



NATCO PHARMA LIMITED

Regd Off: 'NATCO HOUSE', Road No. 2, Banjara Hills, Hyderabad-500 034. Telangana, INDIA
Tel : +91 40 23547532, Fax : +91 40 23548243 CIN : L24230TG1981PLC003201, www.natcopharma.co.in.
GSTIN : 33AAACN6927A1ZW

Date: 10.04.2023
Chennai-Manali

To

The Joint Chief Environmental Engineer (M),
First Floor, 950/1, Poonamallee High Road,
Arumbakkam,
Chennai-600 106

Respected Sir,

SUB: Submission of Environmental Statement in Form-V – Reg.

Here with we have attached our **Environmental Statement in Form-V for the financial year 2022 -2023** to your good office for your kind perusal.

Attachments:

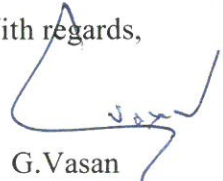
1. Environmental Statement in Form-V.
2. Annexure-I & II (Raw Material Details).
3. Annexure-III (Treated Effluent's ROA)
4. Annexure-IV (ROA of AAQ, Stack, Ambient Noise Level Survey done by TNPCB)
5. Annexure-V (Hazardous Wastes Analysis report by TNWML)



Copy To:

TNPCB-Manali Office
No.33/80, 1st Main Road, Ramakrishna Nagar
Ernavoor, Chennai-600 057

With regards,


G.Vasan
AVP-Operations.



The RvA is a signatory to the IAF MLA

Manufacturing Site :
Chemical Division - Chennai.
(ISO 14001:2015 & ISO 45001:2018 Certified)
S.No. 74/7B, Vaikkadu TPP Salai, Manali, Chennai, Tamilnadu - 600 103.
Tel. : +91-7299009981/82/83/84



Environmental Statement – Form-V

For the Year 2022-23



M/s. NATCO PHARMA LTD
CHEMICAL DIVISION CHENNAI
No. 74/7B, Vaikkadu TPP Salai,
Manali, Chennai- 600 103
Tamil Nadu

Natco Pharma Limited Chennai Division

FORM V- Index

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FORM V

(See Rule – 14)

**ENVIRONMENTAL STATEMENT REPORT FOR THE FINANCIAL YEAR ENDING
31ST MARCH 2023****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	5266.5 Kgs per annum List of Products with capacities given below
4	Year of Establishment	08.08.2007
5	Date of last Environment statement submitted	13.04.2022

List of Products with Capacities (Initial CTO as per Water act -order no. 22230 & as per Air act-order no. 18266)			
S.No	Name of the Product	Consented Quantity (Kgs/Annum)	Product Manufactured During the current financial year (2022-2023)
1	Allylestrenol	4	-
2	Drospirenone	50	-
3	Daunomycin Hydrochloride	12	-
4	Altretamine	5	-
5	Epirubicin Hydrochloride	2	-
6	Idarubicin Hydrochloride	0.5	-
7	Nandrolone Decanoate	2	-
8	Chlorambucil	1	0.84
9	Doxorubicin Hydrochloride	2	-
10	Fulvestrant	1	0.03
11	Testosterone Deconoate	1	-
12	Gefitinib	500	19.40
13	Imatinib Methane Sulfonate	1000	22.02
14	GB-5 intermediate	3670	-
15	Temozolomide	15	8.97
16	Melphalan	1	0.11
Total Production Quantity (Kgs/Annum)		5266.5	51.36

PART B

WATER AND RAW MATERIAL CONSUMPTION

I. Water Consumption:

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 : 100.64 KLD

Name of Products	Process Water Consumption for Manufactured Product output in (KL)	
	During the previous financial year (2021-2022)	During the current financial year (2022-2023)
Chlorambucil	0.06	0.05
Fulvestrant	0.36	0.01
Melphalan	0.02	0.002
Geftinib	2.78	2.13
Imatinib Methane Sulfonate	6.69	5.91
Temozolomide	0.56	1.08

II. Raw Material Consumption:

Name of Raw material	Name of Products	Consumption of Raw material per unit of Output	
		During the Previous financial year (2021-2022)	During the current financial year (2022-2023)
(Report Enclosed in Annexure-I)	(Report Enclosed in Annexure-I)	(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 2022 – March 2023

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	.	7.58	All the values are within the prescribed standard limits
Total Suspended Solids	0.115	4.6	
Total Dissolved Solids	3.2	128	
Chlorides	1.3	52	
Sulphates	0.1375	5.5	
Oil and Grease	0	NA	
BO D for 3 Days at 27°C	0.0625	2.5	
C O D	0.265	10.6	
Phosphate	0.00375	0.15	
Cyanide	0.000125	0.005	
Phenolic Compounds	0.000125	0.005	
Sulphide	0.025	1	
Hexavalent chromium	0.00025	0.01	
Lead	0.000375	0.015	
Mercury	-	NA	

Note: Average Quantity of Treated Water Discharge for Reuse for Cooling Tower make-up: 25 KLD

b). Air: (Stack Monitoring carried out by TNPCB LAB, Chennai) Dated:27.12.2022

Report Enclosed in Annexure-IV

S. No	Description of Chimney/Stack	Concentration of Pollutants discharged (mass / volume) (mg/Nm3)			Quantity of Pollutants discharged (mass /day) (Kgs/day)		
		PM	SO ₂	NO _x	PM	SO ₂	NO _x
1.	Boiler 3 tons	26	34	166	4.85	6.34	30.97
2.	DG 1010KVA	27	BDL	572	0.98	BDL	20.87

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 (2021-2022) Generation	During the current financial year (2022-2023) Generation
1.	From Process		
	(28.1) Process Residue & Waste		
(i)	Organic Solid Waste/ Process Residues	2.40	0.714
(ii)	In-Organic Solid Waste/Process Residues	3.62	2.249
(iii)	(28.6) Spent Solvents	4.85	3.20
3.	From pollution control facilities		
i)	(35.3) Evaporation Salts	7.47	7.40
(ii)	(35.3) Chemical sludge from waste water treatment	10.09	16.48

PART E

Non-Hazardous Solid Wastes

S.No	Non- Hazardous Wastes	Total Quantity (MT)	
		During the Previous financial year (2021-2022)	During the current financial year (2022-2023)
1.	From Process		
(i)	Wooden Packing Materials, carton boxes, metal scraps, used glass wares& Plastics	5.5	6
2.	From pollution control facilities		
(i)	Wooden pallets & Waste papers	4.5	5

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.

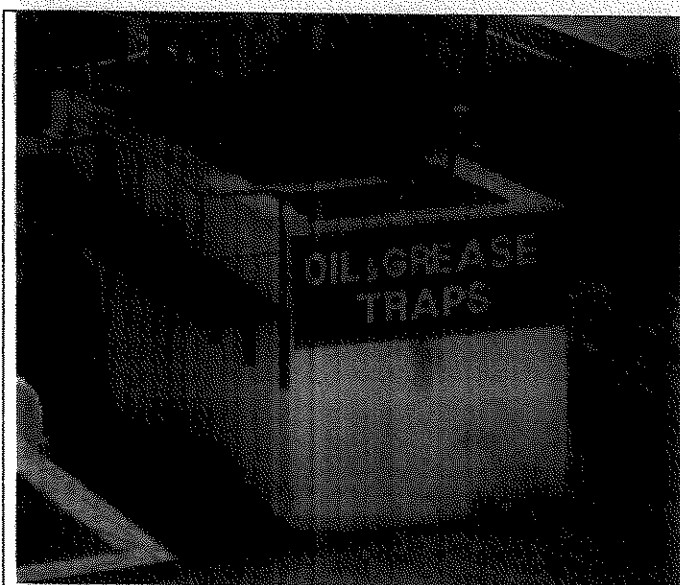
S.NO	Parameters	Hazardous waste			
		Process Residue & waste (Organic solid Waste)	Process Residue & waste (Inorganic solid Waste)	Chemical Sludge from waste water treatment (ETP Sludge)	Evaporation Salts
1.	pH	6.92	7.25	7.50	7.05
2.	Calorific value	7832 Cal/gm	<200 Cal/gm	3014 Cal/gm	<200 Cal/gm
3.	Bulk Density	0.25 gm/cc	0.80 gm/cc	1.15 gm/cc	1.25 gm/cc
4.	Flash Point °C	>60	>60	>60	>60
5.	LOD @ 105 °C	25.3 %	15.3 %	42.3 %	24.3 %
6.	Loss on Ignition @ 550 °C (Dry basis)	99.6 %	5.18 %	34.3 %	7.65 %
7.	Water soluble Organics	< 0.1 %	< 0.15 %	0.80 %	3.18 %
8.	Lead	<5 mg/Kg	<5 mg/kg	52.3 mg/kg	<5 mg/kg
9.	Copper	<5 mg/Kg	<5 mg/kg	20.6 mg/kg	<5 mg/kg
10.	Mode of Disposal	Incineration (TNWML)	Direct Landfill (TNWML)	Incineration (TNWML)	Landfill after treatment (TNWML)

PART G

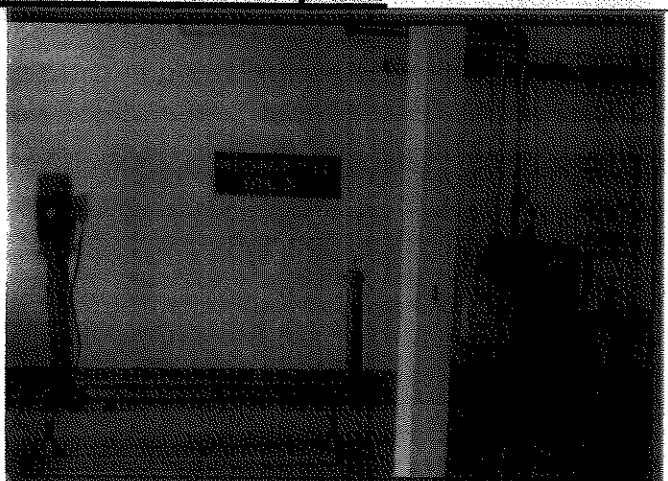
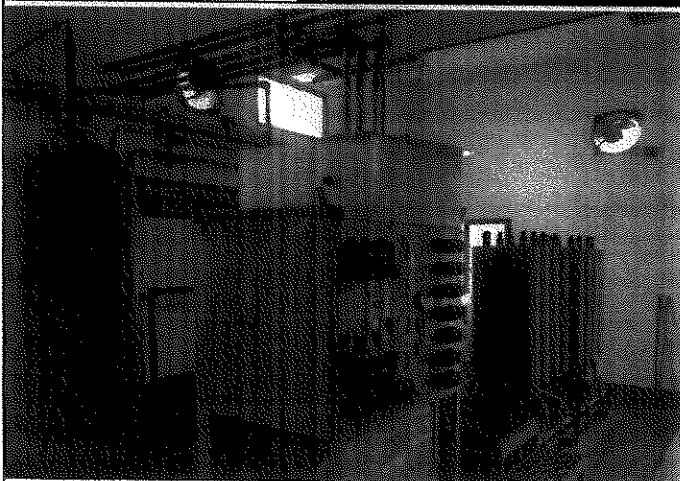
Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of productions:

Total water consumption by the unit is below the consented limit (100.64 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



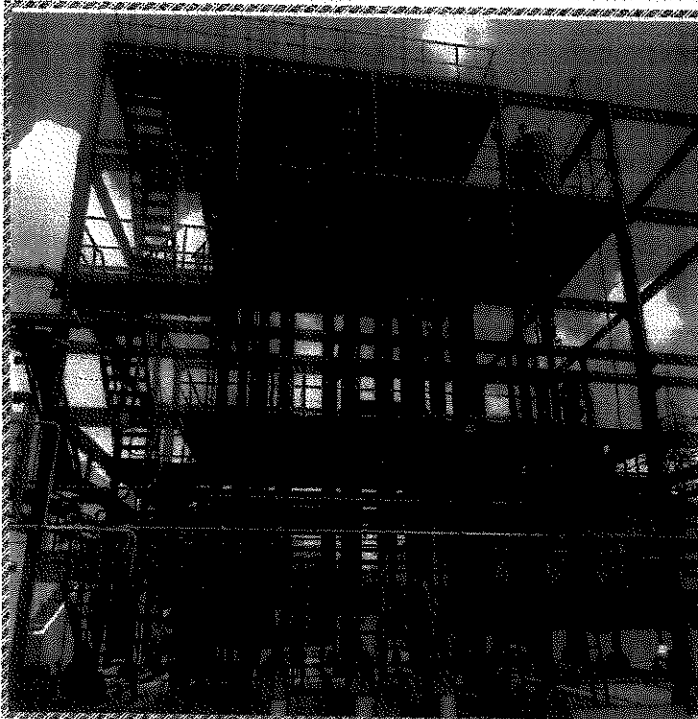
Primary & Secondary Reverse Osmosis plant



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 ATFD 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

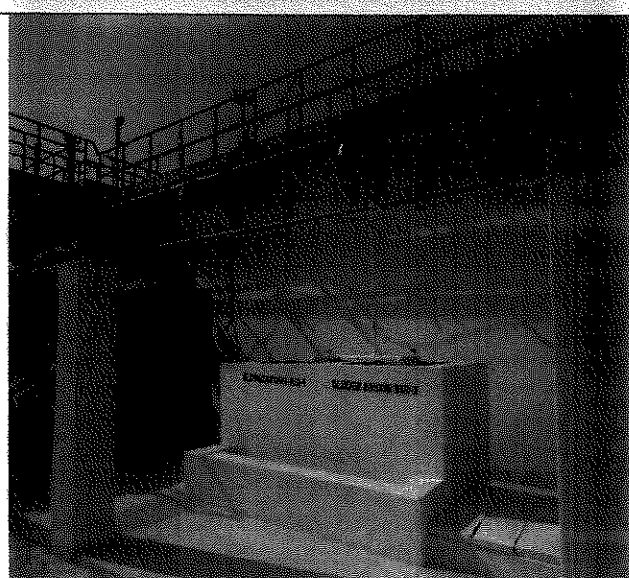
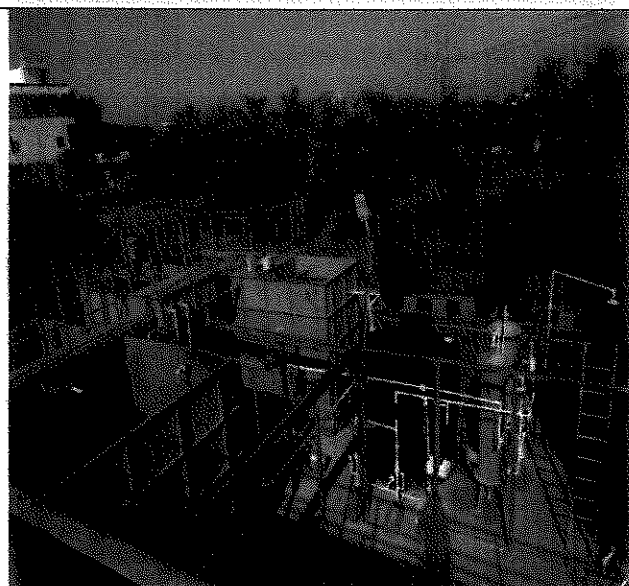
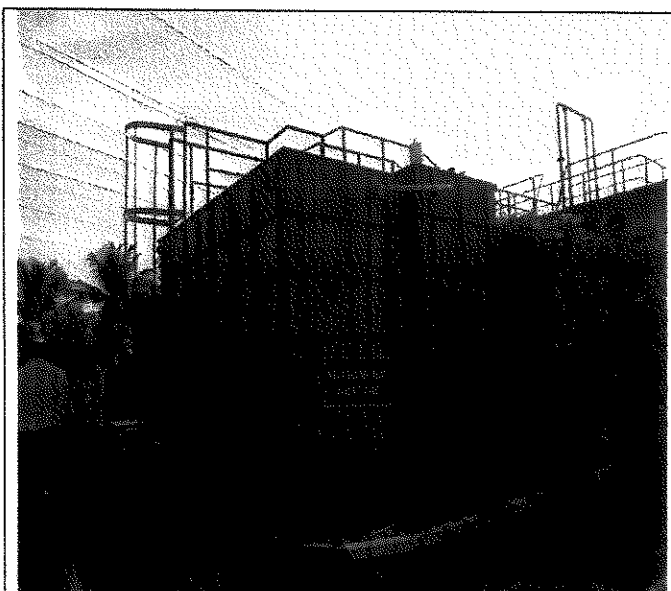


NEW SEWAGE TREATMENT PLANT

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.

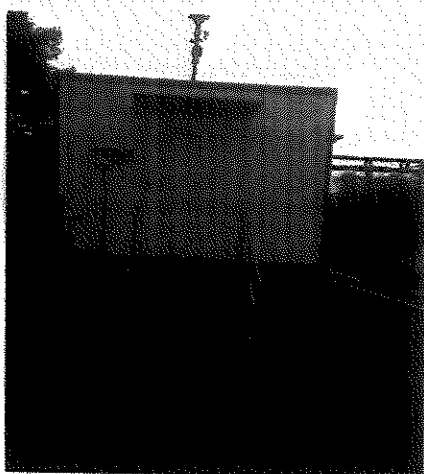
STP installation photos attached below



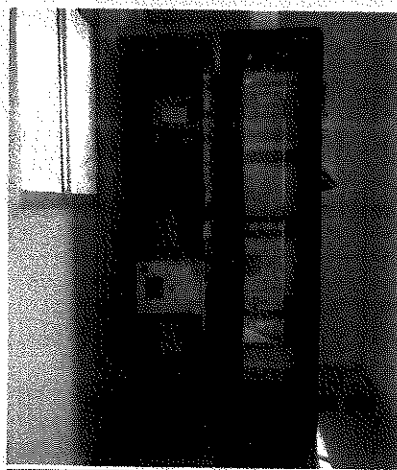
On-line Ambient Air Quality Monitoring station

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)



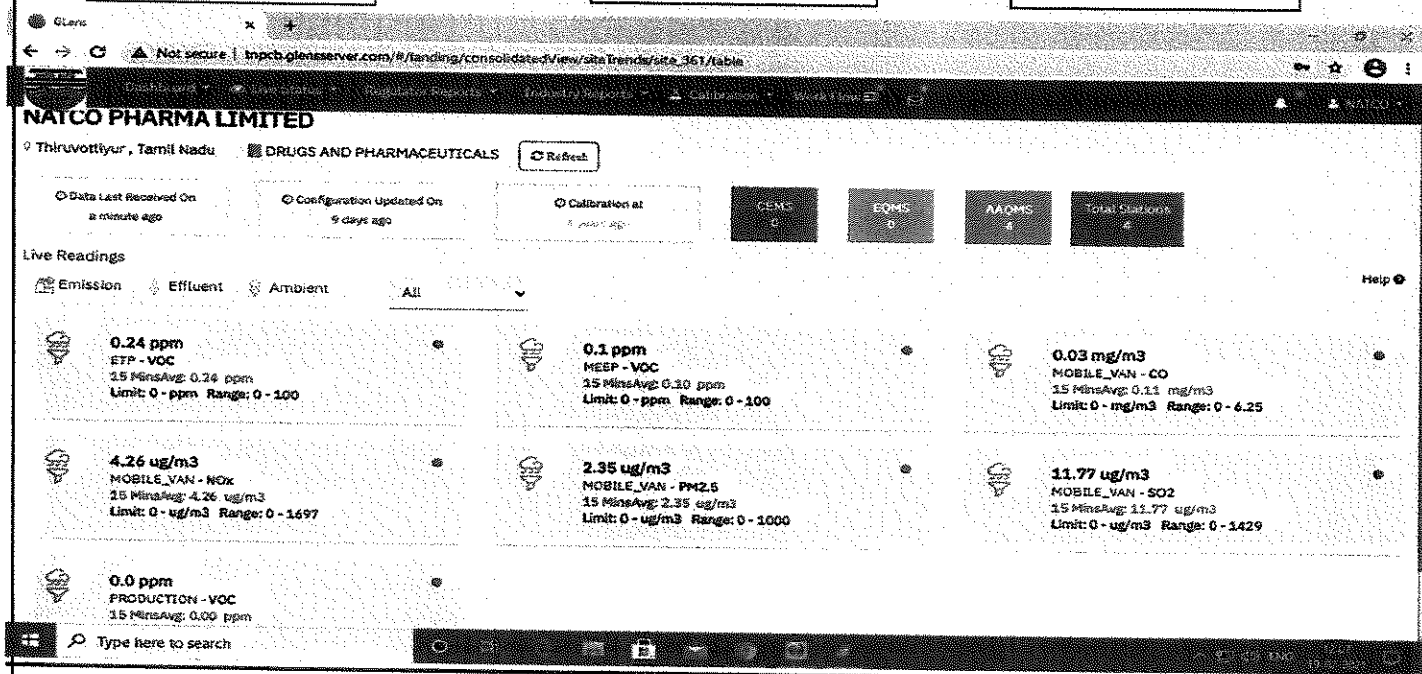
Mobile Van-AAQMS



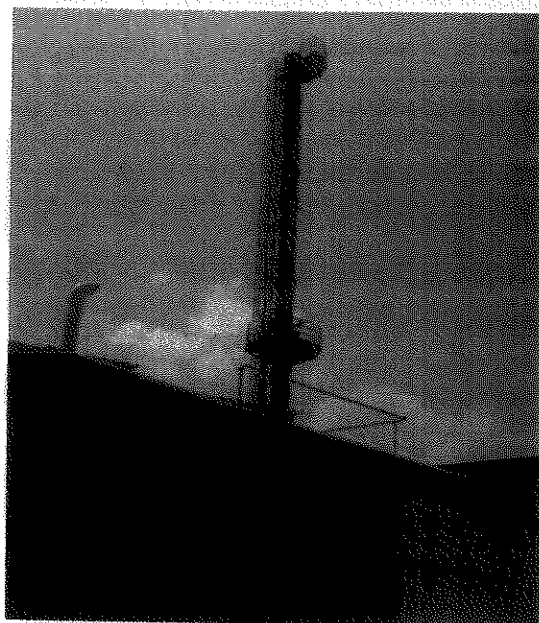
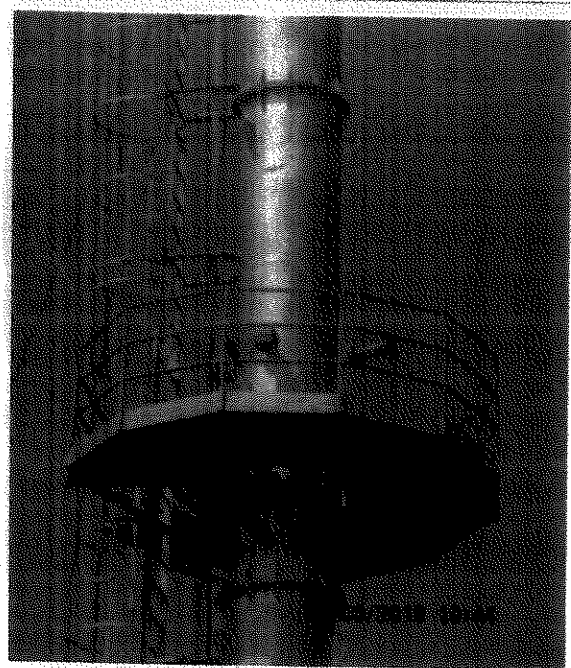
AAQ Analyzers



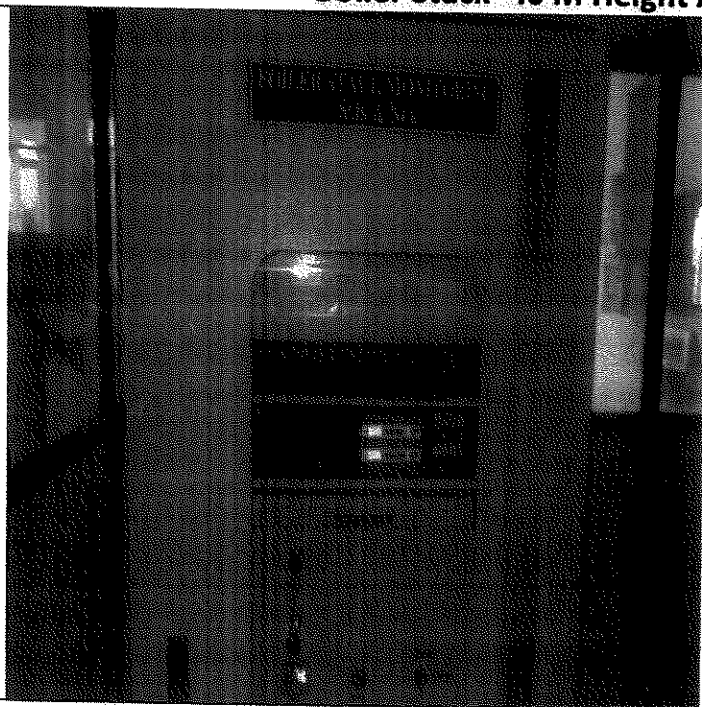
VOC Analyzers



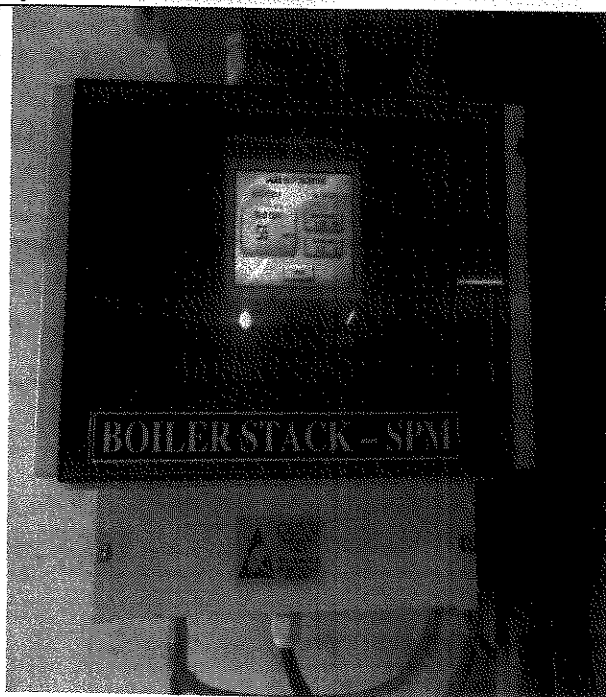
Boiler Stack & Monitoring



Boiler Stack -40 M Height As per CPCB Guidelines

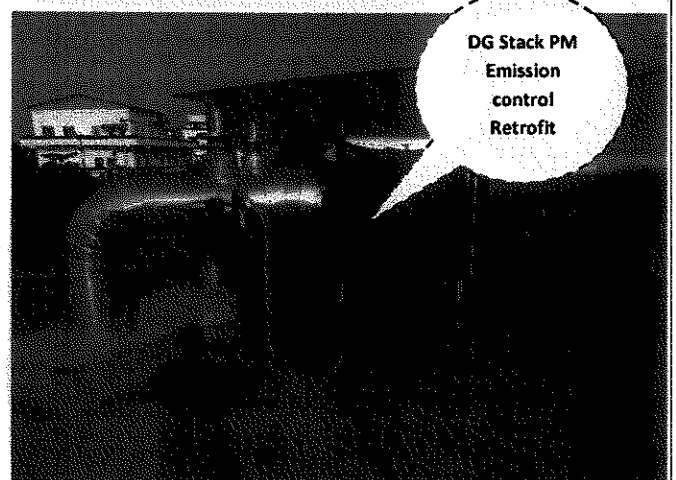
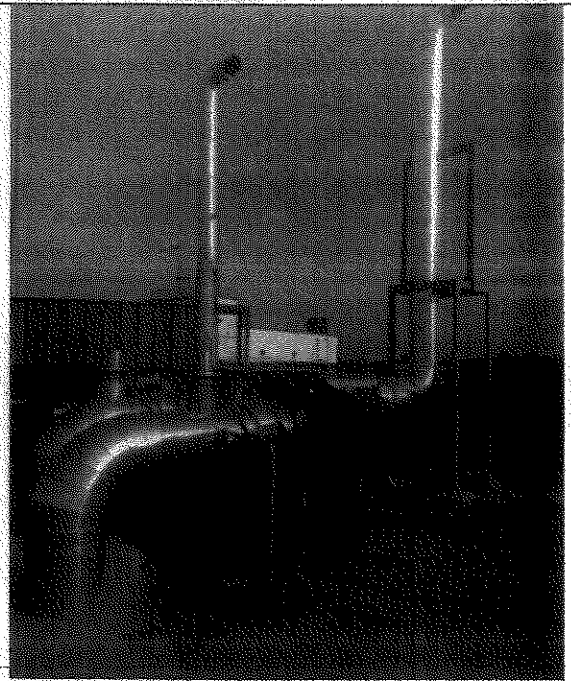
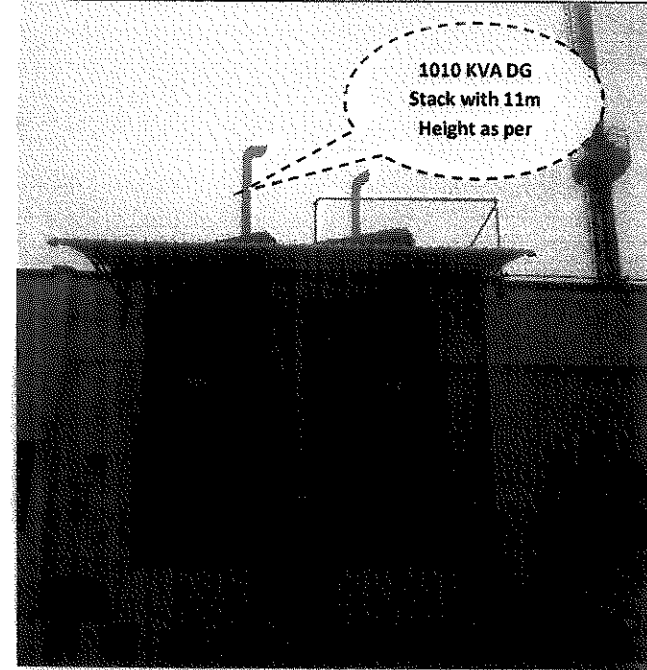


Boiler Stack- Sox & Nox Analyzer



Boiler Stack - SPM Analyzer

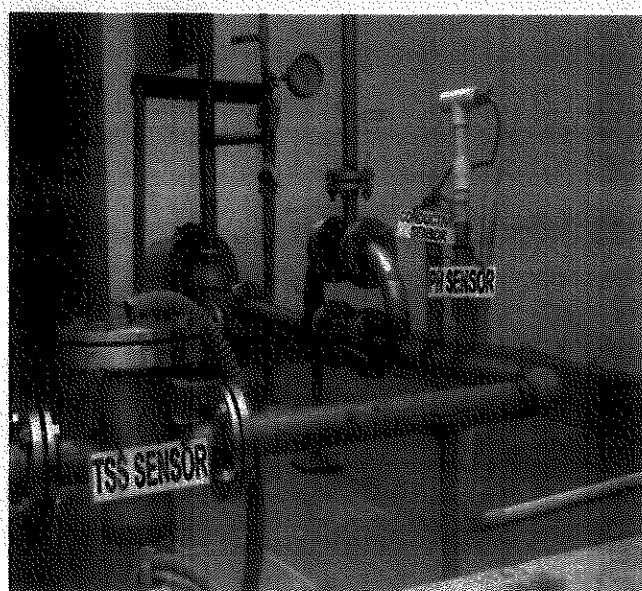
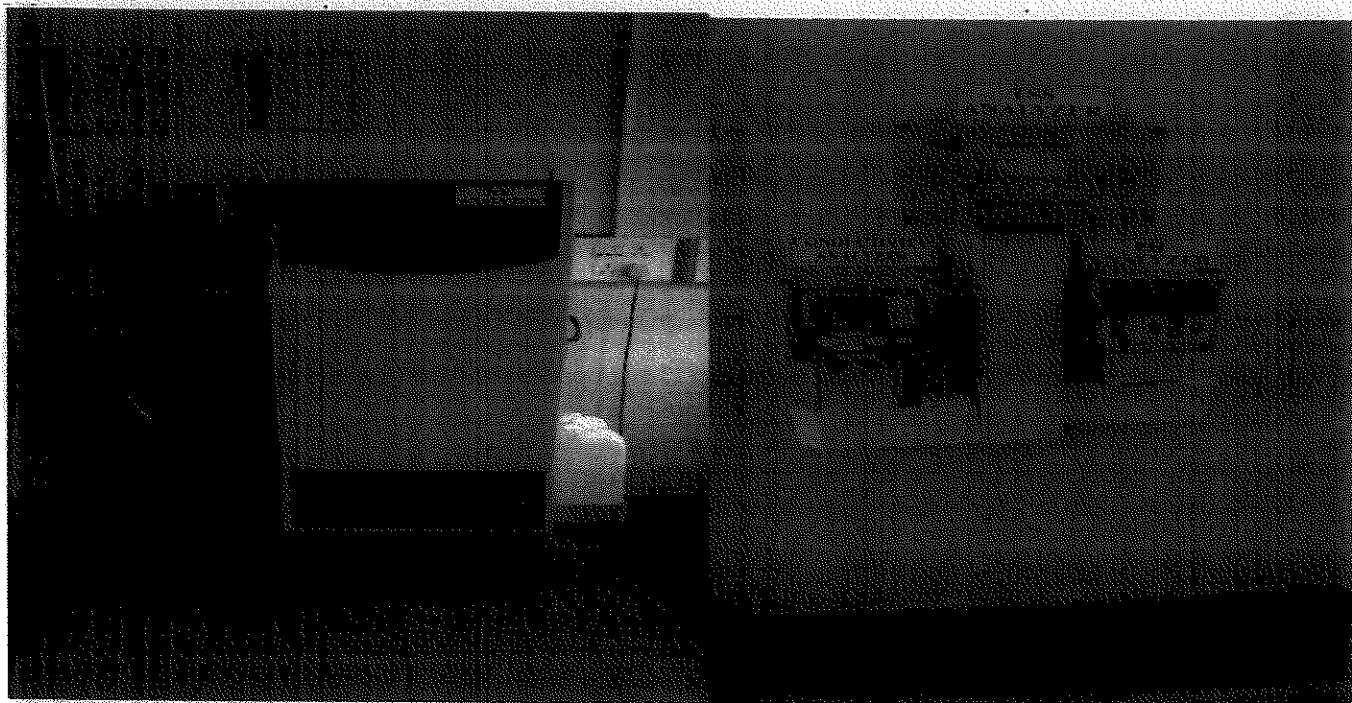
DG Stack & Pollution Control Measures



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

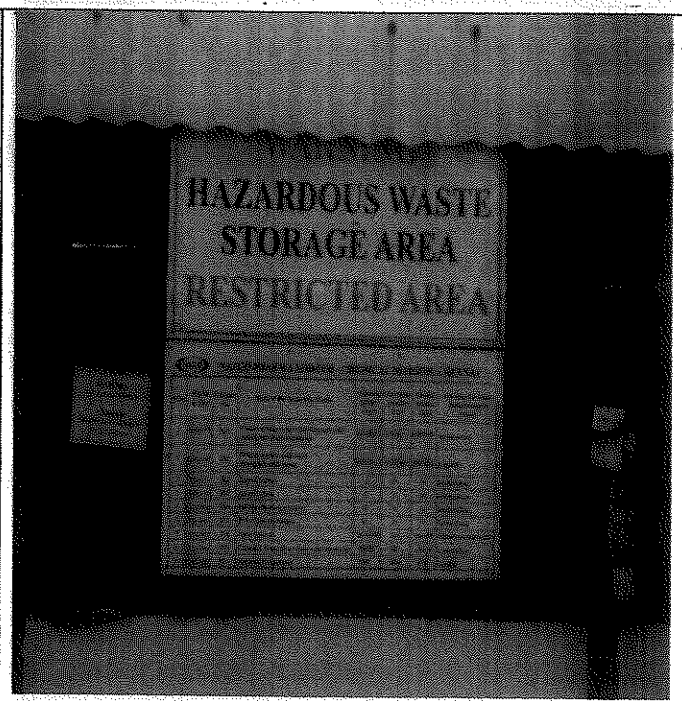
Photos of analyzers & WOW parameters



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.

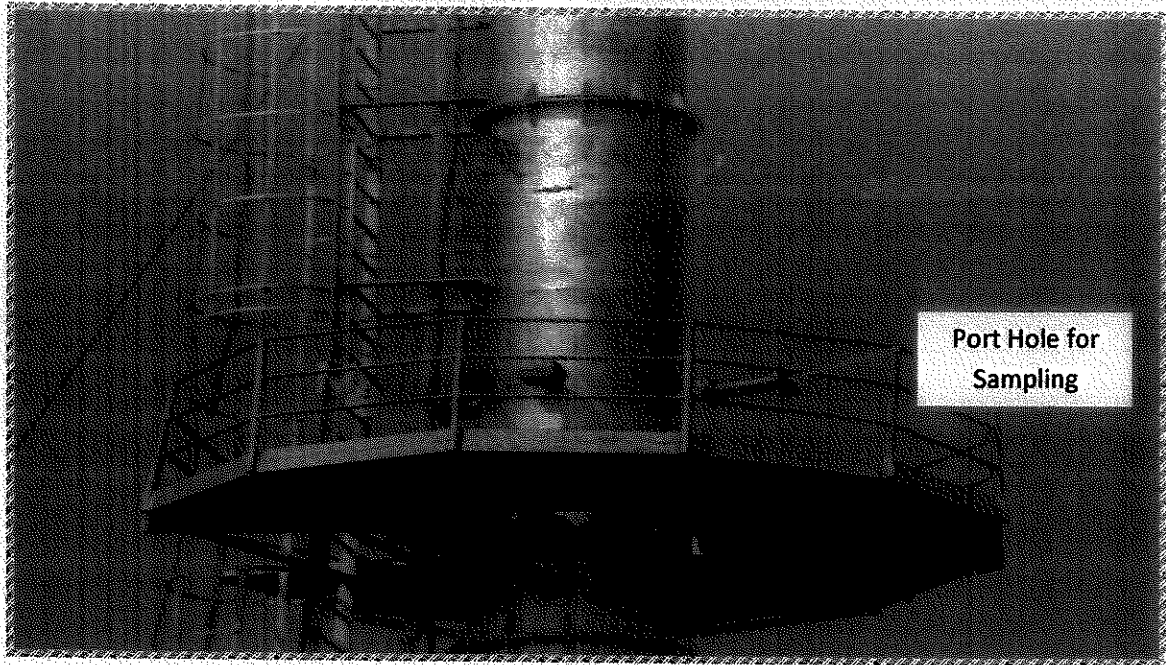
Hazardous Waste Storage Area



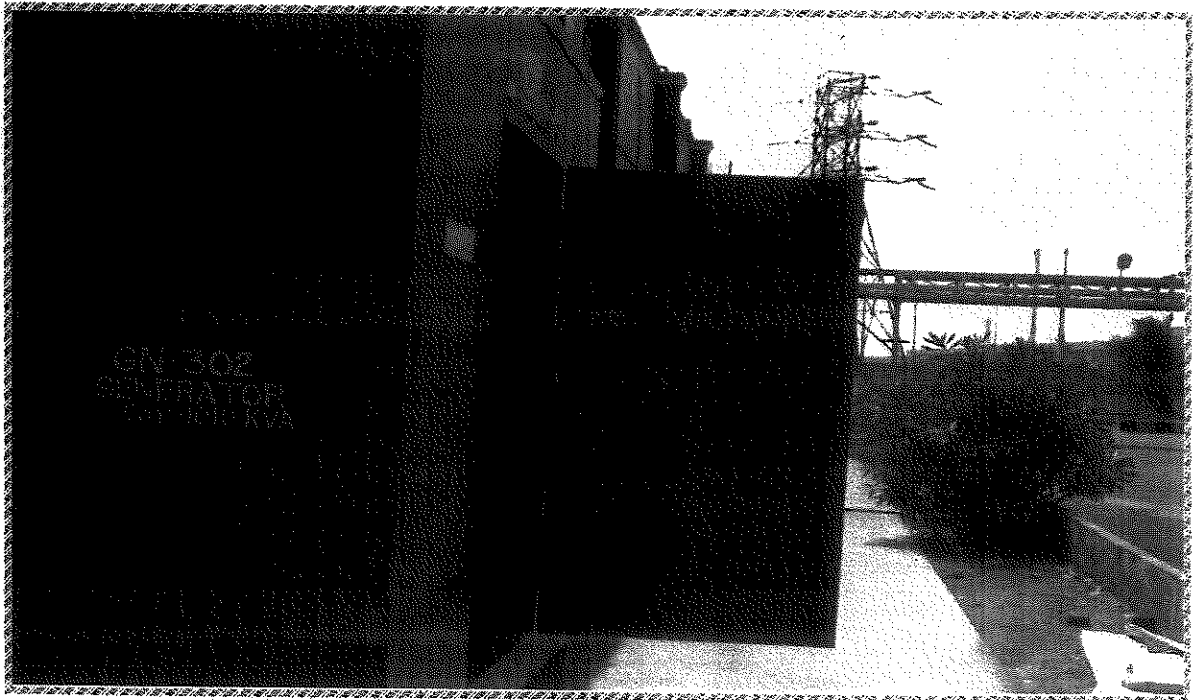
Hazardous Waste Display Board at Front Gate Entry



Air pollution control measure
Boiler Stack monitoring system

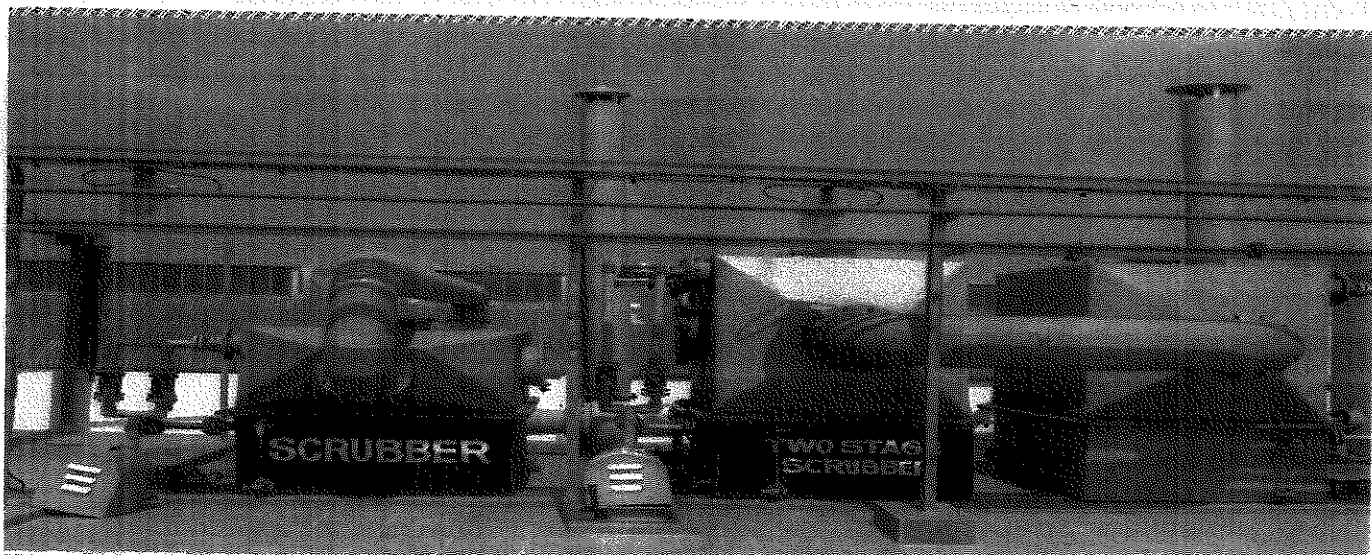


DG Acoustic Panel



Process emission control measure

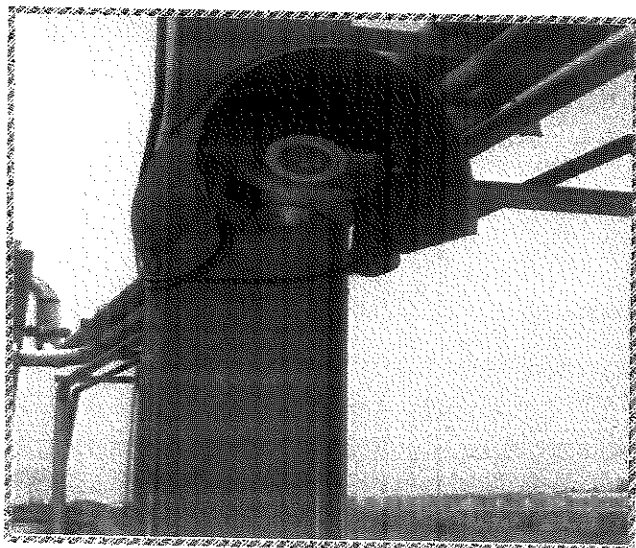
The scrubbers (Two-stage & Single stage scrubber) installed are operated efficiently to control the process emissions with proper neutralizing (alkali) media. Scrubbing solution for pH is being measured continually and monitored regularly to have better control. Scrubber are provided to incinerator to 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).

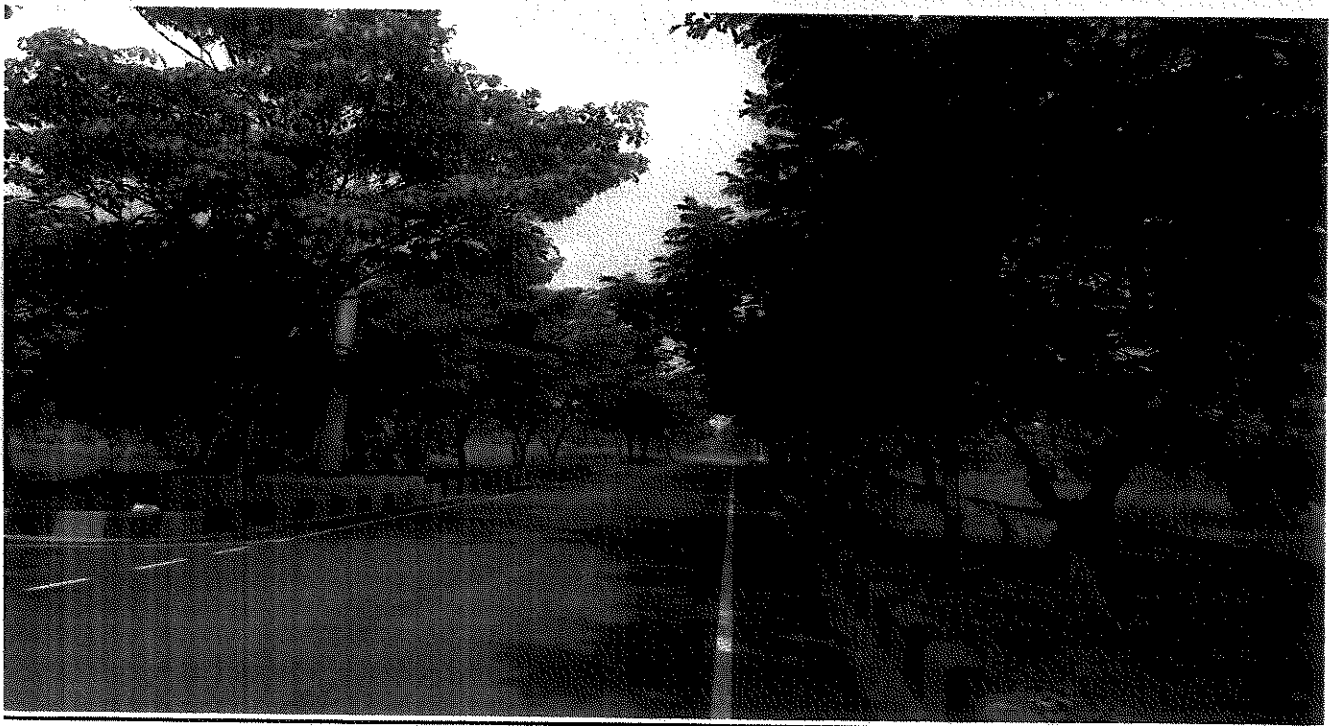


Greenbelt Development in site

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



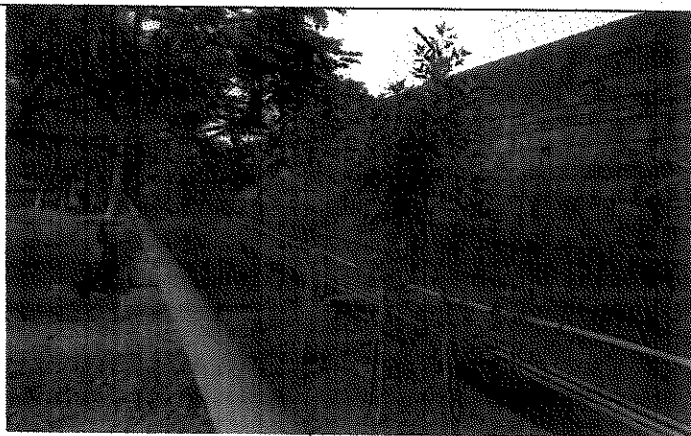
GPS Point	
Latitude	Longitude
13°11'32.15"N	80°15'57.79"E

Greenbelt Under Development with drip irrigation System



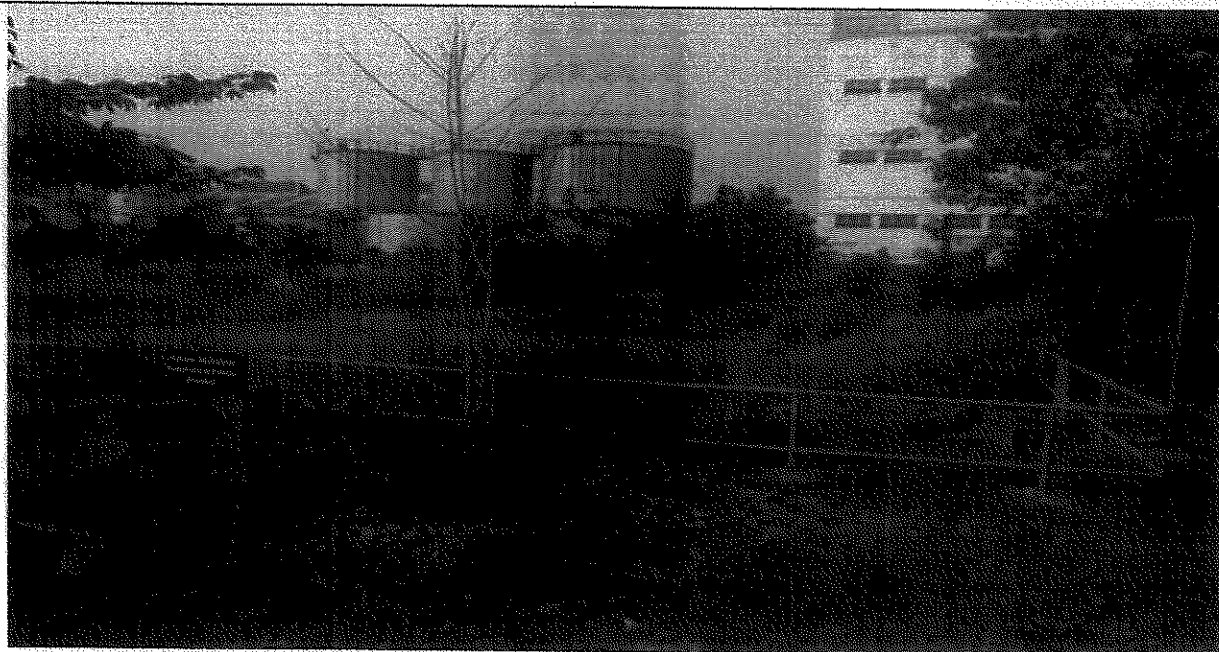
Nearly 300 Nos of trees were planted in the company boundaries

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



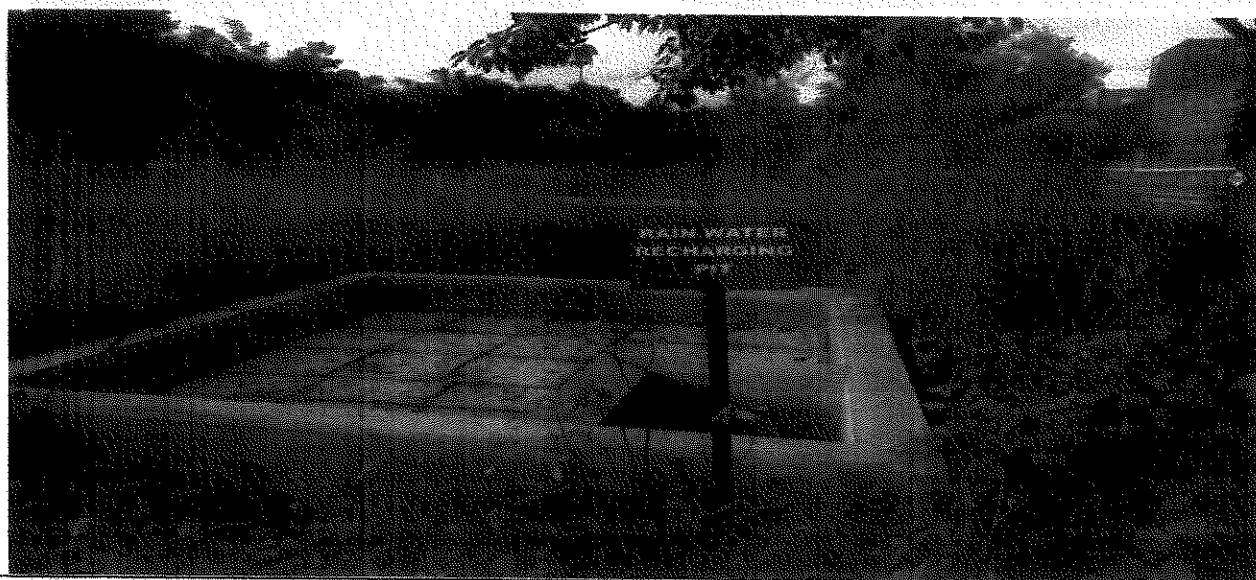
Rainwater Harvesting Measures

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)
Size : 28 X 28 X 2.3 m (LBD)
Purpose : Recharging & Reuse for Greenbelt

Area : Plant North East Corner
Capacity : 1800 m³



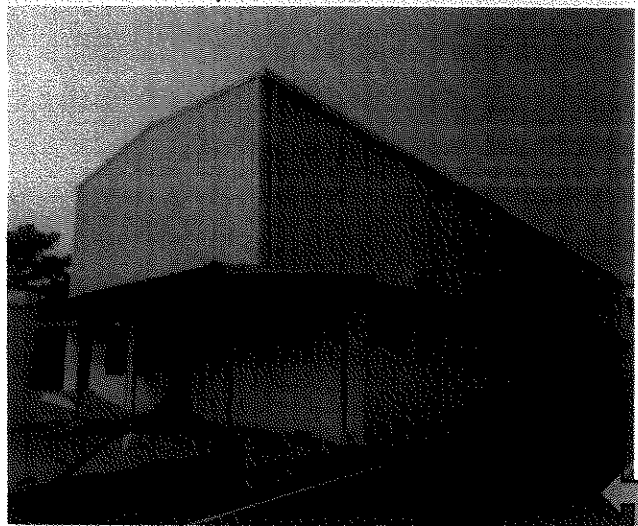
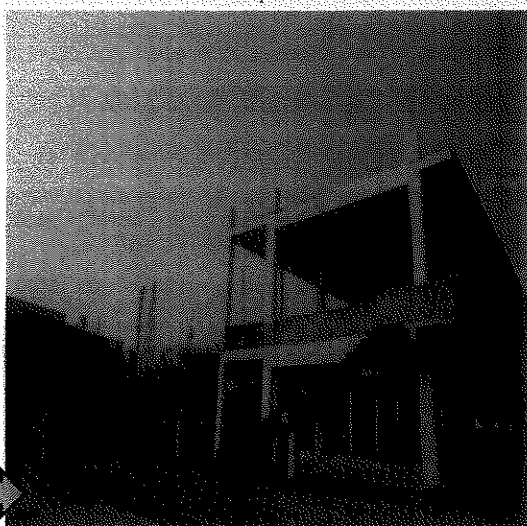
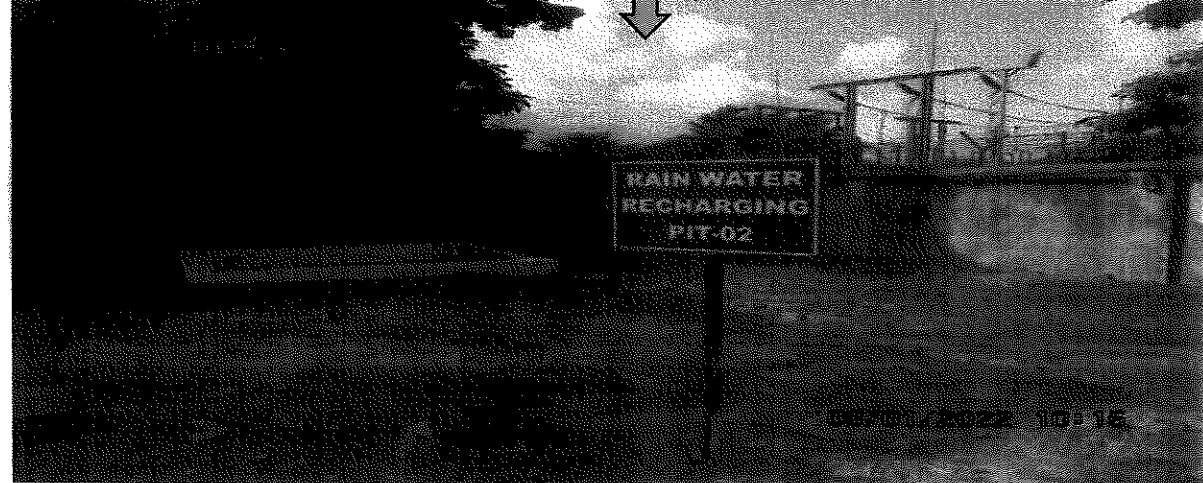
Name : Rain water Recharging Pit (RWHP-02)
Size : 2.4 X 3 X 2.5 m (LBD)
Purpose : Recharging of ground water

Area : Behind Admin Block - North Bay
Capacity : 23 m³/hr (Peak hour harvesting)

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.

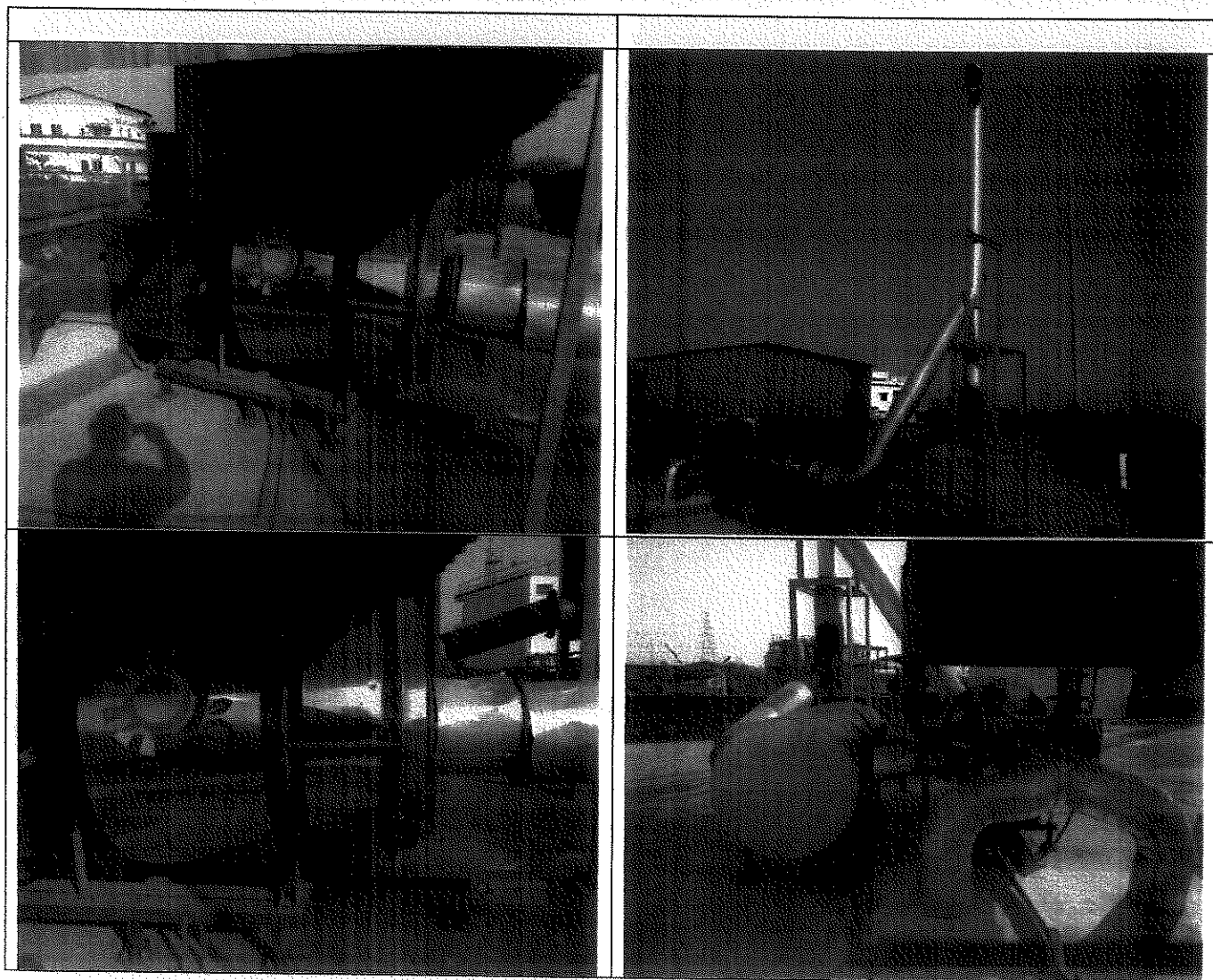
RM store roof area	Proposed QC Block
	
	
Name : Rain water Recharging Pit (RWHP-03) Area : Behind RM stores Size : 2.4 X 3 X 2.5 m (LBD) Capacity :37 m³/hr (Peak hour harvesting) Purpose : Recharging of ground water	

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 Lacs**

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.

PART I

Miscellaneous

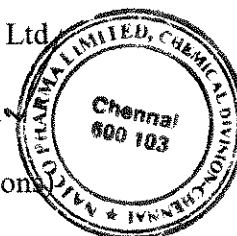
Any other particulars in respect of environmental protection and abatement of pollution:

- 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.
- Additional 100 saplings planted in the premises to improve the greenbelt as a part of kurunkadugal scheme.
- 1. LDAR study done for by our unit through NABL accredited Lab (M/s. GLENS Innovations Lab) & reports are found satisfactory
- 2. The compliance of EC conditions with third party audit conducted by (m/s. GLENS Innovations Lab) & reports are found satisfactory. Copy of report attached. Added, compliance of EC conditions audited every year by 3rd party (DNV GL) during our EMS audit under ISO 14001:2015
- 3. 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.
- 4. Reduction of Emission by substitution of E-Vehicle In-Place of Diesel Vehicle
- 5. 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.
- 6. HCL analyzer installed nearby the scrubber area & readings are monitored to ensure the Ambient air limits are complies with the standards
- 7. 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.
- 8. The industry is being monitored continuously Fugitive Emissions and Volatile Organic Compounds (VOC's) in the process scrubbers by NABL approved laboratory

For Natco Pharma Ltd

G. Vasanth

(AVP-Operations)



Annexure-I

LIST OF RAW MATERIALS AND THEIR CONSUMPTION FOR THE FINANCIAL YEAR 2021-2022			
S. No	Name of the RM	Qty (Kgs/Annum)	Products
1	4- N,N-di-(2- hydroxyethyl)-aminophenylbutyrate	1.78	Chlorambucil
2	Cyclohexane	28.48	Chlorambucil
3	Phosphorous oxychloride	11.66	Chlorambucil,Melphalan
4	Conc. HCl	121.93	Chlorambucil,Melphalan,Fulvestrant, Imatinib Methane Sulfonate
5	Aqueous ammonia	3861.18	Chlorambucil,Gefitinib,Imatinib Methane Sulfonate
6	Hexane	7.79	Chlorambucil
7	Carbon	23.52	Chlorambucil,Gefitinib,Imatinib Methane Sulfonate
8	(7 alpha, 17 beta)-7-[9-[- methyl sulfonyl]oxy]nonyl]estra-1,3,5 (10)-triene-3,17-diol	1.57	Fulvestrant
9	pentanethiol4,4,5,5,5-pentafluoro-1-	1.00	Fulvestrant
10	Sodium hydride (60% in mineral oil)	0.39	Fulvestrant
11	Tetrahydrofuran	33.48	Fulvestrant,Temozolomide,Imatinib Methane Sulfonate
12	Ethyl acetate	400.34	Fulvestrant,Melphalan,Imatinib Methane Sulfonate
13	Sodium sulfate	11.24	Fulvestrant,Imatinib Methane Sulfonate
14	Methanol	773.91	Fulvestrant,Melphalan,Temozolomide,Gefitinib,,Imatinib Methane Sulfonate
15	m- chloro perbenzoic acid	1.00	Fulvestrant
16	Methylene chloride	452.67	Fulvestrant,Temozolomide
17	Sodium bicarbonate	0.20	Fulvestrant
18	((N-phthalimidoyl)-4-[Bis(2-hydroxyethyl)- amino]-L-phenylalanine	2.53	Melphalan
19	Sodium acetate	3.95	Melphalan
20	Hiflow	5.78	Melphalan,Imatinib Methane Sulfonate
21	Acetone	148.80	Melphalan
22	5- aminoimidazole-4- carboxamide	5.80	Temozolomide
23	4- nitro phenyl chloroformate	9.30	Temozolomide
24	Triethylamine	21.57	Temozolomide
25	Methyl amine	0.61	Temozolomide
26	Sodium nitrite	1.42	Temozolomide
27	Tartaric acid	2.00	Temozolomide

Annexure-I

LIST OF RAW MATERIALS AND THEIR CONSUMPTION FOR THE FINANCIAL YEAR 2021-2022			
28	Dimethyl sulfoxide (DMSO)	50.00	Temozolomide
29	Quinazoline derivative	75.90	Gefitinib
30	48%W/W HBr	531.30	Gefitinib
31	Acetic anhydride	303.60	Gefitinib
32	Thionyl chloride	25.30	Gefitinib
33	DMF	3.29	Gefitinib
34	Isopropyl alcohol	514.54	Gefitinib, Imatinib Methane Sulfonate
35	Toulene	880.44	Gefitinib
36	O-Toluidine	51.00	Imatinib Methane Sulfonate
37	Sulfuric acid	931.01	Imatinib Methane Sulfonate
38	Nitric acid	48.63	Imatinib Methane Sulfonate
39	Cyanamide	22.45	Imatinib Methane Sulfonate
40	n-Butanol	249.40	Imatinib Methane Sulfonate
41	IPE	349.16	Imatinib Methane Sulfonate
42	Sodium hydroxide	5.24	Imatinib Methane Sulfonate
43	2-dimethylamino-1-(pyridyl)-2-propane-1-one	22.94	Imatinib Methane Sulfonate
44	2-propanol	299.28	Imatinib Methane Sulfonate
45	Stannous chloride	144.15	Imatinib Methane Sulfonate
46	Caustic soda lye	1366.71	Imatinib Methane Sulfonate, Fulvestrant
47	Chloroform	399.04	Imatinib Methane Sulfonate
48	4-(4-methyl piperazino methyl) benzoyl chloride dihydrochloride	91.53	Imatinib Methane Sulfonate
49	potassium hydroxide	199.77	Imatinib Methane Sulfonate
50	Methane sulfonic acid	5.74	Imatinib Methane Sulfonate

Annexure-II

LIST OF RAW MATERIALS AND THEIR CONSUMPTION FOR THE FINANCIAL YEAR 2022-2023			
S. No	Name of the RM	Qty (Kgs/Annum)	Products
1	4- N,N-di-(2- hydroxyethyl)-aminophenylbutyrate	1.68	Chlorambucil
2	Cyclohexane	26.88	Chlorambucil
3	Phosphorous oxychloride	5.92	Chlorambucil,Melphalan
4	Conc. HCl	64.96	Chlorambucil,Melphalan,Fulvestrant, Imatinib Methane Sulfonate
5	Aqueous ammonia	1641.88	Chlorambucil,Gefitinib,Imatinib Methane Sulfonate
6	Hexane	7.35	Chlorambucil
7	Carbon	20.01	Chlorambucil,Gefitinib,Imatinib Methane Sulfonate
8	(7 alpha, 17 beta)-7-[9-[- methyl sulfonyl]oxy]nonyl]estra-1,3,5 (10)-triene-3,17-diol	0.05	Fulvestrant
9	pentanethiol4,4,5,5,5-pentafluoro-1-	0.03	Fulvestrant
10	Sodium hydride (60% in mineral oil)	0.01	Fulvestrant
11	Tetrahydrofuran	50.00	Fulvestrant,Temozolomide,Imatinib Methane Sulfonate
12	Ethyl acetate	402.00	Fulvestrant,Melphalan,Imatinib Methane Sulfonate
13	Sodium sulfate	5.90	Fulvestrant,Imatinib Methane Sulfonate
14	Methanol	350.00	Fulvestrant,Melphalan,Temozolomide,Gefitinib,,Imatinib Methane Sulfonate
15	m- chloro perbenzoic acid	0.03	Fulvestrant
16	Methylene chloride	400.00	Fulvestrant,Temozolomide
17	Sodium bicarbonate	0.01	Fulvestrant
18	((N-phthalimidoyl)-4-[Bis(2-hydroxyethyl)- amino]-L-phenylalanine	0.35	Melphalan
19	Sodium acetate	0.55	Melphalan
20	Hiflow	4.51	Melphalan,Imatinib Methane Sulfonate

LIST OF RAW MATERIALS AND THEIR CONSUMPTION FOR THE FINANCIAL YEAR 2022-2023			
S. No	Name of the RM	Qty (Kgs/Annum)	Products
21	Acetone	17.60	Melphalan
22	5- aminoimidazole-4- carboxamide	52.03	Temozolomide
23	4- nitro phenyl chloroformate	83.42	Temozolomide
24	Triethylamine	41.26	Temozolomide
25	Methyl amine	5.47	Temozolomide
26	Sodium nitrite	8.52	Temozolomide
27	Tartaric acid	17.94	Temozolomide
28	Dimethyl sulfoxide (DMSO)	60.00	Temozolomide
29	Quinazoline derivative	58.20	Gefitinib
30	48%W/W HBr	407.40	Gefitinib
31	Acetic anhydride	232.80	Gefitinib
32	Thionyl chloride	19.40	Gefitinib
33	DMF	62.00	Gefitinib
34	Isopropyl alcohol	400.00	Gefitinib, Imatinib Methane Sulfonate
35	Toulene	690.00	Gefitinib
36	O-Toluidine	45.03	Imatinib Methane Sulfonate
37	Sulfuric acid	822.01	Imatinib Methane Sulfonate
38	Nitric acid	62.98	Imatinib Methane Sulfonate
39	Cyanamide	19.82	Imatinib Methane Sulfonate
40	n-Butanol	240.00	Imatinib Methane Sulfonate
41	IPE	308.28	Imatinib Methane Sulfonate
42	Sodium hydroxide	445.02	Imatinib Methane Sulfonate
43	2-dimethylamino-1-(pyridyl)-2-propane-1- one	20.26	Imatinib Methane Sulfonate
44	2-propanol	264.24	Imatinib Methane Sulfonate

LIST OF RAW MATERIALS AND THEIR CONSUMPTION FOR THE FINANCIAL YEAR 2022-2023			
S. No	Name of the RM	Qty (Kgs/Annum)	Products
45	Stannous chloride	127.28	Imatinib Methane Sulfonate
46	Caustic soda lye	1206.70	Imatinib Methane Sulfonate, Fulvestrant
47	Chloroform	380.00	Imatinib Methane Sulfonate
48	4-(4-methyl piperazino methyl) benzoyl chloride dihydrochloride	80.81	Imatinib Methane Sulfonate
49	potassium hydroxide	176.38	Imatinib Methane Sulfonate
50	Methane sulfonic acid	5.06	Imatinib Methane Sulfonate

CONSOLIDATED RO PERMEATE WATER ANALYSIS REPORT (ROA) FOR CURRENT FINANCIAL YEAR

2022-2023

S.no	Parameters	Unit	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	June 2022	July 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023
1	pH	—	7.94	7.98	7.87	7.75	8.1	7.8	7.59	7.18	7.11	U/A	U/A	U/A	U/A	U/A	U/A
2	Total Suspended Solids	mg/L	4	4	4	4	4	4	6	6	4	U/A	U/A	U/A	U/A	U/A	U/A
3	Total Dissolved Solids	mg/L	96	80	72	110	240	162	78	98	84	U/A	U/A	U/A	U/A	U/A	U/A
4	Chlorides	mg/L	38	25	30	41	93	75	24	38	44	U/A	U/A	U/A	U/A	U/A	U/A
5	Sulphates	mg/L	2	<1	<1	6	5	9	<1	<1	2	U/A	U/A	U/A	U/A	U/A	U/A
6	Oil and Grease	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	U/A	U/A	U/A	U/A	U/A	U/A
7	BO D for 3 Days at 27°C	mg/L	2	2	2	2	2	2	2	5	2	U/A	U/A	U/A	U/A	U/A	U/A
8	C O D	mg/L	8	8	8	8	8	8	8	24	8	U/A	U/A	U/A	U/A	U/A	U/A
9	Phosphate	mg/L	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	U/A	U/A	U/A	U/A	U/A	U/A
10	Cyanide	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	U/A	U/A	U/A	U/A	U/A	U/A
11	Phenolic Compounds	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	U/A	U/A	U/A	U/A	U/A	U/A
12	Sulphide	mg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	U/A	U/A	U/A	U/A	U/A	U/A
13	Hexavalent chromium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	U/A	U/A	U/A	U/A	U/A	U/A
14	Lead	mg/L	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	U/A	U/A	U/A	U/A	U/A	U/A
15	Mercury	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	U/A	U/A	U/A	U/A	U/A	U/A

NA - Not Analysed

Prepared by

Di 10.04.2023

Checked by





TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

From

T. Thamarachelvi, M.Sc., B.Ed.,
Deputy Chief Scientific Officer,
District Environmental Laboratory, Manali
Tamil Nadu Pollution Control Board,
950/1, Poonamallee High Road,
Arumbakkam,
Chennai-106

To

M/s. Natco Pharma Ltd.,
74/7-B Vaikkadu TPP Salai,
Manali,
Chennai - 600 103.

Lr.No.TNPC Bd/DEL-MNL/Air Survey/F.No.57/2022-23, Dt. 09.01.2023

Sir,

Sub: Furnishing of Report of Analysis of Ambient Air Quality /
Stack Monitoring / Ambient Noise Level Survey - Reg.

Ref: 1. This office Lr.No. TNPCB/DEL/MNL/AAQS/SM/NLS/F.No. 57/2022-23 dt. 28.10.2022
2. Your Lr.No.Nil dt. 04.11.2022
3. Cash Receipt No.153781 dt. 07.11.2022 Rs.1,11,000/-

I am herewith sending the Report of Analysis of Ambient Air Quality / Stack Monitoring / Ambient Noise Level Survey conducted in the vicinity of your industry M/s. Natco Pharma Ltd., Manali, Chennai - 103 on 27.12.2022 with invoice for Rs. 1,11,000/- (Rupees One Lakh Eleven Thousand only) towards the above survey / analytical charges, and the same has been adjusted vide reference (3) cited.

Kindly acknowledge the receipt of the above without fail.

T. Thamarachelvi 11.01.23
Deputy Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali

Encl.: As above.

Copy submitted to:

1. The District Environmental Engineer, TNPC Bd, Ambattur for favour of kind information please.
2. Copy to file.



TAMILNADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

AMBIENT AIR QUALITY SURVEY – Report of Analysis

Report No. 33 /AAOS/2022-23

Date: 09.01.2023

1. Name of the Industry : **M/s. Natco Pharma Ltd.,**
2. Address of the Industry : **Vaikkadu Village, Manali, Chennai - 103**
3. Date of Survey : **27.12.2022**
4. Duration of Survey : **8 Hours / 24 hours**
5. Category : **Red / Orange / Green – Large / Medium / Small**
6. Land use classification : **Industrial / Commercial / Residential / Sensitive**

Meteorological Conditions

Ambient Temperature (°C)	Min	Max	Relative Humidity (%)	Min	Max
	23	30		74	84
Weather Condition	Partially Cloudy		Rain Fall (mm)	Nil	
Predominant Wind Direction	E-W		Mean Wind Speed (km/hr)	8.3	

Ambient Air Quality Survey Results

Sl. No.	Location	Direction *	Distance (m) *	Height Form GL (m)	Pollutants Concentration (microgram / m ³)			
					PM 2.5	PM 10	SO ₂	NO ₂
1	On top of platform near QC Lab	NE	100	3.0	12	53	8	12
2	On top of platform near RO Pump Room	E	75	3.0	--	56	9	13
3	On top of platform near Main Gate	SE	100	3.0	--	60	11	14
4	On top of platform near Hazardous stores	SW	100	3.0	23	76	12	16
5	On top of platform adjacent to solvent storage yard	W	75	3.0	--	69	11	15
6	On top of platform adjacent to Security Booth	NW	150	3.0	--	65	10	13

Note: * With respect to major emission sources. The analytical results are restricted to the sampling period of 8 hrs/24hrs

T. Thamaraisel
 Deputy Chief Scientific Officer,
 District Environmental Laboratory
 Tamil Nadu Pollution Control Board
 Manali

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
PM2.5	IS 5182 : (Part 24) – 2019
SO2	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO2	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA: 2012



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

AMBIENT AIR QUALITY SURVEY

Schematic Diagram Showing Location of Sampling

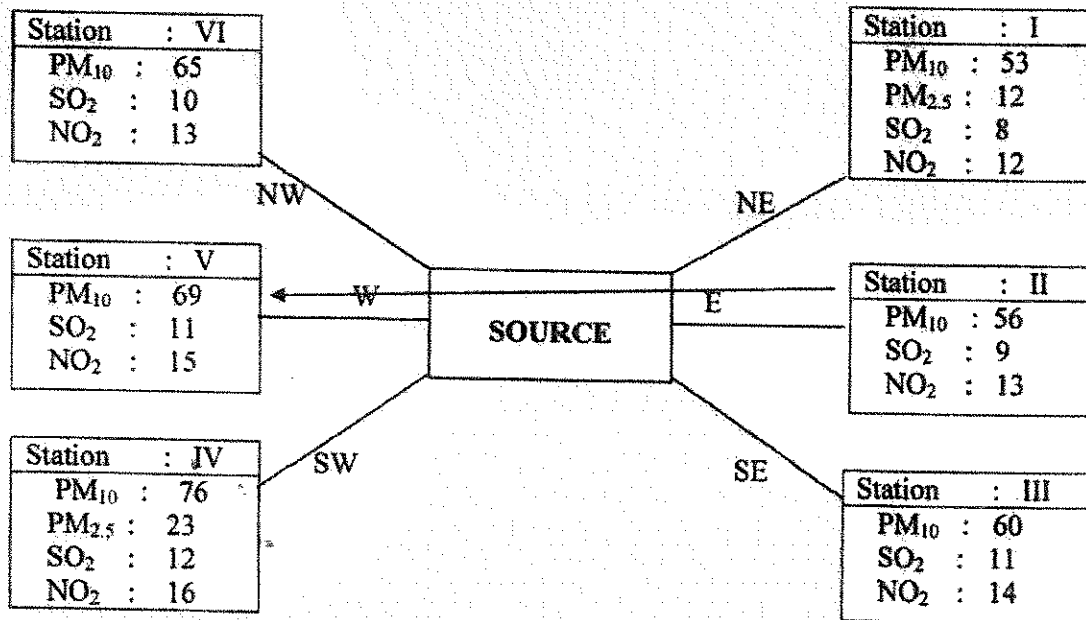
Report No. 33 /AAQ/SM/2022-23

Name and Address of the Industry

: M/s. Natco Pharma Ltd.,
Vaikkadu Village, Manali, Chennai - 103

Date of Survey

: 27.12.2022



Note: All the values are expressed in $\mu\text{g}/\text{m}^3$ and restricted to sampling period of 8 hrs/24hrs

Meteorological Conditions:	
Predominant Wind Direction	E-W
Wind Speed (Km/hr)	8.3
Weather Condition	Partially Cloudy
Rainfall	Nil

T. J. Jeyaraj
Deputy Chief Scientific Officer, 11-01-23
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



TAMILNADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

STACK MONITORING SURVEY – Report of Analysis

Report No. 33/ SM/2022-23

Date: 09.01.2023

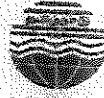
1. Name of the Industry : **M/s. Natco Pharma Ltd.,**
2. Address of the Industry : **Vaikkadu Village, Manali, Chennai - 103**
3. Date of Survey : **27.12.2022**
4. Type of Industry : **Coal/Chemical/Sugar/Paper & Pulp/
Power plant / Textile Processing/ Pharmaceuticals**

Stack Monitoring Survey Results

Sl. No.	Stack attached to	Fuel used	Stack Temp °K	Velocity in (m/sec)	Discharge rate In Nm ³ /hr	Pollutants (mg / Nm ³)		
						PM	SO ₂	NO _x
1	DG – 1010 KVA	HSD	448	20.5	1520	27	BDL	572
2	Boiler - 3 TPH	LDO	456	11.5	7774	26	34	166

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
PM2.5	IS 5182 : (Part 24) – 2019
SO ₂	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO _x	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA:2012

T. Jhamaraise 11-01-23
Deputy Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

Stack Details

Report No. 33 /AAQ/SM/2022-23

1. Name and Address of the Industry : **M/s. Natco Pharma Ltd.,
Vaikkadu Village, Manali, Chennai - 103**

2. Date of Survey : **27.12.2022**

Sl. No.	Particulars	I	II
1.	Stack attached to	DG	Boiler
2.	Details of process stack	DG - 1010 KVA	Boiler - 3 TPH
3.	Height from G Level in (m)	11	40
4.	Diameter in (m)	0.2	0.6
5.	Port hole height from Ground Level or bends or ducts in (m)	7.5	22
6.	Fuel Used (with % Sulphur content)	HSD	LDO
7.	Fuel Consumption rate per day (mention units)	Standby	120L/Day
8.	Boiler and capacity	--	3T
9.	Production on 27.12.2022	Chlorambucil- 0.1 Kgs, Gefitinib- 0.5 Kgs, Imatinib Methane sulfonate-1.0 Kgs, Melphalan- 0.1 Kgs	
10.	APC Measures provided	Acoustic Enclosure, AirFilter	--
11.	APC functional status	Functional	--
12.	Composition of flue gas mg/m ³	CO %	--
		CO ₂ %	--
		O ₂ %	--
13.	Moisture content in %	--	--
14.	Ambient temp in °K	302	303
15.	Temp of flue gas in °K	448	456
16.	Velocity of flue gas in m/sec	20.5	11.5
17.	Volume of flue gas sampled in m ³	0.9994	1.0005
18.	Gaseous Discharge rate per day in Nm ³ /hr	1520	7774
19.	Combustion efficiently %	--	--

T. Jhamaraj
Deputy Chief Scientific Officer, 11.01.23
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

STACK MONITORING SURVEY – Additional details

Report No. 33/ SM/2022-23

Date: 09.01.2023

1. Name of the Industry : **M/s. Natco Pharma Ltd.,**
2. Address of the Industry : **Vaikkadu Village, Manali, Chennai - 103**
3. Date of Survey : **27.12.2022**
4. Type of Industry : **Coal/Chemical/Sugar/Paper & Pulp/
Power plant / Textile Processing/ Pharmaceuticals**

Stack Monitoring Additional details

Sl. No.	Details of stack mentioned in the Air Consent order	Details of stack available and in working condition	Details of stack for which stack Emission sampling have been done	Justification for the left out of stack Emission Sampling
1.	DG – 1010 KVA	Working	Sampling Done	--
2.	Boiler - 3 TPH	Working	Sampling Done	--

T. Jhamarajee
Deputy Chief Scientific Officer, 11.01.23
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

AMBIENT/SOURCE NOISE LEVEL SURVEY - Report of Analysis

Report No. 33/ NLS/2022-23

Date: 09.01.2023

Date: 09.01.2023

1.	Name of the Industry	M/s. Natco Pharma Ltd.,		
2.	Address of the Industry	Vaikkadu Village, Manali, Chennai - 103		
3.	Date of Survey	27.12.2022		
Category		RL	Land use Classification	Industrial
Type of Survey		Ambient/Source	Time of Survey	Day
Meteorological conditions			Calm/Windy/Rainy	Windy

Logging Parameters

Logging Parameters				
Instrument Used	CESVA Model SC310		Serial No	T243103
Logging Interval	10 Minutes each point		Measuring Range	50-110 dB(A)
Weighting	"A"	Peak Weighting	"C"	Time Weighting
				FAST
Sound Incidence	RANDOM		Time in hrs	14.00 – 15.00

Report of Noise Level Monitoring

Sl No	Location	Duration (min)	Distance (M)	Direction	Sound Level - dB (A)		
					Leq	Min	Max
1	Near QC Lab	10	100	NE	57.8	55.9	65.5
2	Near Main Gate	10	100	SE	54.5	51.4	55.3
3	Near Hazardous Stores	10	100	SW	58.3	56.8	65.9
4	Near Solvent Storage Yard	10	75	W	54.3	52.6	72.5
5	Near Security Booth	10	100	NW	53.1	52.6	55.8

Note: Leq value is the average energy for the measured period.

T. Jhamarajee
Deputy Chief Scientific Officer, 11.01.23
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

INFERENCE REPORT ON A.A.Q.S/ S.M.

1. Name of Industry : M/s. Natco Pharma Ltd.,
2. Pollution Category : Red Large
3. Date of A.A.Q. Survey : 27.12.2022
4. Predominant Wind Direction : E-W
5. Weather condition : Partially Cloudy

STATUS OF POLLUTANTS LEVEL

I. AMBIENT AIR QUALITY:-

1. Total No. of A.A.Q. stations monitored : 6
2. No. of A.A.Q. stations in which Pollutants Level exceeded the Boards standards : Nil

Maximum and Minimum values of Pollutants Level observed:

Sl. No.	POLLUTANT	Values in microgram/m ³		BOARD's STANDARD (As per consent order)
		Maximum	Minimum	
1.	PM ₁₀	76	53	100
2.	PM _{2.5}	23	12	60
	<u>GASEOUS POLLUTANTS:-</u>			
	(i) SO ₂	12	8	80
	(ii) NO ₂	12	16	80

II. STACK MONITORING:-

1. Total No. of Stacks Monitored : 2
2. No. of Stacks in which Pollutants level Exceeded the Boards standards : Nil

T. Thamaraiselvi
Deputy Chief Scientific Officer, 11.01.23
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



IMS 44 10020392865
EMS 44 10420392865
OHS 44 12620392865



TAMILNADU WASTE MANAGEMENT LTD.
Plot No. 5-15, 28-33, Sipcot Industrial Complex,
Gummidipoondi - 601 201. Thiruvallur Dist.
Tel : 044 - 2792 3310, 2792 2068
E-mail : laboratorytnwml@ramky.com

January 30, 2021

**M/s Natco Pharma Ltd.,
No.74/7B, Vaikkadu, TPP Salai,
Manali, Chennai-600103.**

We are here with enclosing the Comprehensive analysis report of Solid Waste Sample- **Used Gloves** on Dt: 27.01.21 and report No.TNWML/COM/20-21/R/0458. The disposal method for the above sample is **Incineration** due to **high Calorific Value (7832 Cal/gm) and LOI (99.6%)**. We are also enclosing the invoice for analysis.

The disposal method purely based on the characteristics of the sample sent to us. When the waste is sent to us it is again analyzed and if the characteristics change the disposal method may change.

Thanking you for your business. Please contact us again if we can be of service in the future. Our fullest co-operation and best service assured always.

Yours faithfully

for Tamilnadu Waste Management Ltd.

R. Soundhar
Authorized Signatory
R. Soundhar
Sr. Asst. Manager

Towards sustainable growth



IMS 44 10020392865
EMS 44 10420392865
OHS 44 12620392865

GUMMIDIPOONDI

LABORATORY

TNWML/GF/LAB/310



TC-7784

**TEST REPORT**

Page 1 of 3

TEST REPORT NO: TNWML/COM/ 20-21/R/0458

NAME AND ADDRESS OF THE CLIENT

M/s Natco Pharma Ltd.,
No.74/7B, Vaikkadu, TPP Salai,
Manali, Chennai-600103.

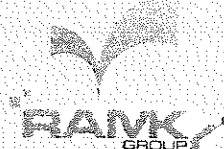
Report Date : 30.01.2021
Analysis Completion Date : 30.01.2021
Analysis Starting Date : 27.01.2021
Sampling Date : NA
Sample received Date : 27.01.2021
Date of report validity : 30.01.2023

Sample Condition : Good
Sampling Procedure : NA
Sample registration No : C-0458/R/20-21
Sample description/Code : Used Gloves
Sub Contracting of Tests : NA
Sample Collected by : P. C. Murali

Physical Observations:

Parameter	Result
Physical State	Solid
Color	Mixed Color
Texture	Gloves
Is there any violent chemical change (in air) (Normally unstable) (Yes/No)	No
Reacts violent with water (Yes/No)	No
Generating of toxic fumes with water/acid/basic (Yes/No)	No
Forms potentially explosive mixture with water (Yes/No)	No
Explosion when subjected to a strong initiating force (Yes/No)	No
Explosion at normal temperature & pressure (Yes/No)	No

S.No	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
1	Paint Filter Liquid Test	-	SW-846 9095A	Pass	Pass
2	Bulk density	gm/cc	ASTM D 5057-90	0.25	---
3	pH at 28.4°C	-	SW - 846 9045C	6.92	4 to 12
4	Flash Point	°C	SW - 846 1020A	>60	60°C
5	Loss on Drying at 105°C	%	APHA 23 rd Edition, 2017; 2540 G	25.3	---
6	Loss on Ignition at 550°C (Dry Basis)	%	APHA 2540	99.6	<= 20% Non biodegradable<= 5%: Biodegradable
7	Calorific Value(Dry Basis)	cal/gm	IS: 1350-1970	7832	<2500



: TNWML/COM/ 20-21/R/0458

S.No.	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
8	Extractable Organics	%	SW-846 3540 C	10.1	<4.0
9	Water soluble inorganic	%	APHA 2540 E	<0.1	≤ 20% w/W
10	Water soluble organics	%	APHA 2540 E	<0.1	≤ 10%
11	Reactive Cyanide	mg/Kg	SW - 846 9014	<1	250
12	Reactive Sulfide	mg/Kg	SW - 846 9034	<1	500
13	Total Phenols(WLT)	mg/L	APHA-5530B&D	<1	<100.0
14	Ammonia as N (WLT)	mg/L	APHA-4500NH ₃ B,C	<0.1	<1000.0
15	Cyanide (WLT)	mg/L	APHA 4500 CN-C,E	<0.2	<2.0
16	Fluoride as F(WLT)	mg/L	APHA-4500 F-D	<1	<50.0
17	Nitrate Nitrogen as N(WLT)	mg/L	IS:3025 1998	<0.1	<30.0
18	Arsenic (Total)	mg/Kg	APHA-3500 As B	<10	---
19	Arsenic (TCLP)	mg/L	APHA-3500 As B	<0.1	<5.0
20	Arsenic (WLT)	mg/L	APHA-3500 As B	<0.1	<1.0
21	Cadmium (Total)	mg/Kg	SW 846 3050B, 7130	<5	---
22	Cadmium (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.1	<1.0
23	Cadmium (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<0.2
24	Total Chromium (Total)	mg/Kg	SW 846 3050B, 7196A	<10	---
25	Total Chromium (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.5	5.0
26	Hexavalent Chromium(Total)	mg/Kg	SW 846 3060A, 7196 A	<5	---
27	Hexavalent Chromium(WLT)	mg/L	SW 846 1311, APHA 3500Cr B	<0.1	<0.5
28	Copper (Total)	mg/Kg	SW 846 3050B,7210	<5	---
29	Copper (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.5	<10
30	Lead (Total)	mg/Kg	SW 846 3050B, 7420	<5	---
31	Lead (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.1	<5.0
32	Lead (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<2.0
33	Nickel (Total)	mg/Kg	SW 846 3050B,7520	<5	---
34	Nickel (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.5	<3.0
35	Zinc (Total)	mg/Kg	SW 846 3050B,7950	15.3	---
36	Zinc (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<10
37	Total Chlorides as Cl ⁻	%	SW 846	0.47	---
38	Total Fluorides as F ⁻	%	SW 846	<0.1	---

: TNWML/COM/20-21/R/0458

S.No.	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
39	Total Nitrogen as N	%	CHNS	0.18	---
40	Total Carbon as C	%	CHNS	63.2	---
41	Total Hydrogen as H	%	CHNS	8.34	---
42	Total Sulfur as S	%	CHNS	0.59	---
43	Chloroform	mg/Kg	GC-MS	ND	6.0 mg/L (TCLP)
44	Carbon tetra chloride	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
45	Benzene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
46	Chloro Benzene	mg/Kg	GC-MS	ND	100.0 mg/L (TCLP)
47	Cresols	mg/Kg	GC-MS	ND	200.0 mg/L (TCLP)
48	1,4- Dichloro Benzene	mg/Kg	GC-MS	ND	7.5 mg/L (TCLP)
49	1,2 - Dichloro Ethane	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
50	Pyridine	mg/Kg	GC-MS	ND	5.0 mg/L (TCLP)
51	Ethyl Methyl Ketone	mg/Kg	GC-MS	ND	200.0 mg/L (TCLP)
52	Nitro Benzene	mg/Kg	GC-MS	ND	2.0 mg/L (TCLP)
53	Tetrachloro Ethylene	mg/Kg	GC-MS	ND	0.7 mg/L (TCLP)
54	Trichloro Ethylene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
55	1,1 - Dichloroethylene	mg/Kg	GC-MS	ND	0.7 mg/L (TCLP)
56	2,4 - Dinitrotoluene	mg/Kg	GC-MS	ND	0.1 mg/L (TCLP)
57	Endrin	mg/Kg	GC-MS	ND	0.02 mg/L (TCLP)
58	Heptachlor (and its epoxide)	mg/Kg	GC-MS	ND	0.008 mg/L (TCLP)
59	Hexachlorobenzene	mg/Kg	GC-MS	ND	0.13 mg/L (TCLP)
60	Hexachlorobutadiene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
61	Hexachloroethane	mg/Kg	GC-MS	ND	3.0 mg/L (TCLP)
62	Lindane	mg/Kg	GC-MS	ND	0.4 mg/L (TCLP)
63	Methoxychlor	mg/Kg	GC-MS	ND	10.0 mg/L (TCLP)
64	Pentachlorophenol	mg/Kg	GC-MS	ND	100.0 mg/L (TCLP)
65	Toxaphene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
66	2,4,5 - Tri Chlorophenol	mg/Kg	GC-MS	ND	400.0 mg/L (TCLP)
67	2,4,6 - Trichlorophenol	mg/Kg	GC-MS	ND	2.0 mg/L (TCLP)
68	2,4,5 - TP (Silvex)	mg/Kg	GC-MS	ND	1.0 mg/L (TCLP)
69	Vinyl Chloride	mg/Kg	GC-MS	ND	0.2 mg/L (TCLP)
70	2,4 - D	mg/Kg	GC-MS	ND	10.0 mg/L (TCLP)
71	Chlordane	mg/Kg	GC-MS	ND	0.03 g/L (TCLP)

Note: Sl. No. 18, 38 to 71 Parameters are not covered under NABL Scope.

NA: Not Applicable

ND: Not Detected

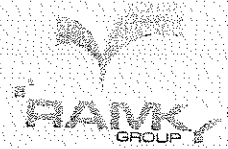
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M.H.
Checked by
S. Deepak
Asst. Manager

R. Soundhar
Authorized Signatory
R. Soundhar
Sr. Asst. Manager



IMS 44 10020392865
EMS 44 10420392865
OHS 44 12620392865



TAMILNADU WASTE MANAGEMENT LTD.
Plot No. 5-15, 28-33, Sipcot Industrial Complex,
Gummidipoondi - 601 201. Thiruvallur Dist.
Tel : 044 - 2792 3310, 2792 2068
E-mail : laboratorytnwml@ramky.com

January 30, 2021

**M/s Natco Pharma Ltd.,
No.74/7B, Vaikkadu, TPP Salai,
Manali, Chennai-600103.**

We are here with enclosing the Comprehensive analysis report of Solid Waste Sample- **ETP Sludge** received on Dt: 27.01.21 and report No.TNWML/COM/20-21/R/0460. The disposal method for the above sample is **Incineration due to high Calorific Value (3014 Cal/g) and high LOI (34.3%)**. We are also enclosing the invoice for analysis.

The disposal method purely based on the characteristics of the sample sent to us. When the waste is sent to us it is again analyzed and if the characteristics change the disposal method may change.

Thanking you for your business. Please contact us again if we can be of service in the future. Our fullest co-operation and best service assured always.

Yours faithfully

for Tamilnadu Waste Management Ltd.

R. Soundhar
Authorized Signatory
R. Soundhar
Sr. Asst. Manager

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TNWML/GF/LAB/310



TC-7784 TEST REPORT NO: TNWML/COM/ 20-21/R/0460



Page 1 of 3

TEST REPORT

NAME AND ADDRESS OF THE CLIENT

M/s Natco Pharma Ltd.,
No.74/7B, Vaikkadu, TPP Salai,
Manali, Chennai-600103.

Report Date : 30.01.2021
Analysis Completion Date : 30.01.2021
Analysis Starting Date : 27.01.2021
Sampling Date : NA
Sample received Date : 27.01.2021
Date of report validity : 30.01.2023

Sample Condition : Good
Sampling Procedure : NA
Sample registration No : C-0460/R/20-21
Sample description/Code : ETP Sludge
Sub Contracting of Tests : NA
Sample Collected by : P.C. Murali

Physical Observations:

Parameter	Result
Physical State	Solid
Color	Black
Texture	Wet Cake
Is there any violent chemical change (in air) (Normally unstable) (Yes/No)	No
Reacts violent with water (Yes/No)	No
Generating of toxic fumes with water/acid/basic (Yes/No)	No
Forms potentially explosive mixture with water (Yes/No)	No
Explosion when subjected to a strong initiating force (Yes/No)	No
Explosion at normal temperature & pressure (Yes/No)	No

S.No	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
1	Paint Filter Liquid Test	-	SW-846 9095A	Pass	Pass
2	Bulk density	gm/cc	ASTM D 5057-90	1.15	---
3	pH at 30.5°C	-	SW - 846 9045C	7.50	4 to 12
4	Flash Point	°C	SW - 846 1020A	>60	60°C
5	Loss on Drying at 105°C	%	APHA 23 rd Edition, 2017; 2540 G	42.3	---
6	Loss on Ignition at 550°C (Dry Basis)	%	APHA 2540	34.3	<= 20% Non biodegradable<= 5%: Biodegradable
7	Calorific Value(Dry Basis)	cal/gm	IS: 1350-1970	3014	<2500



: TNWML/COM/ 20-21/R/0460

S.No.	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
8	Extractable Organics	%	SW-846 3540 C	<1	<4.0
9	Water soluble inorganic	%	APHA 2540 E	2.12	≤ 20% w/W
10	Water soluble organics	%	APHA 2540 E	0.80	≤ 10%
11	Reactive Cyanide	mg/Kg	SW - 846 9014	<1	250
12	Reactive Sulfide	mg/Kg	SW - 846 9034	<1	500
13	Total Phenols(WLT)	mg/L	APHA-5530B&D	<1	<100.0
14	Ammonia as N (WLT)	mg/L	APHA-4500NH ₃ B,C	9.12	<1000.0
15	Cyanide (WLT)	mg/L	APHA 4500 CN-C,E	<0.2	<2.0
16	Fluoride as F-(WLT)	mg/L	APHA-4500 F-D	<1	<50.0
17	Nitrate Nitrogen as N(WLT)	mg/L	IS:3025 1998	13.5	<30.0
18	Arsenic (Total)	mg/Kg	APHA-3500 As B	<10	---
19	Arsenic (TCLP)	mg/L	APHA-3500 As B	<0.1	<5.0
20	Arsenic (WLT)	mg/L	APHA-3500 As B	<0.1	<1.0
21	Cadmium (Total)	mg/Kg	SW 846 3050B, 7130	<5	---
22	Cadmium (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.1	<1.0
23	Cadmium (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<0.2
24	Total Chromium (Total)	mg/Kg	SW 846 3050B, 7196A	<10	---
25	Total Chromium (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.5	5.0
26	Hexavalent Chromium(Total)	mg/Kg	SW 846 3060A, 7196 A	<5	---
27	Hexavalent Chromium(WLT)	mg/L	SW 846 1311, APHA 3500Cr B	<0.1	<0.5
28	Copper (Total)	mg/Kg	SW 846 3050B,7210	20.6	---
29	Copper (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.5	<10
30	Lead (Total)	mg/Kg	SW 846 3050B, 7420	52.3	---
31	Lead (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.1	<5.0
32	Lead (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<2.0
33	Nickel (Total)	mg/Kg	SW 846 3050B,7520	120.3	---
34	Nickel (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.5	<3.0
35	Zinc (Total)	mg/Kg	SW 846 3050B,7950	550.3	---
36	Zinc (WLT)	mg/L	SW 846 1311, APHA 3111B	0.25	<10
37	Total Chlorides as Cl ⁻	%	SW 846	0.52	---
38	Total Fluorides as F ⁻	%	SW 846	<0.1	---

S.No.	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
39	Total Nitrogen as N	%	CHNS	0.32	---
40	Total Carbon as C	%	CHNS	34.6	---
41	Total Hydrogen as H	%	CHNS	6.26	---
42	Total Sulfur as S	%	CHNS	0.25	---
43	Chloroform	mg/Kg	GC-MS	ND	6.0 mg/L (TCLP)
44	Carbon tetra chloride	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
45	Benzene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
46	Chloro Benzene	mg/Kg	GC-MS	ND	100.0 mg/L(TCLP)
47	Cresols	mg/Kg	GC-MS	ND	200.0 mg/L(TCLP)
48	1,4 - Dichloro Benzene	mg/Kg	GC-MS	ND	7.5 mg/L (TCLP)
49	1,2 - Dichloro Ethane	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
50	Pyridine	mg/Kg	GC-MS	ND	5.0 mg/L (TCLP)
51	Ethyl Methyl Ketone	mg/Kg	GC-MS	ND	200.0 mg/L(TCLP)
52	Nitro Benzene	mg/Kg	GC-MS	ND	2.0 mg/L (TCLP)
53	Tetrachloro Ethylene	mg/Kg	GC-MS	ND	0.7 mg/L (TCLP)
54	Trichloro Ethylene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
55	1,1 - Dichloroethylene	mg/Kg	GC-MS	ND	0.7 mg/L (TCLP)
56	2,4 - Dinitrotoluene	mg/Kg	GC-MS	ND	0.1 mg/L (TCLP)
57	Endrin	mg/Kg	GC-MS	ND	0.02 mg/L (TCLP)
58	Heptachlor(and its epaoxide)	mg/Kg	GC-MS	ND	0.008 mg/L(TCLP)
59	Hexachlorobenzene	mg/Kg	GC-MS	ND	0.13 mg/L (TCLP)
60	Hexachlorobutadiene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
61	Hexachloroethane	mg/Kg	GC-MS	ND	3.0 mg/L (TCLP)
62	Lindane	mg/Kg	GC-MS	ND	0.4 mg/L (TCLP)
63	Methoxychlor	mg/Kg	GC-MS	ND	10.0 mg/L (TCLP)
64	Pentachlorophenol	mg/Kg	GC-MS	ND	100.0 mg/L(TCLP)
65	Toxaphene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
66	2,4,5 - Tri Chlorophenol	mg/Kg	GC-MS	ND	400.0 mg/L(TCLP)
67	2,4,6 - Trichlorophenol	mg/Kg	GC-MS	ND	2.0 mg/L (TCLP)
68	2,4,5 - TP (Silvex)	mg/Kg	GC-MS	ND	1.0 mg/L (TCLP)
69	Vinyl Chloride	mg/Kg	GC-MS	ND	0.2 mg/L (TCLP)
70	2,4 - D	mg/Kg	GC-MS	ND	10.0 mg/L (TCLP)
71	Chlordane	mg/Kg	GC-MS	ND	0.05 g/L (TCLP)

Note: Sl. No. 18, 38 to 71 Parameters are not covered under NABL Scope.

NA: Not Applicable

ND: Not Detected

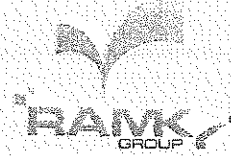
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Checked by
S. Deepak
Asst. Manager

Authorized Signatory
R. Soundhar
Sr. Asst. Manager



IMS 44 10020392865
EMS 44 10420392865
OHS 44 12620392865



TAMILNADU WASTE MANAGEMENT LTD.
Plot No. 5-15, 28-33, Sipcot Industrial Complex,
Gummidipoondi - 601 201. Thiruvallur Dist.
Tel : 044 - 2792 3310, 2792 2068
E-mail : laboratorytnwml@ramky.com

January 30, 2021

**M/s Natco Pharma Ltd.,
No.74/7B, Vaikkadu, TPP Salai,
Manali, Chennai-600103.**

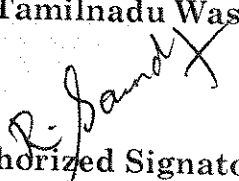
We are here with enclosing the Comprehensive analysis report of Solid Waste Sample- **Process Waste / Residue** received on Dt: 27.01.21 and report No.TNWML/COM/20-21/R/0459. The disposal method for the above sample is **Direct Landfill**. We are also enclosing the invoice for analysis.

The disposal method purely based on the characteristics of the sample sent to us. When the waste is sent to us it is again analyzed and if the characteristics change the disposal method may change.

Thanking you for your business. Please contact us again if we can be of service in the future. Our fullest co-operation and best service assured always.

Yours faithfully

for Tamilnadu Waste Management Ltd.


Authorized Signatory
R. Soundhar
Sr. Asst. Manager

Towards sustainable growth



IMS 44 10020392865
EMS 44 10420392865
OHS 44 12620392865

GUMMIDIPOONDI

LABORATORY

TNWML/GF/LAB/31



TC-7784



TEST REPORT

TEST REPORT NO: TNWML/COM/ 20-21/R/0459

Page 1 of 3

NAME AND ADDRESS OF THE CLIENT

M/s Natco Pharma Ltd.,
No.74/7B, Vaikkadu, TPP Salai,
Manali, Chennai-600103.

Report Date : 30.01.2021

Analysis Completion Date : 30.01.2021

Analysis Starting Date : 27.01.2021

Sampling Date : NA

Sample received Date : 27.01.2021

Date of report validity : 30.01.2023

Sample Condition : Good

Sampling Procedure : NA

Sample registration No : C-0459/R/20-21

Sample description/Code : Process Waste/Residues

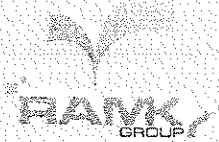
Sub Contracting of Tests : NA

Sample Collected by : P.C.Murali

Physical Observations:

Parameter	Result
Physical State	Solid
Color	White
Texture	Powder
Is there any violent chemical change (in air) (Normally unstable) (Yes/No)	No
Reacts violent with water (Yes/No)	No
Generating of toxic fumes with water/acid/basic (Yes/No)	No
Forms potentially explosive mixture with water (Yes/No)	No
Explosion when subjected to a strong initiating force (Yes/No)	No
Explosion at normal temperature & pressure (Yes/No)	No

S.No	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
1	Paint Filter Liquid Test	-	SW-846 9095A	Pass	Pass
2	Bulk density	gm/cc	ASTM D 5057-90	0.80	---
3	pH at 30.6°C	-	SW - 846 9045C	7.25	4 to 12
4	Flash Point	°C	SW - 846 1020A	>60	60°C
5	Loss on Drying at 105°C	%	APHA 23 rd Edition, 2017; 2540 G	15.3	---
6	Loss on Ignition at 550°C (Dry Basis)	%	APHA 2540	5.18	<= 20% Non biodegradable<= 5%: Biodegradable
7	Calorific Value(Dry Basis)	cal/gm	IS: 1350-1970	<200	<2500



: TNWML/COM/ 20-21/R/0459

S.No.	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
8	Extractable Organics	%	SW-846 3540 C	<1	<4.0
9	Water soluble inorganic	%	APHA 2540 E	0.26	≤ 20% w/w
10	Water soluble organics	%	APHA 2540 E	0.15	≤ 10%
11	Reactive Cyanide	mg/Kg	SW - 846 9014	<1	250
12	Reactive Sulfide	mg/Kg	SW - 846 9034	<1	500
13	Total Phenols(WLT)	mg/L	APHA-5530B&D	<1	<100.0
14	Ammonia as N (WLT)	mg/L	APHA-4500NH ₃ B,C	<1	<1000.0
15	Cyanide (WLT)	mg/L	APHA 4500 CN-C,E	<0.2	<2.0
16	Fluoride as F (WLT)	mg/L	APHA-4500 F-D	<1	<50.0
17	Nitrate Nitrogen as N(WLT)	mg/L	IS:3025 1998	<1	<30.0
18	Arsenic (Total)	mg/Kg	APHA-3500 As B	<10	---
19	Arsenic (TCLP)	mg/L	APHA-3500 As B	<0.1	<5.0
20	Arsenic (WLT)	mg/L	APHA-3500 As B	<0.1	<1.0
21	Cadmium (Total)	mg/Kg	SW 846 3050B, 7130	<5	---
22	Cadmium (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.1	<1.0
23	Cadmium (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<0.2
24	Total Chromium (Total)	mg/Kg	SW 846 3050B, 7196A	26.3	---
25	Total Chromium (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.5	5.0
26	Hexavalent Chromium(Total)	mg/Kg	SW 846 3060A, 7196 A	<5	---
27	Hexavalent Chromium(WLT)	mg/L	SW 846 1311, APHA 3500Cr B	<0.1	<0.5
28	Copper (Total)	mg/Kg	SW 846 3050B,7210	<5	---
29	Copper (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.5	<10
30	Lead (Total)	mg/Kg	SW 846 3050B, 7420	<5	---
31	Lead (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.1	<5.0
32	Lead (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<2.0
33	Nickel (Total)	mg/Kg	SW 846 3050B,7520	<5	---
34	Nickel (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.5	<3.0
35	Zinc (Total)	mg/Kg	SW 846 3050B,7950	32.3	---
36	Zinc (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<10
37	Total Chlorides as Cl ⁻	%	SW 846	NA	---
38	Total Fluorides as F ⁻	%	SW 846	NA	---

: TNWML/COM/20-21/R/0459

S.No.	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
39	Total Nitrogen as N	%	CHNS	NA	---
40	Total Carbon as C	%	CHNS	NA	---
41	Total Hydrogen as H	%	CHNS	NA	---
42	Total Sulfur as S	%	CHNS	NA	---
43	Chloroform	mg/Kg	GC-MS	ND	6.0 mg/L (TCLP)
44	Carbon tetra chloride	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
45	Benzene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
46	Chloro Benzene	mg/Kg	GC-MS	ND	100.0 mg/L (TCLP)
47	Cresols	mg/Kg	GC-MS	ND	200.0 mg/L (TCLP)
48	1,4 - Dichloro Benzene	mg/Kg	GC-MS	ND	7.5 mg/L (TCLP)
49	1,2 - Dichloro Ethane	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
50	Pyridine	mg/Kg	GC-MS	ND	5.0 mg/L (TCLP)
51	Ethyl Methyl Ketone	mg/Kg	GC-MS	ND	200.0 mg/L (TCLP)
52	Nitro Benzene	mg/Kg	GC-MS	ND	2.0 mg/L (TCLP)
53	Tetrachloro Ethylene	mg/Kg	GC-MS	ND	0.7 mg/L (TCLP)
54	Trichloro Ethylene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
55	1,1 - Dichloroethylene	mg/Kg	GC-MS	ND	0.7 mg/L (TCLP)
56	2,4 - Dinitrotoluene	mg/Kg	GC-MS	ND	0.1 mg/L (TCLP)
57	Endrin	mg/Kg	GC-MS	ND	0.02 mg/L (TCLP)
58	Heptachlor (and its epoxide)	mg/Kg	GC-MS	ND	0.008 mg/L (TCLP)
59	Hexachlorobenzene	mg/Kg	GC-MS	ND	0.13 mg/L (TCLP)
60	Hexachlorobutadiene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
61	Hexachloroethane	mg/Kg	GC-MS	ND	3.0 mg/L (TCLP)
62	Lindane	mg/Kg	GC-MS	ND	0.4 mg/L (TCLP)
63	Methoxychlor	mg/Kg	GC-MS	ND	10.0 mg/L (TCLP)
64	Pentachlorophenol	mg/Kg	GC-MS	ND	100.0 mg/L (TCLP)
65	Toxaphene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
66	2,4,5 - Tri Chlorophenol	mg/Kg	GC-MS	ND	400.0 mg/L (TCLP)
67	2,4,6 - Trichlorophenol	mg/Kg	GC-MS	ND	2.0 mg/L (TCLP)
68	2,4,5 - TP (Silvex)	mg/Kg	GC-MS	ND	1.0 mg/L (TCLP)
69	Vinyl Chloride	mg/Kg	GC-MS	ND	0.2 mg/L (TCLP)
70	2,4 - D	mg/Kg	GC-MS	ND	10.0 mg/L (TCLP)
71	Chlordane	mg/Kg	GC-MS	ND	0.06 g/L (TCLP)

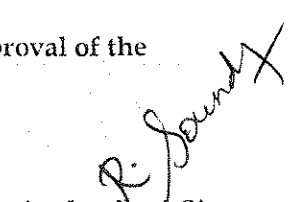
Note: Sl. No. 18, 38 to 71 Parameters are not covered under NABL Scope.

NA: Not Applicable

ND: Not Detected

- Reports pertained only to the submitted sample.
- Test reports shall not be reproduced except in full, without written approval of the laboratory.


 Checked by
 S. Deepak
 Asst. Manager


 Authorized Signatory
 R. Soundhar
 Sr. Asst. Manager



IMS 44 10020392865
EMS 44 10420392865
OHS 44 12620392865



TAMILNADU WASTE MANAGEMENT LTD.
Plot No. 5-15, 28-33, Sipcot Industrial Complex,
Gummidipoondi - 601 201. Thiruvallur Dist.
Tel : 044 - 2792 3310, 2792 2068
E-mail : laboratorytnwml@ramky.com

January 30, 2021

**M/s Natco Pharma Ltd.,
No.74/7B, Vaikkadu, TPP Salai,
Manali, Chennai-600103.**

We are here with enclosing the Comprehensive analysis report of Solid Waste Sample- **Evaporation Salt** received on Dt: 27.01.21 and report No.TNWML/COM/20-21/R/0461. The disposal method for the above sample is **Landfill after Treatment with 150% Fly Ash due to high Water Soluble Inorganics (51.6%)**. We are also enclosing the invoice for analysis.

The disposal method purely based on the characteristics of the sample sent to us. When the waste is sent to us it is again analyzed and if the characteristics change the disposal method may change.

Thanking you for your business. Please contact us again if we can be of service in the future. Our fullest co-operation and best service assured always.

Yours faithfully

for Tamilnadu Waste Management Ltd.

R. Soundhar
Authorized Signatory
R. Soundhar
Sr. Asst. Manager

Towards sustainable growth



IMS 44 10020392865
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OHS 44 12620392865

GUMMIDIPOONDI LABORATORY

TNWML/GF/LAB/310



TC-7784



TEST REPORT

Page 1 of 3

TEST REPORT NO: TNWML/COM/ 20-21/R/0461

NAME AND ADDRESS OF THE CLIENT

M/s Natco Pharma Ltd.,
No.74/7B, Vaikkadu, TPP Salai,
Manali, Chennai-600103.

Report Date : 30.01.2021
Analysis Completion Date : 30.01.2021
Analysis Starting Date : 27.01.2021
Sampling Date : NA
Sample received Date : 27.01.2021
Date of report validity : 30.01.2023

Sample Condition : Good
Sampling Procedure : NA
Sample registration No : C-0461/R/20-21
Sample description/Code : Evaporation Salt
Sub Contracting of Tests : NA
Sample Collected by : TNWML

Physical Observations:

Parameter	Result
Physical State	Solid
Color	Pale Yellow
Texture	Wet Cake
Is there any violent chemical change (in air) (Normally unstable) (Yes/No)	No
Reacts violent with water (Yes/No)	No
Generating of toxic fumes with water/acid/basic (Yes/No)	No
Forms potentially explosive mixture with water (Yes/No)	No
Explosion when subjected to a strong initiating force (Yes/No)	No
Explosion at normal temperature & pressure (Yes/No)	No

S.No	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
1	Paint Filter Liquid Test	-	SW-846 9095A	Pass	Pass
2	Bulk density	gm/cc	ASTM D 5057-90	1.25	---
3	pH at 30.4°C	-	SW - 846 9045C	7.05	4 to 12
4	Flash Point	°C	SW - 846 1020A	>60	60°C
5	Loss on Drying at 105°C	%	APHA 23 rd Edition, 2017; 2540 G	24.3	---
6	Loss on Ignition at 550°C (Dry Basis)	%	APHA 2540	7.65	<= 20% Non biodegradable<= 5%: Biodegradable
7	Calorific Value(Dry Basis)	cal/gm	IS: 1350-1970	<200	<2500



: TNWML/COM/ 20-21/R/0461

S.No.	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
8	Extractable Organics	%	SW-846 3540 C	<1	<4.0
9	Water soluble inorganic	%	APHA 2540 E	51.6	≤ 20% w/W
10	Water soluble organics	%	APHA 2540 E	3.18	< 10%
11	Reactive Cyanide	mg/Kg	SW - 846 9014	<1	250
12	Reactive Sulfide	mg/Kg	SW - 846 9034	<1	500
13	Total Phenols(WLT)	mg/L	APHA-5530B&D	<1	<100.0
14	Ammonia as N (WLT)	mg/L	APHA-4500NH ₃ B,C	6.12	<1000.0
15	Cyanide (WLT)	mg/L	APHA 4500 CN C,E	<0.2	<2.0
16	Fluoride as F(WLT)	mg/L	APHA-4500 F-D	<1	<50.0
17	Nitrate Nitrogen as N(WLT)	mg/L	IS:3025 1998	8.24	<30.0
18	Arsenic (Total)	mg/Kg	APHA-3500 As B	<10	---
19	Arsenic (TCLP)	mg/L	APHA-3500 As B	<0.1	<5.0
20	Arsenic (WLT)	mg/L	APHA-3500 As B	<0.1	<1.0
21	Cadmium (Total)	mg/Kg	SW 846 3050B, 7130	<5	---
22	Cadmium (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.1	<1.0
23	Cadmium (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<0.2
24	Total Chromium (Total)	mg/Kg	SW 846 3050B, 7196A	<10	---
25	Total Chromium (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.5	5.0
26	Hexavalent Chromium(Total)	mg/Kg	SW 846 3060A, 7196 A	<5	---
27	Hexavalent Chromium(WLT)	mg/L	SW 846 1311, APHA 3500Cr B	<0.1	<0.5
28	Copper (Total)	mg/Kg	SW 846 3050B,7210	<5	---
29	Copper (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.5	<10
30	Lead (Total)	mg/Kg	SW 846 3050B, 7420	<5	---
31	Lead (TCLP)	mg/L	SW 846 1311, APHA 3111B	<0.1	<5.0
32	Lead (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<2.0
33	Nickel (Total)	mg/Kg	SW 846 3050B,7520	56.3	---
34	Nickel (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.5	<3.0
35	Zinc (Total)	mg/Kg	SW 846 3050B,7950	126.5	---
36	Zinc (WLT)	mg/L	SW 846 1311, APHA 3111B	<0.1	<10
37	Total Chlorides as Cl ⁻	%	SW 846	NA	---
38	Total Fluorides as F ⁻	%	SW 846	NA	---

: TNWML/COM/20-21/R/0461

S.No.	PARAMETER	Unit	Method	Result	Std. for Secure Landfill Disposal
39	Total Nitrogen as N	%	CHNS	NA	---
40	Total Carbon as C	%	CHNS	NA	---
41	Total Hydrogen as H	%	CHNS	NA	---
42	Total Sulfur as S	%	CHNS	NA	---
43	Chloroform	mg/Kg	GC-MS	ND	6.0 mg/L (TCLP)
44	Carbon tetra chloride	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
45	Benzene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
46	Chloro Benzene	mg/Kg	GC-MS	ND	100.0 mg/L (TCLP)
47	Cresols	mg/Kg	GC-MS	ND	200.0 mg/L (TCLP)
48	1,4 - Dichloro Benzene	mg/Kg	GC-MS	ND	7.5 mg/L (TCLP)
49	1,2 - Dichloro Ethane	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
50	Pyridine	mg/Kg	GC-MS	ND	5.0 mg/L (TCLP)
51	Ethyl Methyl Ketone	mg/Kg	GC-MS	ND	200.0 mg/L (TCLP)
52	Nitro Benzene	mg/Kg	GC-MS	ND	2.0 mg/L (TCLP)
53	Tetrachloro Ethylene	mg/Kg	GC-MS	ND	0.7 mg/L (TCLP)
54	Trichloro Ethylene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
55	1,1 - Dichloroethylene	mg/Kg	GC-MS	ND	0.7 mg/L (TCLP)
56	2,4 - Dinitrotoluene	mg/Kg	GC-MS	ND	0.1 mg/L (TCLP)
57	Endrin	mg/Kg	GC-MS	ND	0.02 mg/L (TCLP)
58	Heptachlor (and its epoxide)	mg/Kg	GC-MS	ND	0.008 mg/L (TCLP)
59	Hexachlorobenzene	mg/Kg	GC-MS	ND	0.13 mg/L (TCLP)
60	Hexachlorobutadiene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
61	Hexachloroethane	mg/Kg	GC-MS	ND	3.0 mg/L (TCLP)
62	Lindane	mg/Kg	GC-MS	ND	0.4 mg/L (TCLP)
63	Methoxychlor	mg/Kg	GC-MS	ND	10.0 mg/L (TCLP)
64	Pentachlorophenol	mg/Kg	GC-MS	ND	100.0 mg/L (TCLP)
65	Toxaphene	mg/Kg	GC-MS	ND	0.5 mg/L (TCLP)
66	2,4,5 - Tri Chlorophenol	mg/Kg	GC-MS	ND	400.0 mg/L (TCLP)
67	2,4,6 - Trichlorophenol	mg/Kg	GC-MS	ND	2.0 mg/L (TCLP)
68	2,4,5 - TP (Silvex)	mg/Kg	GC-MS	ND	1.0 mg/L (TCLP)
69	Vinyl Chloride	mg/Kg	GC-MS	ND	0.2 mg/L (TCLP)
70	2,4 - D	mg/Kg	GC-MS	ND	10.0 mg/L (TCLP)
71	Chlordane	mg/Kg	GC-MS	ND	0.04 g/L (TCLP)

Note: Sl. No. 18, 38 to 71 Parameters are not covered under NABL Scope.

NA: Not Applicable

ND: Not Detected

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Checked by
S. Deepak
Asst. Manager

Authorized Signatory
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Sr. Asst. Manager