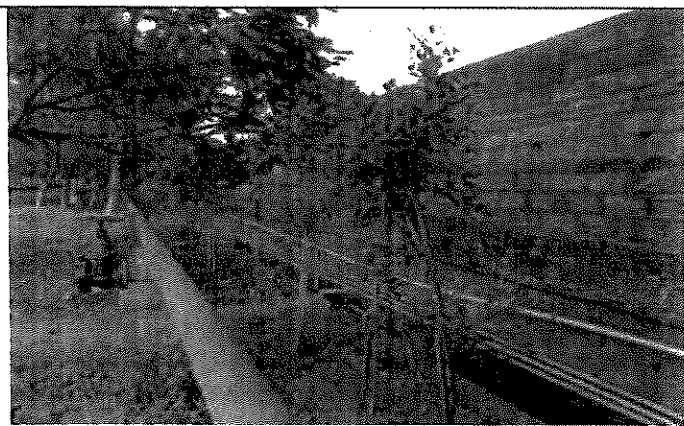
GPS Point	
Latitude	Longitude
13°11'32.15"N	80°15'57.79"E

Greenbelt Under Development with drip irrigation System



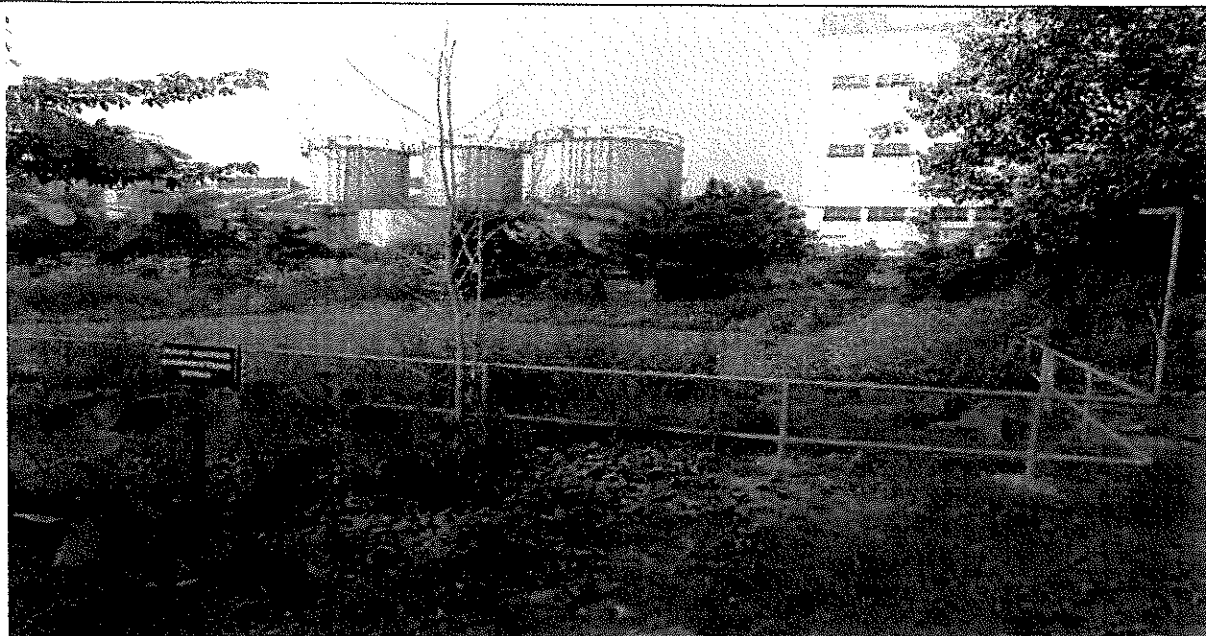
Nearly 300 Nos of trees were planted in the company boundaries

We have planted 150 Nos of trees in private land in about 9190sqm land which is adjacent to our entrance from Minjur highway road



Rainwater Harvesting Measures

Rain Water harvesting Tanks have been constructed at the plant for collection of rain water during winter season and recharge of ground water. Rain Water harvesting which increases the ground water level in and around the premises.



Name : Rain water harvesting pond (RWHP-01)

Area : Plant North East Corner

Size : 28 X 28 X 2.3 m (LBD)

Capacity : 1800 m³

Purpose : Recharging & Reuse for Greenbelt



Name : Rain water Recharging Pit (RWHP-02)

Area : Behind Admin Block - North Bay

Size : 2.4 X 3 X 2.5 m (LBD)

Capacity : 23 m³/hr (Peak hour harvesting)

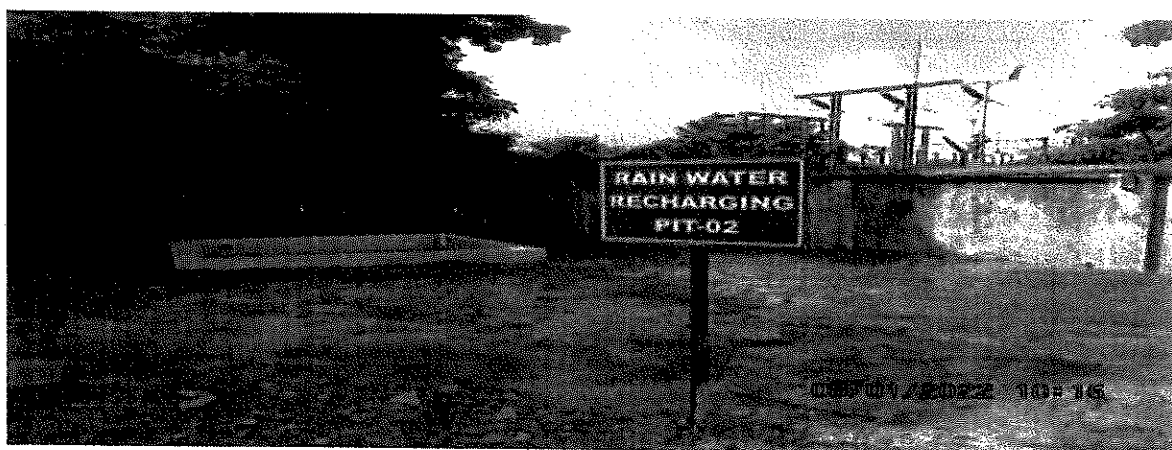
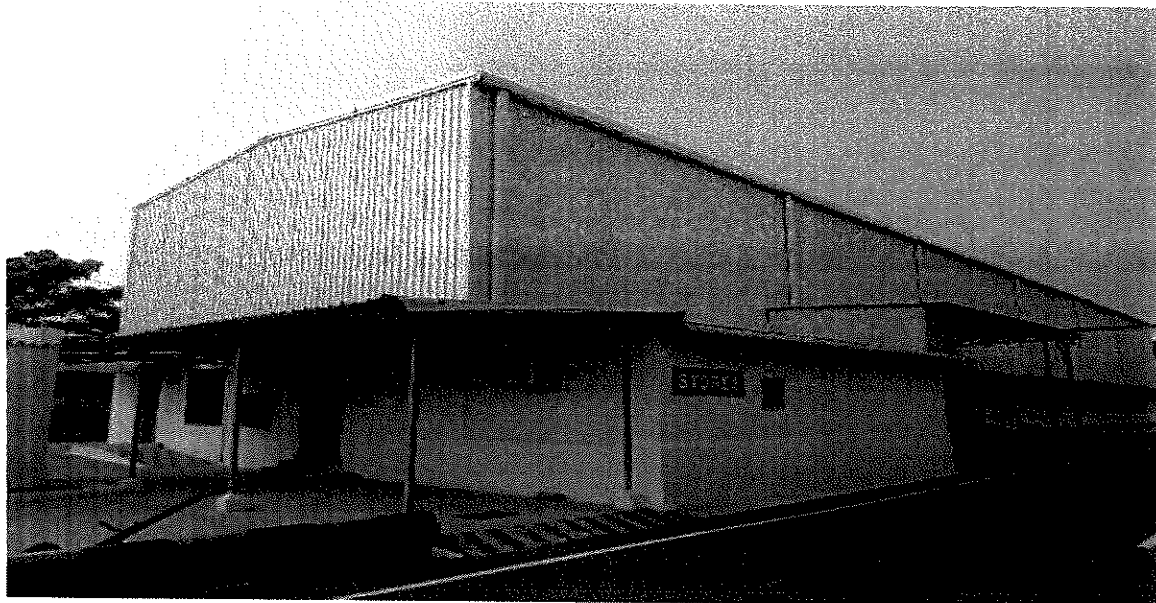
Purpose : Recharging of ground water

PART H

Additional measures /investment proposal for environmental protection including abatement of pollution, prevention of pollution

1. Additional New Rainwater recharging tank has been constructed at the RM stores area to recharging the rainwater to ground water.

RM store roof area



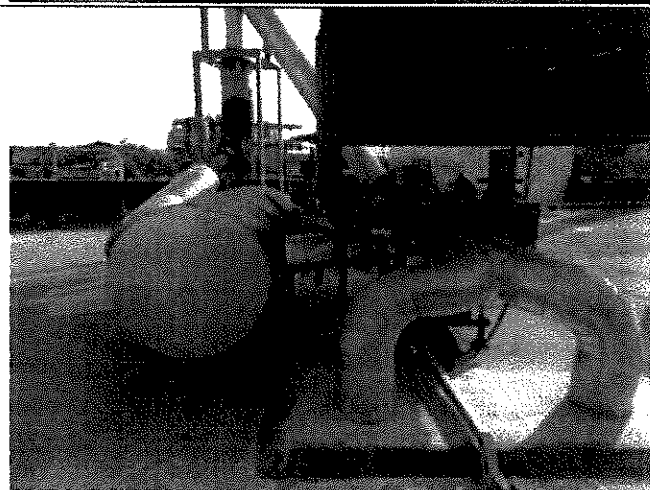
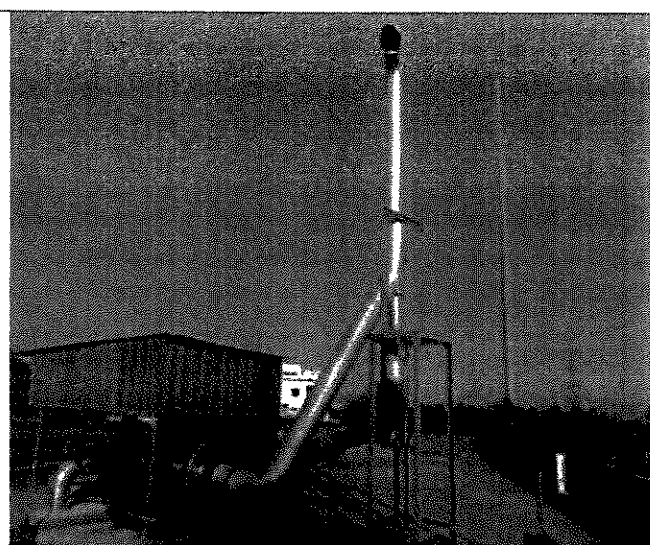
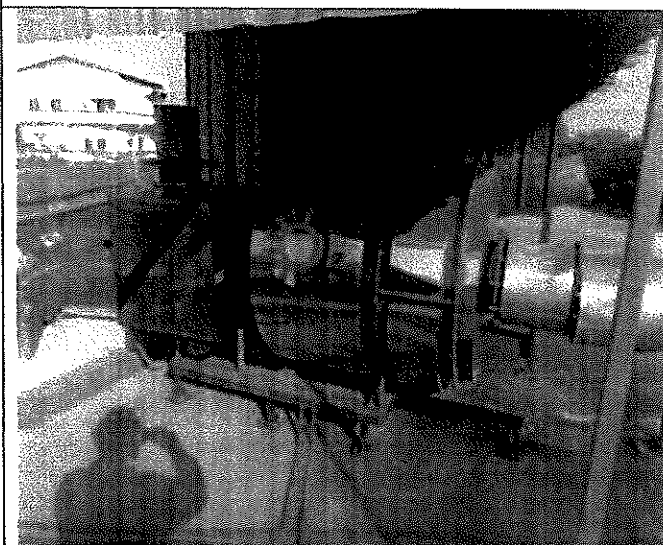
Name : Rain water Recharging Pit (RWHP-03)
Area : Behind RM stores
Size : 2.4 X 3 X 2.5 m (LBD)
Capacity :37 m³/hr (Peak hour harvesting)
Purpose : Recharging of ground water

Reduction of PM Emission in Diesel Generator 1010 KVA

Retrofit installation done for our 1010 KVA DG with approved retrofit emission control device/equipment with at least 70% Particulate matter reduction efficiency supplied by M/s. CHAKR INNOVATION PVT LIMITED with the projected cost of **INR 50 Laacs**

Benefit:

We achieved 73% PM emission reduction in our 1010 KVA DG and found, before retrofit PM emission in our DG is 71.6 mg/Nm³, after the retrofit it has brought down to 19.3 mg/Nm³.



4. As awareness program, slogans on Pollution control, environmental protection, Tree Plantation and energy conservation displayed at the prominent places.

PART I

Miscellaneous

Any other particulars in respect of environmental protection and abatement of pollution:

1. LDAR study done for by our unit through NABL accredited Lab (M/s. GLENS Innovations Lab) & reports are found satisfactory
2. Additional 100 saplings planted in the premises to improve the greenbelt as a part of kurunkadugal scheme.
3. The compliance of EC conditions with third party audit conducted by (m/s.Hubert Envirocare) & reports are found satisfactory. Added, compliance of EC conditions audited every year by 3rd party (DNV) during our EMS audit under ISO 14001:2015
4. To ensure the Zero Liquid Discharge System (ZLDS) we have provided EMFM at various locations and one CCTV provided in RO plant final discharge point & maintaining the daily log books.
5. Reduction of Emission by substitution of E-Vehicle In-Place of Diesel Vehicle
6. Joint Hands with Tamil Nadu Government (TN Green mission) to improve the Greenbelt & to reduce the Carbon Foot Print, Donated 5.00Lacs to TN Green mission for the greenbelt development.
7. HCL analyzer installed nearby the scrubber area & readings are monitored to ensure the Ambient air limits are complies with the standards
8. For ETP Sludge drying- We Installed Sludge Paddle Drier with wet scrubber facility with project cost of 60 Lacs & bad odour/smell eliminated by engg. controls.
9. The industry is being monitored continuously Fugitive Emissions and Volatile Organic Compounds (VOC's) in the process scrubbers by NABL approved laboratory
10. Additional rain water collection tank installed with capacity of 10 KL (Near power house terrace catchment area-445 sq.meter) & 12 KL tank in Admin. Block terrace catchment area-525 Sq.meter and collected water (expecting 800 m³/annum) shall be used for gardening purposes & cooling tower make up to reduce the fresh water consumption.

For Natco/Pharma Ltd

G. Vasan
(AVP-Operations)

