



MCPI Private Limited

(Formerly MCC PTA India Corp. Private Limited,
Materials Chemicals and Performance Intermediaries Private Limited)

Ref. No.: WBPCB/09/22/ 1108

Dated: 21.09.2022

Member Secretary

West Bengal Pollution Control Board
Paribesh Bhawan, 10A, Block – LA
Sector – III, Bidhan Nagar,
Kolkata -700098.

Sub: Environment Statement for the financial year ending 31st March 2022

Dear Sir,

I would like to convey my sincere thanks and regards to you and your officials of Kolkata and Haldia for continuous support and guidance for smooth running of the PTA plant operations at Haldia.

We submitted Environmental Statement in Form V thorough online consent management & monitoring system portal (<https://wbocmms.nic.in>) on 19.09.2022. After submission through portal, we received Environmental Statement ID: **2621396** & Environmental Statement in Form-V. copy of online received Form-V attached for your ready reference. Apart from this hard copy of Form V is attached for your kind reference.

We are now submitting herewith two copies & one CD of Environment Statement for the PTA plant for the financial year ending **31st March'2022** (April'2021 - March'2022) in prescribed format along with relevant documents for your kind perusal.

Thanking you,

Yours Sincerely,
For **MCPI Private Limited**

Gautam Pal

Vice President [Utility, SHE & Quality]

Encl: a/a

Copy to:

- 1) In-charge, MoEFCC, Kolkata Zonal Office.
- 2) Sr.Environmental Engineer, WBPCB, Haldia
- 3) In-charge, CPCB- Eastern Regional Office - Kolkata



WEST BENGAL POLLUTION CONTROL BOARD

FORM V

(See Rule 14)

Environmental Statement for the financial year ending on 31st March on or before 30th of September every year.

PART A

- (i) Name and address of the owner/ occupier of the industry operation or process : Debi Prasad Patra
- (ii) Industry category Primary-(STC Code) : RED, Petrochemicals Manufacturing (including processing of Emulsions of oil and water)
Secondary-(STC Code)
- (iii) Production capacity : 1370000 Tonnes
- (iv) Year of establishment : 2000
- (v) Date of the last environment statement submitted :

PART B

1. Water consumption m³/ d

Process : 8443.47

Cooling : 13205.3

Domestic : 444.15

Name of products	Process water consumption per unit of product output	
	During the previous financial year	During the current financial year
Purified Terephthalic Acid (PTA)	6.80KL/Ton of PTA	6.41 KL/Ton of PTA

2. Raw material consumption

Name of raw materials	Name of products	Consumption of raw material per unit	
		During the previous financial year	During the current financial year
Paraxylene	Purified Terephthalic Acid (PTA)	0.654878 ton/ton of PTA	0.65532 ton/ton of PTA
Methanol	Purified Terephthalic Acid (PTA)	0.001802 ton/ton of PTA	0.001690 ton/ton of PTA
Acetic acid	Purified Terephthalic Acid (PTA)	0.053300 ton/ton of PTA	0.049244 ton/ton of PTA

Hydrobromic acid	Purified Terephthalic Acid (PTA)	0.001509 ton/ton of PTA	0.001434 ton/ton of PTA
Caustic soda	urified Terephthalic Acid (PTA)	0.007236 ton/ton of PTA	0.007400 ton/ton of PTA

*Industry may use codes if disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw material used.

PART C

Pollution discharged to environment/ unit of output.

Pollution	Quantity of pollutants discharged(mass/day)	Concentration of pollutants in discharges(mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	COD & BOD	64.28 & 14.41	Nil.
(a) Air	Particulate Matter (PM) & CO	73.82 & 80.88	Nil.

PART D

Hazardous Wastes

(as specified under Hazardous Wastes (Management and Handling) Rules, 1989)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year	During the current financial year
(a) From process	1,15,44,360	1,21,10,490
(b) From pollution control facilities	4960	4880

PART E

Solid Wastes

	Total Quantity	
	During the previous financial year	During the current financial year
(a) From process	Nil	Nil
(b) From pollution control facility	Nil	Nil
(c)(1) Quantity recycled or re-utilised within the unit	Nil	Nil
(2) Sold	MS Drums 72 & HDPE Drums 5536	MS Drums 256 & HDPE Drums 6378
(3) Disposed	Nil	Nil

PART F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes Hazardous Waste disposal through Co-Processing & through CHWTSDF. Solid waste disposal through Municipality.

PART G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production .

PART H

Additional measures/ investment proposal for environmental protection abatement of pollution, prevention of pollution Fuel Changed from FO to LSHS (P) .

PART I

Any other particulars for improving the quality of the environment .

FORM – V

(See Rule 14)

ENVIRONMENT STATEMENT FOR THE FINANCIAL YEAR ENDING THE
31ST MARCH 2022

PART – A

- I. Name & address of the owner / occupier of the industry operation or process.
Mr. D. P. Patra (Occupier)
MCPI Private Limited (Formerly: MCC PTA India Corp. Private Limited, Materials Chemicals and Performance Intermediaries Private Limited) Vill & P.O – Bhuniaraichak Via – Sutahata (Haldia) Purba Midnapore, W.B. Pin – 721635
- II. Industry category – Primary (STC Code) – Secondary (STC Code)
- III. Production capacity – (114166.67) TPM of PTA (1370000 Tons / Year)
- IV. Year of establishment- **Mechanical completion: Dec'1999, Commercial Production: April'2000.**
Expansion Plant: Commercial Production: April'2010
- V. Date of last environment statement submitted – 24/09/2021

PART – B

Water & Raw Material Consumption

- I. Water consumption m³/Day (Actual Avg.)
- | | |
|----------|------------------------------|
| Process | 8443.47 M ³ /Day |
| Cooling | 13205.30 M ³ /Day |
| Domestic | 444.15 M ³ /Day |

Name of products output	Process water consumption per unit of product	
	During the previous financial year	During the current financial year
(1)	(2)	(3)
(1) PURIFIED TEREPHTHALIC ACID (PTA)	6.80 KI/Ton of PTA	6.41 KI/Ton of PTA (Process water consumption includes cooling Water also.)

II. Raw Material Consumption (Refer Annexure – I)

* Name of raw material	Name of products	Consumption of raw material per unit	
		During the previous financial year	During the current financial year

*Industry may use codes of disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw materials.

PART – C

Pollution discharged to environment / unit of output. **(Refer Annexure – II)**
(Parameter as specified in the consent issued)

Pollution	Quantity of pollutants Discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage or variation from prescribed standards with reasons
(a) Water			
(b) Air			

PART – D

HAZARDOUS WASTES

(As specified under new Hazardous and Other Wastes (Management, Handling & Transboundary Movement) Rules, 2016)

Hazardous Wastes	Total Quantity (Kgs.)	
	During the previous financial year	During the current financial year
(a) From process *	Refer Ann: III b	Ref: Annexure – III a
(b) From pollution control facilities	# 4960	# 4880

***Process Sludge along with ETP Sludge were sent to Odisha Cement Ltd (Dalmia) for Co processing and CHWTSDF for disposal.**

This includes Ash from Desulphurization Unit (De-sox ash)

PART – E

SOLID WASTES

	Total Quantité (Kgs.)	
	During the previous financial year	During the current financial year
(a) From process	-	-
(b) From pollution control facility	-	-
(c) (1) Quantity recycled or re-utilized within the unit in 200ltr in nos.	-	-
(2) Sold	MS Drum: 72 HDPE: 5536	MS Drum: 256 HDPE: 6398
(3) Disposed	NA	-

PART – F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both categories of wastes. **Refer Annexure – IV**

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of pollution. **Refer Annexure – V**

PART – H

Additional measures/ investment proposal for environmental protection, abatement of pollution, prevention of pollution. **Refer Annexure – VI**

PART – I

Any other particulars for improving the quality of the environment.
Refer Annexure – VII

Annexure – I**Raw material Consumption**

Name of Raw material	Name of products	Consumption of raw material per unit	
		During the previous Financial year (ton/ton of PTA)	During the current financial year (ton/ton of PTA)
1. Paraxylene	Purified Terephthalic Acid (PTA)	0.654878	0.65532
2. Methanol		0.001802	0.001690
3. Acetic acid		0.053300	0.049244
4. Hydrobromic acid		0.001509	0.001434
5. Caustic soda		0.007236	0.007400

Pollutant discharged to environment/unit of output

Pollution	Quantity of pollutants Discharged (mass/day) Kg/day (avg.)	Concentration of pollutants discharged (mass/volume) mg/lit (avg.)	% or variation from prescribed standards with reasons
Water			
COD	870.28	64.28	Nil
BOD	194.85	14.41	Nil
O&G	25.72	01.92	Nil
F	7.65	00.41	Nil
Fe	5.07	00.38	Nil
Mn	5.53	00.42	Nil
TSS	107.14	07.95	Nil

Note: The final discharge flow rate is taken as 13552.00 m³/day (Avg.) During this period.
All results are average values of monthly sampling during this period.

Air

	Quantity of pollutants Discharged (mass/day) Kg/day (avg.)	Concentration of pollutants discharged (mass/volume) mg/ Nm³ (avg.)	% or variation from prescribed standards with reasons
PM	271.75	73.82	Nil
CO	1458.43	80.88	Nil

Annexure –IIIa

LIST OF HAZARDOUS WASTE
During April'21 to March'22

Sl. No.	Identified Hazardous Waste	Generation	Disposed quantity of hazardous waste to TSDF	Storage & Disposal procedure
1	Ash from ESP	0.0	0.0	Temporarily stored in the scrap yard and finally disposed through TSDF
2	Scrap PTA	0.00	0.00	do
3	Empty PTA contaminated plastic liners	3.48 Ton	3.48 Ton	do
4	Empty paint & Dye penetration container	0.97 Ton	0.68 Ton	do
5	Oil & Chemical soaked cotton waste	3.67 Ton	3.46 Ton	do
6	De-Sox Ash	4.88 Ton	4.88 Ton	do
7	Mixture of Process & Utility Sludge (WWT sludge)	12110.49 Ton	12110.49 Ton	Temporarily stored in Incinerator pit and finally disposed through TSDF & Co-Processing
8	Rejected Water Treatment Resins	0.00 Ton	0.00 Ton	do
9	Asbestos cloth & CAF gasket	78.51 Ton	51.81 Ton	do
10	Molecular Sieve			do
11	Used Oil	18.674 Ton	18.674 Ton	Temporarily stored and finally disposed through authorized party (Registered recycler & reprocess or)
12	Waste Oil	78.768 Ton	78.768 Ton	do
13	FO Sludge	0.00	0.00	do
14	Battery	0.00	0.00	Re cycler

*Note- Disposal of Hazardous waste to TSDF Started from May'06 onwards.
The above quantity includes the expansion plant also

Remarks:

LIST OF HAZARDOUS WASTE
During April'20 to March'21

Sl. No.	Identified Hazardous Waste	Generation	Disposed quantity of hazardous waste to TSDF	Storage & Disposal procedure
1	Ash from ESP	0.0	0.0	Temporarily stored in the scrap yard and finally disposed through TSDF
2	Scrap PTA	0.00	0.00	do
3	Empty PTA contaminated plastic liners	1.650 Ton	1.650 Ton	do
4	Empty paint & Dye penetration container	1.650 Ton	1.650 Ton	do
5	Oil & Chemical soaked cotton waste	2.780 Ton	2.780 Ton	do
6	De-Sox Ash	4.960 Ton	4.960 Ton	do
7	Mixture of Process & Utility Sludge (WWT sludge)	11544.36 Ton	11544.36 Ton	Temporarily stored in Incinerator pit and finally disposed through TSDF & Co-Processing
8	Rejected Water Treatment Resins	4.71	4.71	do
9	Asbestos cloth & CAF gasket	59.600	67.100	do
10	Molecular Sieve	0.00	0.00	do
11	Used Oil	10.152 Ton	10.152 Ton	Temporarily stored and finally disposed through authorized party (Registered recycler & reprocess or)
12	Waste Oil	3.050 Ton	3.050 Ton	do
13	FO Sludge	0.00	0.00	do
14	Battery	0.00	0.00	Re cycler

*Note- Disposal of Hazardous waste to TSDF Started from May'06 onwards.
The above quantity includes the expansion plant also

Remarks:

Annexure – IV

Process waste i.e. Process Sludge & sludge from wastewater treatment plant (ETP) were sent to OCL Cement Industries for Co-processing & sludge from wastewater treatment plant (ETP) were sent to CHWTSDF for disposal.

The sludge generated from Wastewater treatment plant is dehydrated in sludge decanter & dryer. The sludge from wastewater treatment plant contains about 90% moisture. The waste from process contains around 40 % moisture.

The list of hazardous waste with generation quantity & its disposal during this period is enclosed as **Annexure – IIIa**. The test reports of different Hazardous wastes and copy of Hazardous waste authorization are enclosed as **Annexure– IVa**. Authorization for storage and disposal of hazardous waste obtained from WBPCB and it is valid up to year **2026**. The hazardous as well as non-hazardous wastes are segregated, and hazardous waste is stored in an integrated scrap yard. All the identified hazardous waste is being disposed off periodically as per the regulation. The final disposal of hazardous waste is done through West Bengal Waste Management Limited (CHWTSDF) at Haldia periodically. The Used & Waste oil is being taken by CPCB approved registered recycler & Preprocessor. The lay out of the Integrated Scrap Yard is shown in **Annexure – IVb**.

Solid Waste

The non-hazardous waste i.e. scrap is also stored in the scrap yard in separate locations and finally sold to scrap vendor.

Around **256** nos. of MS drums **6398** nos. of HDPE drums of Raw materials after decontamination/ cleaning have been sold to the outside vendor during the period **April'21 – March'22**.

Emaxure-Wa



WEST BENGAL POLLUTION CONTROL BOARD

(Department of Environment, Govt. of West Bengal)

Paribesh Bhawan

Bldg. No. 10 A, Block-LA, Sector-III, Bidhan Nagar,
Kolkata - 700 098

Tel : 0091 (033) 2335-9088 / 8861 / 8211 / 8073 / 6731

2335-0261 / 8212 / 8213 / 7428 / 5975

Fax : 0091 (033) 2335 6730 / 2813

Website : www.wbpcb.gov.in, e-mail : [wbpcnet@wbpcb.gov.in](mailto:wbpccnet@wbpcb.gov.in)

Memo No. 01 /2S(HW) -255/99-2000 (Pt-III)

Date: 10.01.2022

FORM 2

Grant of Authorization under the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

Ref.: Application authorization dated 11.02.2021 for management & handling of Hazardous & Other Waste (Management & Transboundary) Rules, 2016 and its amendment thereafter.

M/s. MCPI Private Ltd.,

VIII. & P.O.: Bhuniarachak, P.S.: Durgachak, Dist: Purba Medinipur, Pin-721635 is hereby granted an authorisation for generation, collection, reception, storage, transport, reuse, recycling, recovery, pre-processing, co-processing, utilisation, treatment, disposal, or any other use of hazardous or other wastes or both on the VIII. & P.O.: Bhuniarachak, P.S.: Durgachak, Dist: Purba Medinipur, Pin-721635.


Details of Authorisation:

Sl. no.	Category of Hazardous Waste as per the Schedule I, II and III of these rules	Authorised mode of disposal or recycling or utilization or co-processing etc.	Quantity (Ton/year)
1.	15.2	Disposal to CHWTSDF*.	15.0
2.	B2	Disposal to CHWTSDF*.	0.001
3.	5.2	Disposal to CHWTSDF/co-processing in cement klins*.	3.0
4.	33.1	Disposal to CHWTSDF*.	1.5
5.	33.1	Disposal to CHWTSDF*.	1.0
6.	35.2	Disposal to CHWTSDF*.	2.0
7.	5.1	Recycling through authorized recycler*.	80.0
8.	3.3	Disposal to CHWTSDF*.	0.001
9.	35.3	Disposal to CHWTSDF/co-processing in cement klins*.	12000.0
10.	35.1	Disposal to CHWTSDF*.	20.0
11.	1.6	Disposal to CHWTSDF*.	0.001

* For detail refer to Specific Conditions.

(1) Authorization shall be valid for a period upto 31.01.2026 with effect from the date of issue

(2) The authorization is subject to the following general and specific conditions:


[Chief Engineer]

West Bengal Pollution Control Board

Subrata Ghosh

Chief Engineer

West Bengal Pollution Control Board

(Department of Environment, Government of West Bengal)

A. General conditions of authorization:


1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.
4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"
7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.
11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
12. An application for the renewal of an authorisation shall be three months before the expiry of such authorisation.
13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
- 14.
15. Annual return shall be filed by June 30th every year for the period ending 31st March of that year.

B. Specific conditions:

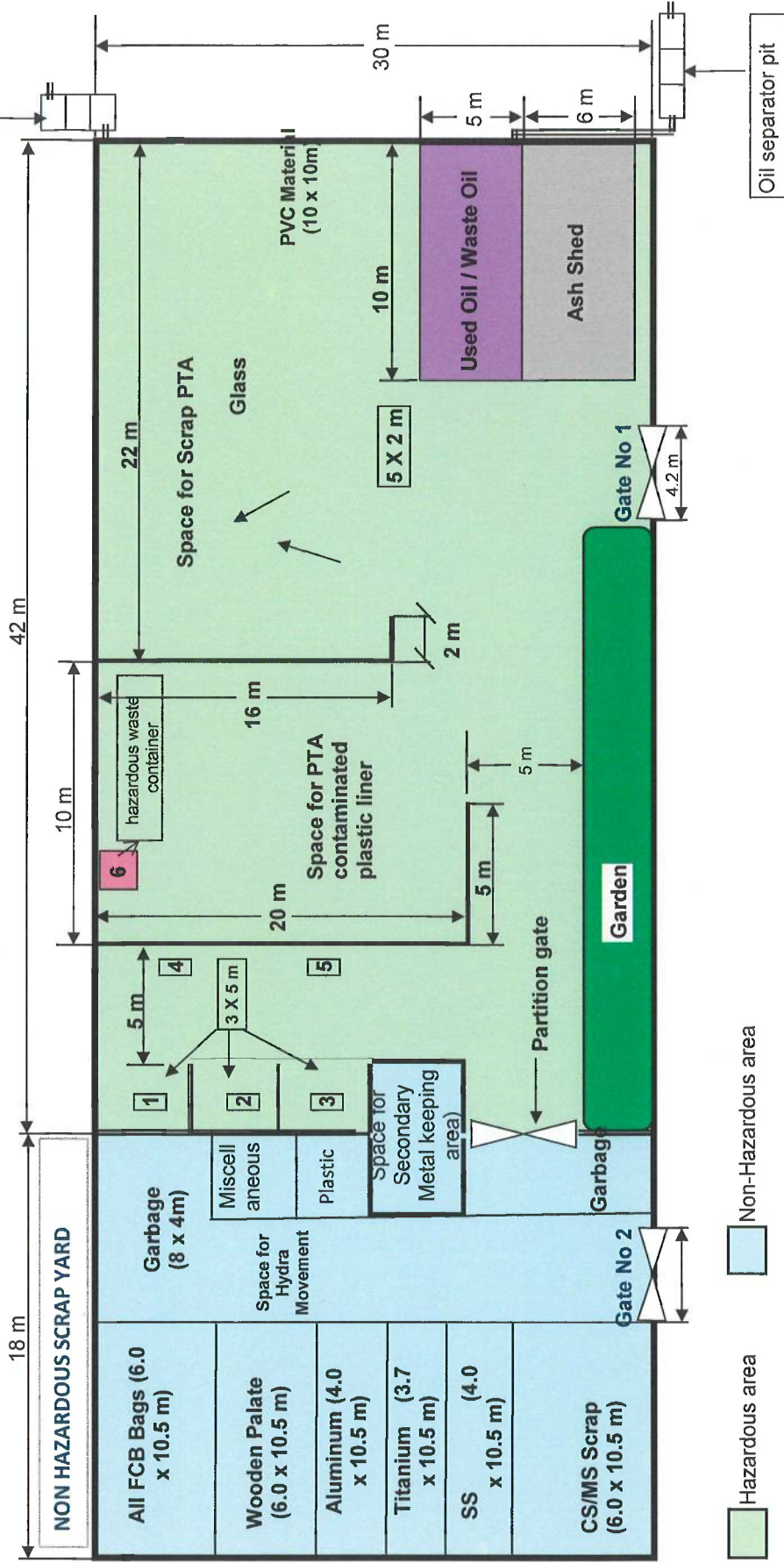
1. The unit shall store the hazardous wastes (category wise separately) under shade in an environment friendly safe manner within the premises at designated places and the unit shall not store hazardous waste on site for more than 90 days.
2. ETP sludge from waste water treatment (35.3) and waste containing oil (5.2) shall be sent to cement kiln for co-processing.
3. Sending of hazardous wastes for co-processing in cement kilns authorized by respective State Pollution Control Board shall be done as per guidelines for pre-processing and co-processing of hazardous and other wastes in cement plants issued by CPCB from time to time.

4. Discarded asbestos (15.2), paint contaminated drums (33.1), PTA contaminated bags/liners (33.1), spent ion exchange resin (35.2), oily sludge (3.3), Used/or discarded DG filters (36.2), sludge from wet scrubber (35.1), scrap PTA (B2) and spent catalyst and molecular sieves (1.6) shall be disposed to the CHWTSDF through Manifest system (Form-10).
5. Used oil (5.1) shall be sold through manifest system (Form 10) to the authorized recyclers having valid authorization of the State Pollution Control Board. During each sale, original Pass-book issued by SPCB to the authorized recyclers shall be endorsed mentioning the quantity and copy of the same shall be kept as record. If not fit for recycling shall be sent to CHWTSDF facility with manifest system.
6. The unit shall submit copies of Form 10 to the State Board on a regular basis.
7. Operation of incinerator is not permitted without permission of the State Board.
8. Transport of hazardous and other waste shall be in accordance with the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016, guidelines issued by the Central Pollution Control Board (CPCB) and rules made under the Motor Vehicles Act, 1988. The responsibility of safe transport shall be either of the sender or the receiver whosoever arranges the transport and this responsibility shall be clearly indicated in the Manifest.
9. Records of hazardous waste generation, storage and disposal shall be maintained properly and shall be available to the inspecting officials of the State Board during inspection.
10. The unit shall update regularly the environmental information in Display Boards as per the order of the Hon'ble Supreme Court dated. 14.10.2003 in W.P.(C) NO.657 of 1995.
11. Authorisation will be revoked in case of non-compliances with any of the above conditions.

M/s. MCPI Private Ltd.,
Vill. & P.O.: Bhuniarachak, P.S.: Durgachak,
Dist: Purba Medinipur, Pin-721635


[Chief Engineer]
West Bengal Pollution Control Board
Subrata Ghosh
Chief Engineer
West Bengal Pollution Control Board
(Department of Environment, Government of West Bengal)

INTEGRATED SCRAP YARD



TEST REPORT

Name & Address of the Customer :
MCPI PRIVATE LIMITED

Haldia ,Purba Mednipur,

Pin- 721635, West Bengal, India

Report No. : WB/ED-2528

Date : 30.09.2021

Sample No. : MSKGL/ED/2021-22/09/00010

Sample Description : Waste Oil

Sampling Date : 31.08.2021

Reference No.& Date: 7200002139, Dtd: 25.08.2021

ANALYSIS RESULT

<u>Sl No.</u>	<u>Test Parameters</u>	<u>Maximum Permissible Limit</u>	<u>Result</u>
1.	Polychlorinated biphenyls (as PCB) in ppm	<2	<1.0
2.	Cadmium + Chromium+ Nickel in ppm	500	3
3.	Lead in ppm	100	<0.2
4.	Arsenic in ppm	5	<0.2
5.	PAH in %	6	<0.01
6.	Water content in %	1	<0.1
7.	Sulphur in %	4.5	0.54
8.	Total Halogen in ppm	4000	97
9.	Sediment in %	0.25 %	0.27

Report Prepared By



for Mitra S. K. Private Limited


 Authorised Signatory

- The results relate only to the item(s) tested.
- This Test Report shall not be reproduced except in full, without the Permission of Mitra S.K. Private Limited.

TEST REPORT

Name & Address of the Customer :
MCPI PRIVATE LIMITED

Haldia ,Purba Mednipur,

Pin- 721635, West Bengal, India

Report No. : WB/ED-2527

Date : 30.09.2021

Sample No. : MSKGL/ED/2021-22/09/00009

Sample Description : Used Oil

Sampling Date : 31.08.2021

Reference No.& Date: 7200002139, Dtd: 25.08.2021

ANALYSIS RESULT

Sl No	Test Parameters	Unit	Result
1.	Lead (as Pb)	mg/kg	<0.2
2.	Polychlorinated biphenyls (as PCB)	ppm	<1.0
3.	Polynuclear Aromatic Hydrocarbons (as PAH)	%	<0.01
4.	Arsenic(as As)	mg/kg	<0.2
5.	Cadmium+Chromium+Nickel	mg/kg	<0.2

Report Prepared By



for Mitra S. K. Private Limited

Authorised Signatory



- The results relate only to the item(s) tested.
- This Test Report shall not be reproduced except in full, without the permission of Mitra S.K. Private Limited.



NABL
Accredited Laboratory

ULR - TC74712000000088F

WEST BENGAL WASTE MANAGEMENT LTD.

(A Division of RAMKY Enviro Engineers Ltd.)
J.L. No. : 103, Mouza : Purba Srikrishnapur
P.S. : Sutahata, Haldia - 721635
Dist. : Purba Midnapore, State : West Bengal
T : 03224-278238/39, Fax : 278240
E-mail : laboratorywbwml@ramky.com

LABORATORY
(Recognized by WBPCB)

WBWML/GF/LAB-310



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniarachak. Via:- Sutahata (Hadia) Purba
Midnapore.W.B.721635

Sample Description : Empty paint container.**

Sample Collected by : WBWML

Date of Sampling : 22nd February'2020

Sample Registration No. and Date : CA - 20/55, 2nd March'2020

Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 2nd March'2020

Analysis Completion Date : 6th March'2020

Test Required : Comprehensive Analysis

Report No. and Date : CAR - 20/55, 6th March'2020

Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Bulk Density	Gm/cc	ASTM Std. : D 5057 - 10	0.90	-
2	Paint Filter Liquid Test	-	SW-846 : 9095 A	NA	Pass
3	pH (at 25.0°C)	-	USEPA 1998,SW-846 : 9045C	6.888	4.0-12.0
4	Calorific Value	kcal/kg	IS : 1350 (Part II) - 1975 (RA 2010)	6931	< 2500.0
5	Flash Point	°C	USEPA 1998,SW-846 : 1020A	> 60	> 60.0
6	Loss on Drying at 103-105 °C	% (w/w)	Std. Methods : 2540 G : 2017	2.43	-
7	Loss on Ignition at 550 °C (Dry Basis)	% (w/w)	Std. Methods : 2540 G : 2017	89.42	< 20.0 (non-biodegradables) < 5.0(biodegradables)
8	Water Soluble Organics	% (w/w)	DIN : 38414 Part 4 (S4) Std. Methods : 2540 E : 2017	0.07	< 10.0
9	Oil and Grease (As n-Hexane Extractable)	% (w/w)	USEPA 1998,SW-846 : 9071A	3.19	< 4.0
10	Cadmium - Total	mg/kg	USEPA 1998,SW-846 :7000 B	2.85	-
11	Cadmium - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.02	< 0.20
12	Cadmium - TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	0.06	< 1.00
13	Chromium - Total	mg/kg	USEPA 1998,SW-846 :7000 B	38.93	-
14	Chromium (VI) - WLT	mg/L	DIN : 38414 Part 4 (S4) Std.Methods:3500-Cr B :2017	< 0.10	< 0.50
15	Chromium - TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.20	< 5.0

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
16	Copper – Total	mg/kg	USEPA 1998, SW-846 :7000 B	< 1.00	–
17	Copper – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.02	< 10.0
18	Lead – Total	mg/kg	USEPA 1998, SW-846 :7000 B	18.43	–
19	Lead – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.20	< 2.0
20	Lead – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.20	< 5.0
21	Nickel – Total	mg/kg	SW-846 : 3050B, 7000 B	7.33	–
22	Nickel – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.41	< 3.0
23	Zinc – Total	mg/kg	USEPA 1998, SW-846 :7000 B	< 1.00	–
24	Zinc – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.08	< 10.0
25	Manganese - Total	mg/kg	USEPA 1998, SW-846 :7000 B	< 1.00	–
26	Manganese - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.01	< 10.0

** – Report represents only for the paint contained / adhered inside container.

Note:

CPCB – Central Pollution Control Board

WLT – Water Leaching Test

TCLP -- Toxicity Characteristics Leaching Procedure

ASTM – American Society for Testing and Materials

IS – Indian Standard

SW 846 -- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA. May 1997

Std. Methods – Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017


DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment) Determination of Leachability (S4), 1954

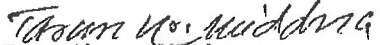
NA – Not Analyzed, ND – Not Detected

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Sushmita Paul
(Chemist – Lab.)
Checked by


Tarun Kumar Widdya
(Asst. Manager – Lab.)
Authorized Signatory

WEST BENGAL WASTE MANAGEMENT LTD.

(A Division of RAMKY Enviro Engineers Ltd.)

J.L. No. : 103, Mouza : Purba Srikrishnapur

P.S. : Sutahata, Haldia - 721635

Dist. : Purba Midnapore, State : West Bengal

T : 03224-278238/39, Fax : 278240

E-mail : laboratorywbwml@ramky.com

CIN : U90002WB2004PLC098219

**LABORATORY****TEST REPORT**

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniarachak, Via: Sutahata (Haldia) Purba Midnapore

Sample Description : Empty paint container.

Sample Collected by : WBWML

Date of Sampling : 22nd February'2020

Sample Registration No. and Date : CA - 20/55, 2nd March'2020

Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 2nd March'2020

Analysis Completion Date : 6th March'2020

Test Required : Comprehensive Analysis

Report No. and Date : CAR - 20/55, 6th March'2020

Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLF Limit for Direct Landfill
1	Physical State	--	Visual observation	Dry solid	--
2	Color	--	Visual observation	Mixed colour	--
3	Texture	--	Visual observation	Tarry	--
4	Reactive Cyanide	mg/kg	SW-846 : Ch. 7 (7.3.3), 9014	< 1.00	--
5	Reactive Sulfide	mg/kg	SW-846 : Ch. 7 (7.3.4), 9034	< 5.00	--
6	Cyanide - Total	mg/kg	SW-846 : 9010B, 9014	< 1.00	--
7	Cyanide - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-CN ⁻ C SW-846 : 9014	< 0.05	< 2.0
8	Fluoride - Total	mg/kg	Std. Methods : 4500-F ⁻ B, D	< 1.00	--
9	Fluoride - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500F ⁻ B, D	< 1.00	< 50.0
10	Nitrate - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NO ₃ ⁻ E	< 0.10	< 30.0
11	Ammonia - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NH ₃ B, C	< 5.00	< 1000.0
12	Arsenic - Total	mg/kg	SW-846 : 3050B Std. Methods:3500-As B :2017	< 1.00	--
13	Arsenic - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods:3500-As B :2017	< 0.10	< 1.0
14	Phenol - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 9065	< 1.00	< 100.0
15	Mercury - Total	mg/kg	SW-846 : 7471A Std. Methods : 3112 B :2017	NA	--
16	Mercury - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 7470A Std. Methods : 3112 B :2017	NA	< 0.10
17	Vanadium - Total	mg/kg	SW-846 : 3050B, 7910	NA	--

18	Vanadium – WLT	mg/L	SW-846 : 3010A, 7910	NA	< 0.20 *
19	Benzene	mg/L	GC-MS	NA	< 0.50
20	Carbon tetrachloride	mg/L	GC-MS	NA	< 0.50
21	Chlordane	mg/L	GC-MS	NA	< 0.03
22	Chlorobenzene	mg/L	GC-MS	NA	< 100.0
23	Chloroform	mg/L	GC-MS	NA	< 6.0
24	o-, m-, p-Cresol	mg/L	GC-MS	NA	< 200.0 each
25	Endrin	mg/L	GC-MS	NA	< 0.02
26	Ethyl Methyl Ketone	mg/L	GC-MS	NA	< 200.0
27	Heptachlor (and its epoxide)	mg/L	GC-MS	NA	< 0.008
28	Hexachlorobenzene	mg/L	GC-MS	NA	< 0.13
29	Hexachlorobutadiene	mg/L	GC-MS	NA	< 0.50
30	Hexachloroethane	mg/L	GC-MS	NA	< 3.0
31	Indene	mg/L	GC-MS	NA	< 0.40
32	Methoxychlor	mg/L	GC-MS	NA	< 10.0
33	Nitrobenzene	mg/L	GC-MS	NA	< 2.0
34	Pentachlorophenol	mg/L	GC-MS	NA	< 100.0
35	Pyridine	mg/L	GC-MS	NA	< 5.0
36	Tetrachloroethylene	mg/L	GC-MS	NA	< 0.70
37	Toxaphene	mg/L	GC-MS	NA	< 0.50
38	Trichloroethylene	mg/L	GC-MS	NA	< 0.50
39	Vinyl Chloride	mg/L	GC-MS	NA	< 0.20
40	1,1-Dichloroethylene	mg/L	GC-MS	NA	< 0.70
41	1,2-Dichloroethane	mg/L	GC-MS	NA	< 0.50
42	1,4-Dichlorobenzene	mg/L	GC-MS	NA	< 7.50
43	2,4-D	mg/L	GC-MS	NA	< 10.0
44	2,4-Dinitrotoluene	mg/L	GC-MS	NA	< 0.13
45	2,4,5-TP (Silvex)	mg/L	GC-MS	NA	< 1.0
46	2,4,5-Trichlorophenol	mg/L	GC-MS	NA	< 400.0
47	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 2.0
48	Carbon	%(w/w)	CHNS – CI Analyzer	59.10	--
49	Hydrogen	%(w/w)	CHNS – CI Analyzer	2.75	--
50	Nitrogen	%(w/w)	CHNS – CI Analyzer	6.21	--
51	Sulphur	%(w/w)	CHNS – CI Analyzer	1.01	--

Enclosed GC-MS Chromatogram Data: GC-MS Analysis - Solvent Data File\Single processing\CAR-20.55 MCC PTA India Corp Pvt. Ltd. - Empty paint container. Qgd.

Note:

CPCB – Central Pollution Control Board

WLT – Water Leaching Test

TCLP – Toxicity Characteristics Leaching Procedure

ASTM – American Society for Testing and Materials

IS – Indian Standard

SW 846 – Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, May 1997

Std. Methods – Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017

DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment);

Determination of Leachability (S4), 1984

NA – Not Analyzed, ND – Not Detected

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Sushanta Paul
(Chemist – Lab.)
Checked by

Tarun Kumar Mridha
Tarun Kumar Mridha
(Asst. Manager – Lab.)
Authorized Signatory



NABL
Accredited Laboratory

ULR – TC747120000000090F

WEST BENGAL WASTE MANAGEMENT LTD.

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E-mail : laboratorywbwml@ramky.com

LABORATORY
(Recognized by WBPCB)

WBWML/GF/LAB-310



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniarachak. Via:- Sutahata (Hadia) Purba
Midnapore.W.B.721635

Sample Description : De sox Ash.

Sample Collected by : WBWML

Date of Sampling : 22nd February'2020

Sample Registration No. and Date : CA – 20/57, 2nd March'2020

Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 2nd March'2020

Analysis Completion Date : 6th March'2020

Test Required : Comprehensive Analysis

Report No. and Date : CAR - 20/57, 6th March'2020

Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Bulk Density	Gm/cc	ASTM Std. : D 5057 – 10	1.10	–
2	Paint Filter Liquid Test	–	SW-846 : 9095 A	Pass	Pass
3	pH (at 25.0°C)	–	USEPA 1998,SW-846 : 9045C	6.86	4.0-12.0
4	Calorific Value	kcal/kg	IS : 1350 (Part II) – 1975 (RA 2010)	6667	< 2500.0
5	Flash Point	°C	USEPA 1998,SW-846 : 1020A	> 60	> 60.0
6	Loss on Drying at 103-105 °C	% (w/w)	Std. Methods : 2540 G : 2017	77.46	–
7	Loss on Ignition at 550 °C (Dry Basis)	% (w/w)	Std. Methods : 2540 G : 2017	88.34	< 20.0 (non-biodegradables) < 5.0(biodegradables)
8	Water Soluble Organics	% (w/w)	DIN : 38414 Part 4 (S4) Std. Methods : 2540 E : 2017	1.58	< 10.0
9	Oil and Grease (As n-Hexane Extractable)	% (w/w)	USEPA 1998,SW-846 : 9071A	< 1.00	< 4.0
10	Cadmium – Total	mg/kg	USEPA 1998,SW-846 : 7000 B	7.07	–
11	Cadmium – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.09	< 0.20
12	Cadmium – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	0.15	< 1.00
13	Chromium – Total	mg/kg	USEPA 1998,SW-846 : 7000 B	300.41	–
14	Chromium (VI) – WLT	mg/L	DIN : 38414 Part 4 (S4) Std.Methods:3500-Cr B :2017	< 0.10	< 0.50
15	Chromium – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.20	< 5.0

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
16	Copper – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	125.27	--
17	Copper – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	< 0.02	< 10.0
18	Lead – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	< 1.00	--
19	Lead – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	0.49	< 2.0
20	Lead – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B : 2017	0.65	< 5.0
21	Nickel – Total	mg/kg	SW-846 : 3050B, 7000 B	14331.27	--
22	Nickel – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	1.27	< 3.0
23	Zinc – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	318.53	--
24	Zinc – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	0.10	< 10.0
25	Manganese – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	19.57	--
26	Manganese – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	< 0.01	< 10.0

Note:

CPCB – Central Pollution Control Board

WLT – Water Leaching Test

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DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment);

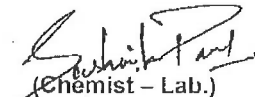
Determination of Leachability (S4), 1984


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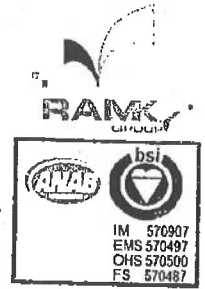
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(Chemist – Lab.)
Checked by


Tarun Kumar Middy
(Asst. Manager – Lab.)
Authorized Signatory

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 Dist. : Purba Midnapore, State : West Bengal,
 T : 03224-278238/39, Fax : 278240
 E-mail : laboratorywbwml@ramky.com
 CIN : U90002WB2004PLC098219



LABORATORY TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
 Vill. & P.O.- Bhuniaraiachak. Via: Sutahata (Haldia) Purba Midnapore

Sample Description : De sox Ash.

Sample Collected by : WBWML

Date of Sampling : 22nd February'2020

Sample Registration No. and Date : CA - 20/57, 2nd March'2020

Sample Receipt Condition : Sample recd. in plastic pouch.

Analysis Starting Date : 2nd March'2020

Analysis Completion Date : 6th March'2020

Test Required : Comprehensive Analysis

Report No. and Date : CAR - 20/57, 6th March'2020

Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Physical State	-	Visual observation	Wet solid	-
2	Color	-	Visual observation	Black	-
3	Texture	-	Visual observation	Cake	-
4	Reactive Cyanide	mg/kg	SW-846 : Ch. 7 (7.3.3), 9014	< 1.00	-
5	Reactive Sulfide	mg/kg	SW-846 : Ch. 7 (7.3.4), 9034	< 5.00	-
6	Cyanide - Total	mg/kg	SW-846 : 9010B, 9014	< 1.00	-
7	Cyanide - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-CN ⁻ C SW-846 : 9014	< 0.05	< 2.0
8	Fluoride - Total	mg/kg	Std. Methods : 4500-F ⁻ B, D	< 1.00	-
9	Fluoride - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-F ⁻ B, D	< 1.00	< 50.0
10	Nitrate - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NO ₃ ⁻ E	< 0.10	< 30.0
11	Ammonia - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NH ₃ B, C	< 5.00	< 1000.0
12	Arsenic - Total	mg/kg	SW-846 : 3050B Std. Methods:3500-As B :2017	< 1.00	-
13	Arsenic - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods:3500-As B :2017	< 0.10	< 1.0
14	Phenol - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 9065	< 1.00	< 100.0
15	Mercury - Total	mg/kg	SW-846 : 7471A Std. Methods : 3112 B :2017	NA	-
16	Mercury - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 7470A Std. Methods : 3112 B :2017	NA	< 0.10
17	Vanadium - Total	mg/kg	SW-846 : 3050B, 7910	NA	-

18	Vanadium - WLT	mg/L	SW-846 - 3010A, 7910	NA	< 0.20 *
19	Benzene	mg/L	GC-MS	NA	< 0.50
20	Carbon tetrachloride	mg/L	GC-MS	NA	< 0.50
21	Chlordane	mg/L	GC-MS	NA	< 0.03
22	Chlorobenzene	mg/L	GC-MS	NA	< 100.0
23	Chloroform	mg/L	GC-MS	NA	< 6.0
24	o-, m-, p-Cresol	mg/L	GC-MS	NA	< 200.0 each
25	Endrin	mg/L	GC-MS	NA	< 0.02
26	Ethyl Methyl Ketone	mg/L	GC-MS	NA	< 200.0
27	Heptachlor (and its epoxide)	mg/L	GC-MS	NA	< 0.008
28	Hexachlorobenzene	mg/L	GC-MS	NA	< 0.13
29	Hexachlorobutadiene	mg/L	GC-MS	NA	< 0.50
30	Hexachloroethane	mg/L	GC-MS	NA	< 3.0
31	Indene	mg/L	GC-MS	NA	< 0.40
32	Methoxychlor	mg/L	GC-MS	NA	< 10.0
33	Nitrobenzene	mg/L	GC-MS	NA	< 2.0
34	Pentachlorophenol	mg/L	GC-MS	NA	< 100.0
35	Pyridine	mg/L	GC-MS	NA	< 5.0
36	Tetrachloroethylene	mg/L	GC-MS	NA	< 0.70
37	Toxaphene	mg/L	GC-MS	NA	< 0.50
38	Trichloroethylene	mg/L	GC-MS	NA	< 0.50
39	Vinyl Chloride	mg/L	GC-MS	NA	< 0.20
40	1,1-Dichloroethylene	mg/L	GC-MS	NA	< 0.70
41	1,2-Dichloroethane	mg/L	GC-MS	NA	< 0.50
42	1,4-Dichlorobenzene	mg/L	GC-MS	NA	< 7.50
43	2,4-D	mg/L	GC-MS	NA	< 10.0
44	2,4-Dinitrotoluene	mg/L	GC-MS	NA	< 0.13
45	2,4,5-TP (Silvex)	mg/L	GC-MS	NA	< 1.0
46	2,4,5-Trichlorophenol	mg/L	GC-MS	NA	< 400.0
47	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 2.0
48	Carbon	%(w/w)	CHNS - CI Analyzer	61.26	--
49	Hydrogen	%(w/w)	CHNS - CI Analyzer	2.34	--
50	Nitrogen	%(w/w)	CHNS - CI Analyzer	1.94	--
51	Sulphur	%(w/w)	CHNS - CI Analyzer	1.26	--

Enclosed GC-MS Chromatogram D:\GC-MS Analysis - Solvent DCM\Data File\Single processing\CAR-20_57 MCC PTA India Corp Pvt. Ltd. - De sox Ash. Qgd.

Note:

CPCB - Central Pollution Control Board

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DIN - 38414 Part 4 (S4) - German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment).

Determination of Leachability (S4), 1984

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Sushant Paul
Chemist - Lab.)
Checked by

Tarun K. Muddya
Tarun Kumar Muddya
(Asst. Manager - Lab.)
Authorized Signatory

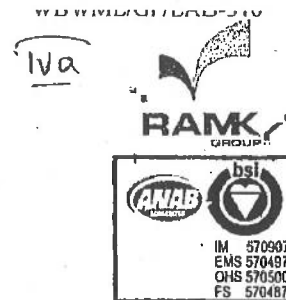


NABL
Accredited Laboratory
Certificate No. : TC-7471
ULR – TC74711900000349P

WEST BENGAL WASTE MANAGEMENT LTD.

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T : 03224-278238/39, Fax : 278240
E-mail : laboratorywbwml@ramky.com

LABORATORY
(Recognized by WBPCB)



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniarachak. Via:- Sutahata (Hadia) Purba
Midnapore.W.B.721635

Sample Description : F-5361 Pit bottom sludge
Sample Collected by : WBWML
Date of Sampling : 5th June'2019
Sample Registration No. and Date : CA – 19/212, 10th July'2019
Sample Receipt Condition : Sample recd. in plastic pouch.
Analysis Starting Date : 10th July'2019
Analysis Completion Date : 19th July'2019
Test Required : Comprehensive Analysis
Report No. and Date : CAR - 19/212, 19th July'2019
Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Bulk Density	Gm/cc	ASTM Std. : D 5057 – 10	1.13	–
2	Paint Filter Liquid Test	–	SW-846 : 9095 A	Pass	Pass
3	pH (at 25.0°C)	–	USEPA 1998,SW-846 : 9045C	7.15	4.0-12.0
4	Calorific Value	kcal/kg	IS : 1350 (Part II) – 1975 (RA 2010)	2150.0	< 2500.0
5	Flash Point	°C	USEPA 1998,SW-846 : 1020A	> 60	> 60.0
6	Loss on Drying at 103-105 °C	% (w/w)	Std. Methods : 2540 G : 2017	91.78	–
7	Loss on Ignition at 550 °C (Dry Basis)	% (w/w)	Std. Methods : 2540 G : 2017	51.00	< 20.0 (non-biodegradables) < 5.0 (biodegradables)
8	Water Soluble Organics	% (w/w)	DIN : 38414 Part 4 (S4) Std. Methods : 2540 E : 2017	0.48	< 10.0
9	Oil and Grease (As n-Hexane Extractable)	% (w/w)	USEPA 1998,SW-846 : 9071A	< 1.00	< 4.0
10	Cadmium – Total	mg/kg	USEPA 1998,SW-846 : 7000 B	3.34	–
11	Cadmium – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	< 0.02	< 0.20
12	Cadmium – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B : 2017	< 0.02	< 1.00
13	Chromium – Total	mg/kg	USEPA 1998,SW-846 : 7000 B	83.54	–
14	Chromium (VI) – WLT	mg/L	DIN : 38414 Part 4 (S4) Std.Methods:3500-Cr B :2017	< 0.20	< 0.50
15	Chromium – TCLP	mg/L	USEPA 1998, SW-846 : 1311	< 0.20	< 5.0

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
16	Copper – Total	mg/kg	USEPA 1998, SW-846 :7000 B	9.57	–
17	Copper – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.02	< 10.0
18	Lead – Total	mg/kg	USEPA 1998, SW-846 :7000 B	161.24	–
19	Lead – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.20	< 2.0
20	Lead – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.20	< 5.0
21	Nickel – Total	mg/kg	SW-846 : 3050B, 7000 B	114.32	–
22	Nickel – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.14	< 3.0
23	Zinc – Total	mg/kg	USEPA 1998, SW-846 :7000 B	1287.59	–
24	Zinc – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.01	< 10.0
25	Phenol – WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 9065	< 1.00	< 100.0

Note:

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ASTM – American Society for Testing and Materials

IS – Indian Standard

SW 846 – Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, May 1997

Std. Methods – Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017

DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment); Determination of Leachability (S4), 1984

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The comprehensive analysis report refers only to the 'as received' sample of waste

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Sushanta Paul
(Chemist – Lab.)
Checked by

Tarun Kumar Middya
Tarun Kumar Middya
(Asst. Manager – Lab.)
Authorized Signatory

WEST BENGAL WASTE MANAGEMENT LTD.

(A Division of RAMKY Enviro Engineers Ltd.)
 J.L. No. : 103, Mouza : Purba Srikrishnapur
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 Dist. : Purba Midnapore, State : West Bengal
 T : 03224-278238/39, Fax : 278240
 E-mail : laboratorywbwml@ramky.com

WBWML/OF/LAD/210



LABORATORY
(Recognized by WBPCB)

TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp. Pvt. Ltd.
 Vill. & P.O.- Bhuniaraichak. Via: Sutahata (Haldia) Purba Midnapore
 Sample Description : F-5361 Pit bottom sludge.
 Sample Collected by : WBWML
 Date of Sampling : 5th July'2019
 Sample Registration No. and Date : CA - 19/212, 10th July'2019
 Sample Receipt Condition : Sample recd. in plastic pouch.
 Analysis Starting Date : 10th July'2019
 Analysis Completion Date : 19th July'2019
 Test Required : Comprehensive Analysis
 Report No. and Date : CAR - 19/212, 19th July'2019
 Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	GPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Physical State	-	Visual observation	Wet solid	-
2	Color	-	Visual observation	Grey	-
3	Texture	-	Visual observation	Cake	-
4	Reactive Cyanide	mg/kg	SW-846 : Ch. 7 (7.3.3), 9014	< 1.00	-
5	Reactive Sulfide	mg/kg	SW-846 : Ch. 7 (7.3.4), 9034	< 5.00	-
6	Cyanide - Total	mg/kg	SW-846 : 9010B, 9014	< 1.00	-
7	Cyanide - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-CN ⁻ C SW-846 : 9014	< 0.05	< 2.0
8	Fluoride - Total	mg/kg	Std. Methods : 4500-F ⁻ B, D	< 1.00	-
9	Fluoride - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500F ⁻ B, D	< 1.00	< 50.0
10	Nitrate - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NO ₃ ⁻ E	< 0.10	< 30.0
11	Ammonia - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NH ₃ B, C	< 5.00	< 1000.0
12	Arsenic - Total	mg/kg	SW-846 : 3050B Std.Methods:3500-As B :2017	< 1.00	-
13	Arsenic - WLT	mg/L	DIN : 38414 Part 4 (S4) Std.Methods:3500-As B :2017	< 0.10	< 1.0
14	Mercury - Total	mg/kg	SW-846 : 7471A Std. Methods : 3112 B :2017	NA	-
15	Mercury - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 7470A Std. Methods : 3112 B :2017	NA	< 0.10
16	Vanadium - Total	mg/kg	SW-846 : 3050B, 7910	NA	-
17	Vanadium - WLT	mg/L	SW-846 : 3010A, 7910	NA	< 0.20 *
18	Benzene	mg/L	GC-MS	NA	< 0.50

19	Carbon tetrachloride	mg/L	GC-MS	NA	< 0.50
20	Chlordane	mg/L	GC-MS	NA	< 0.03
21	Chlorobenzene	mg/L	GC-MS	NA	< 100.0
22	Chloroform	mg/L	GC-MS	NA	< 6.0
23	o-, m-, p-Cresol	mg/L	GC-MS	NA	< 200.0 each
24	Endrin	mg/L	GC-MS	NA	< 0.02
25	Ethyl Methyl Ketone	mg/L	GC-MS	NA	< 200.0
26	Heptachlor (and its epoxide)	mg/L	GC-MS	NA	< 0.008
27	Hexachlorobenzene	mg/L	GC-MS	NA	< 0.13
28	Hexachlorobutadiene	mg/L	GC-MS	NA	< 0.50
29	Hexachloroethane	mg/L	GC-MS	NA	< 3.0
30	Indene	mg/L	GC-MS	NA	< 0.40
31	Methoxychlor	mg/L	GC-MS	NA	< 10.0
32	Nitrobenzene	mg/L	GC-MS	NA	< 2.0
33	Pentachlorophenol	mg/L	GC-MS	NA	< 100.0
34	Pyridine	mg/L	GC-MS	NA	< 5.0
35	Tetrachloroethylene	mg/L	GC-MS	NA	< 0.70
36	Toxaphene	mg/L	GC-MS	NA	< 0.50
37	Trichloroethylene	mg/L	GC-MS	NA	< 0.50
38	Vinyl Chloride	mg/L	GC-MS	NA	< 0.20
39	1,1-Dichloroethylene	mg/L	GC-MS	NA	< 0.70
40	1,2-Dichloroethane	mg/L	GC-MS	NA	< 0.50
41	1,4-Dichlorobenzene	mg/L	GC-MS	NA	< 7.50
42	2,4-D	mg/L	GC-MS	NA	< 10.0
43	2,4-Dinitrotoluene	mg/L	GC-MS	NA	< 0.13
44	2,4,5-TP (Silvex)	mg/L	GC-MS	NA	< 1.0
45	2,4,5-Trichlorophenol	mg/L	GC-MS	NA	< 400.0
46	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 2.0

GC-MS report would be provided later in separate sheet.

Note:

CPCB – Central Pollution Control Board

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TCLP – Toxicity Characteristics Leaching Procedure

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SW 846 – Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, May 1997

Std. Methods – Standard Methods for the Examination of Water & Wastewater, 23rd Edition, APHA/AWWA/WEF, 2017

DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment);

Determination of Leachability (S4), 1984

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Sushant Paul
(Chemist – Lab.)
Checked by

for, Tarun Kumar Middya
Tarun Kumar Middya
(Asst. Manager – Lab.)
Authorized Signatory



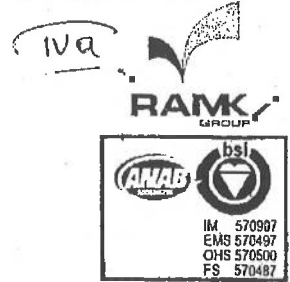
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Accredited Laboratory
Certificate No. : TC-7471
ULR – TC74711900000350P

WEST BENGAL WASTE MANAGEMENT LTD.

(A Division of RAMKY Enviro Engineers Ltd.)
J.L. No. : 103, Mouza : Purba Srikrisnapur
P.S. : Sutahata, Haldia - 721635
Dist. : Purba Midnapore, State : West Bengal
T : 03224-278238/39, Fax : 278240
E-mail : laboratorywbwml@ramky.com

LABORATORY
(Recognized by WBPCB)

WBWML/OP/LAB-310



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniarachak. Via:- Sutahata (Hadia) Purba
Midnapore.W.B.721635

Sample Description : WWTP sludge
Sample Collected by : WBWML
Date of Sampling : 5th June'2019
Sample Registration No. and Date : CA – 19/213, 10th July'2019
Sample Receipt Condition : Sample recd. in plastic pouch.
Analysis Starting Date : 10th July'2019
Analysis Completion Date : 19th July'2019
Test Required : Comprehensive Analysis
Report No. and Date : CAR - 19/213, 19th July'2019
Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Bulk Density	Gm/cc	ASTM Std. : D 5057 – 10	0.99	–
2	Paint Filter Liquid Test	–	SW-846 : 9095 A	Pass	Pass
3	pH (at 25.0°C)	–	USEPA 1998, SW-846 : 9045C	7.38	4.0-12.0
4	Calorific Value	kcal/kg	IS : 1350 (Part II) – 1975 (RA 2010)	4363.0	< 2500.0
5	Flash Point	°C	USEPA 1998, SW-846 : 1020A	> 60	> 60.0
6	Loss on Drying at 103-105 °C	% (w/w)	Std. Methods : 2540 G : 2017	89.79	–
7	Loss on Ignition at 550 °C (Dry Basis)	% (w/w)	Std. Methods : 2540 G : 2017	98.23	< 20.0 (non-biodegradables) < 5.0 (biodegradables)
8	Water Soluble Organics	% (w/w)	DIN : 38414 Part 4 (S4) Std. Methods : 2540 E : 2017	1.58	< 10.0
9	Oil and Grease (As n-Hexane Extractable)	% (w/w)	USEPA 1998, SW-846 : 9071A	< 1.00	< 4.0
10	Cadmium – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	2.02	–
11	Cadmium – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B : 2017	< 0.02	< 0.20
12	Cadmium – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B : 2017	0.02	< 1.00
13	Chromium – Total	mg/kg	USEPA 1998, SW-846 : 7000 B	21.30	–
14	Chromium (VI) – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3500-Cr B : 2017	< 0.20	< 0.50
15	Chromium – TCLP	mg/L	USEPA 1998, SW-846 : 1311	< 0.20	< 5.0

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
16	Copper – Total	mg/kg	USEPA 1998, SW-846 :7000 B	7.10	–
17	Copper – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.02	< 10.0
18	Lead – Total	mg/kg	USEPA 1998, SW-846 :7000 B	56.51	–
19	Lead – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	< 0.20	< 2.0
20	Lead – TCLP	mg/L	USEPA 1998, SW-846 : 1311 Std. Methods : 3111 B :2017	< 0.20	< 5.0
21	Nickel – Total	mg/kg	SW-846 : 3050B, 7000 B	35.34	–
22	Nickel – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.15	< 3.0
23	Zinc – Total	mg/kg	USEPA 1998, SW-846 :7000 B	16.81	–
24	Zinc – WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 3111 B :2017	0.03	< 10.0
25	Phenol – WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 9065	< 1.00	< 100.0

Note:

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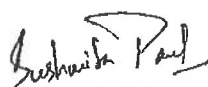
DIN : 38414 Part 4 (S4) – German Standard Procedure for Water, Wastewater, and Sediment Testing-Group S (Sludge and Sediment); Determination of Leachability (S4), 1984


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(Chemist – Lab.)
Checked by

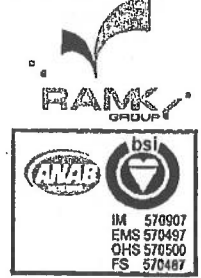

Tarun Kumar Middya
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Authorized Signatory

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LABORATORY
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WBWML/UP/LAB-310



TEST REPORT

Name and Address of Customer : M/s MCC PTA India Corp Pvt. Ltd.
Vill. & P.O.- Bhuniaraichak. Via: Sutahata (Haldia) Purba Midnapore
Sample Description : WWTP sludge
Sample Collected by : WBWML
Date of Sampling : 5th July'2019
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Analysis Starting Date : 10th July'2019
Analysis Completion Date : 19th July'2019
Test Required : Comprehensive Analysis
Report No. and Date : CAR - 19/213, 19th July'2019
Sub-contracting of Analysis : None

TEST RESULT

Sl. no.	Parameter	Unit	Method	Observation / Result	CPCB Std. and WLT / TCLP Limit for Direct Landfill
1	Physical State	-	Visual observation	Wet solid	-
2	Color	-	Visual observation	Brown	-
3	Texture	-	Visual observation	Cake	-
4	Reactive Cyanide	mg/kg	SW-846 : Ch. 7 (7.3.3), 9014	< 1.00	-
5	Reactive Sulfide	mg/kg	SW-846 : Ch. 7 (7.3.4), 9034	< 5.00	-
6	Cyanide - Total	mg/kg	SW-846 : 9010B, 9014	< 1.00	-
7	Cyanide - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-CN ⁻ C SW-846 : 9014	< 0.05	< 2.0
8	Fluoride - Total	mg/kg	Std. Methods : 4500-F B, D	< 1.00	-
9	Fluoride - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-F B, D	< 1.00	< 50.0
10	Nitrate - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NO ₃ ⁻ E	< 0.10	< 30.0
11	Ammonia - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods : 4500-NH ₃ B, C	< 5.00	< 1000.0
12	Arsenic - Total	mg/kg	SW-846 : 3050B Std. Methods:3500-As B :2017	< 1.00	-
13	Arsenic - WLT	mg/L	DIN : 38414 Part 4 (S4) Std. Methods:3500-As B :2017	< 0.10	< 1.0
14	Mercury - Total	mg/kg	SW-846 : 7471A Std. Methods : 3112 B :2017	NA	-
15	Mercury - WLT	mg/L	DIN : 38414 Part 4 (S4) SW-846 : 7470A Std. Methods : 3112 B :2017	NA	< 0.10
16	Vanadium - Total	mg/kg	SW-846 : 3050B, 7910	NA	-
17	Vanadium - WLT	mg/L	SW-846 : 3010A, 7910	NA	< 0.20 *
18	Benzene	mg/L	GC-MS	NA	< 0.50

19	Carbon tetrachloride	mg/L	GC-MS	NA	< 0.50
20	Chlordane	mg/L	GC-MS	NA	< 0.03
21	Chlorobenzene	mg/L	GC-MS	NA	< 100.0
22	Chloroform	mg/L	GC-MS	NA	< 6.0
23	o-, m-, p-Cresol	mg/L	GC-MS	NA	< 200.0 each
24	Endrin	mg/L	GC-MS	NA	< 0.02
25	Ethyl Methyl Ketone	mg/L	GC-MS	NA	< 200.0
26	Heptachlor (and its epoxide)	mg/L	GC-MS	NA	< 0.008
27	Hexachlorobenzene	mg/L	GC-MS	NA	< 0.13
28	Hexachlorobutadiene	mg/L	GC-MS	NA	< 0.50
29	Hexachloroethane	mg/L	GC-MS	NA	< 3.0
30	Indene	mg/L	GC-MS	NA	< 0.40
31	Methoxychlor	mg/L	GC-MS	NA	< 10.0
32	Nitrobenzene	mg/L	GC-MS	NA	< 2.0
33	Pentachlorophenol	mg/L	GC-MS	NA	< 100.0
34	Pyridine	mg/L	GC-MS	NA	< 5.0
35	Tetrachloroethylene	mg/L	GC-MS	NA	< 0.70
36	Toxaphene	mg/L	GC-MS	NA	< 0.50
37	Trichloroethylene	mg/L	GC-MS	NA	< 0.50
38	Vinyl Chloride	mg/L	GC-MS	NA	< 0.20
39	1,1-Dichloroethylene	mg/L	GC-MS	NA	< 0.70
40	1,2-Dichloroethane	mg/L	GC-MS	NA	< 0.50
41	1,4-Dichlorobenzene	mg/L	GC-MS	NA	< 7.50
42	2,4-D	mg/L	GC-MS	NA	< 10.0
43	2,4-Dinitrotoluene	mg/L	GC-MS	NA	< 0.13
44	2,4,5-TP (Silvex)	mg/L	GC-MS	NA	< 1.0
45	2,4,5-Trichlorophenol	mg/L	GC-MS	NA	< 400.0
46	2,4,6-Trichlorophenol	mg/L	GC-MS	NA	< 2.0
47	Carbon	%(w/w)	CHNS – CI Analyzer	44.01	–
48	Hydrogen	%(w/w)	CHNS – CI Analyzer	3.96	–
49	Nitrogen	%(w/w)	CHNS – CI Analyzer	0.41	–
50	Sulphur	%(w/w)	CHNS – CI Analyzer	0.27	–

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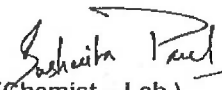
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(Chemist – Lab.)
Checked by


for,
Tarun Kumar Middya
(Asst. Manager – Lab.)
Authorized Signatory

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

MCPI'S Corporate Principle is:

To contribute to the economy and society of India through its business activities, establishing the interrelationship among people, society and nature.

MCPI has full-fledged **Safety, Health & Environmental Policy**. The SH&E Policy is enclosed as **Annexure – Va**

Following actions have been implemented for waste reduction & improving environmental compliance:

PTA Manufacturing Process Technology employs the following:

- Low utility consumption as by-produced energy even in a low level from the process is effectively recovered.
- High yield of PTA from Paraxylene
- Low acetic acid & catalyst consumption
- Process with stable operation.
- Recovery & recycling of by-products.

2. By-product Steam is used for driving low-pressure steam turbine & the off-gas from the paraxylene oxidation reactor is used for driving off-gas expander. Around 10 MW of power is generated from by produced steam & off-gas. Process air compressor, which requires around 15 MW of power is furnished with a motor & coaxially equipped with the steam turbine & the gas expander. Thus by-produced energy is effectively & efficiently recovered & reused for running the Air compressor. This also means reduction in use & conservation of natural resources ie Furnace oil.

3. Waste water (Process & domestic) is treated by extended activated sludge treatment (Diffused aeration system) with sludge cooler before discharge to the river so that treated effluent is well below the permissible limit so as to minimize any adverse effect on the aquatic life of the river. Wastewater treatment plant is continuously monitored through DCS (Distributed Control System).

4. Off gas from the para-xylene oxidation reactor is used for generating steam and for recovery of heat by passing through various heat exchangers. The acetic acid vapors are condensed & recycled back to the oxidation reactor thereby reducing the consumption of acetic acid which leads to reduction in resource consumption.
5. Low NO_x burner is used in Boiler & Hot oil for minimizing NO_x emission. Low NO_x DEG are used for power generation
6. Adequate stack height for all emissions so that GLC (Ground level concentration) of pollutant is well within the permissible limit. NO_x reduction from DEG & Incinerator in the expansion plant through diffusion & dispersion by providing increased stack height.
7. From 1st October-2013 onwards both incinerators are kept under shutdown.
8. Electrostatic precipitator (ESP) installed for controlling dust emission from the incinerator.
9. Suitable scrubbers are provided to decrease the level of organic pollutant in negligible range before emission.
10. On-line stack monitoring devices installed for both plants and continuous emission monitoring data is transferring to CPCB/WBPCB servers.
11. Storage tanks are provided for holding & storing influent before being feed to the ETP.
12. Greenbelt (around 33% of the total plant land) has been developed surrounding the factory for minimizing the effect of pollution & increasing aesthetic aspects. Yearly maintenance & development of the existing green belt are undertaken. At present, around **78000** trees are available. Moreover, a water body of capacity 3.5 lakh m³ also exists. Glimpses of MCPI greenbelt is attached as **Annexure -Vb**

13. Effluent & Storm water drains are segregated. In case of any spillage of chemicals in process section it is led into the underground sump pits from where it is fed to the ETP at a controlled rate for treatment.

14. Treated effluent from ETP after continuous monitoring of pH, COD, BOD & TSS is discharged to the river. New & dedicated wastewater treatment plant with Equalization tank installed for the new plant. Both the wastewater treatment plant is DCS controlled & on-line monitoring devices are installed at various stages. Installed on-line effluent monitoring system at the final discharge. Continuous treated effluent monitoring data is transferring to CPCB server.

15. Integrated Scrap yard for storing Hazardous as well as Non-hazardous solid waste has been constructed & in operation. Final disposal of hazardous waste is being done through TSDF at Haldia.

16. Double sealed equipment; mono pumps have been installed in highly volatile organic chemicals handling equipment in Expansion project to reduce VOC leaks at source

17. Resource Conservation

- a) Furnace oil consumption reduction by
 - PTA product quality optimization.
 - Hot oil heater burner replacement at periodic interval.
- b) Steam turbine/Gas expander capacity utilization of Air compressor section has resulted in Electricity consumption decrease.
- c) Used & Waste Oil is being periodically disposed off through Registered Recycler & Reprocessor. Initiative taken for Re-processing & taking back the contaminated Heat Transfer Oil into our system.

18. Energy Conservation

As the process technology itself is such that steam is generated as a by-product so it is effectively & efficiently used. Boiler is only required during Startup & Shut down of the process for steam generation.

- As a part of Energy conservation, Energy conservation committee has been formed in different buildings & Energy manager appointed. Several action plans have been formulated for energy savings
- As per the directions of WBPCB fuel changed from **FO to LSHS** in the all plant operations from the **May-2022**.
- More energy efficient light and motors have been installed.
- More energy efficient and highly modernized Air compressor is installed in expansion project.
- Conducting awareness Campaign on energy conservation at plant and company residential complexes.
- Condensate recovery Units are installed for re-cycling of Boiler Water.
- Conducting annual insulation audit through 3rd party agency to conserve heat energy.
- Conducting Steam Trap audit to conserve energy.

HEALTH, SAFETY & ENVIRONMENT (HS&E) POLICY

MCPI Private Limited (MCPI) is one of the leading manufacturers of Purified Terephthalic Acid (PTA) in India and is totally focused on improving its Health, Safety & Environment (HS&E) Performance.

The Organization is committed towards–

1. Maintaining a 'Safety First' Policy in all its operations.
2. Prevention of work related injury and ill health of workers, ensuring safe and healthy workplace.
3. Compliance with all applicable HS&E regulations and other legal requirements.
4. Eliminating Hazards where substitution is possible and identifying opportunities to reduce risks related to OH&S
5. Continual Improvement of the Occupational Health, Safety and Environment Management System and monitoring its effectiveness.
6. Protection of Environment and Prevention of pollution.
7. Consultation with and Participation of workers on all Health, Safety & Environmental issues.
8. Developing and improving awareness on HS&E activities within the organization and local communities.

Objective

Conduct entire operations to ensure :

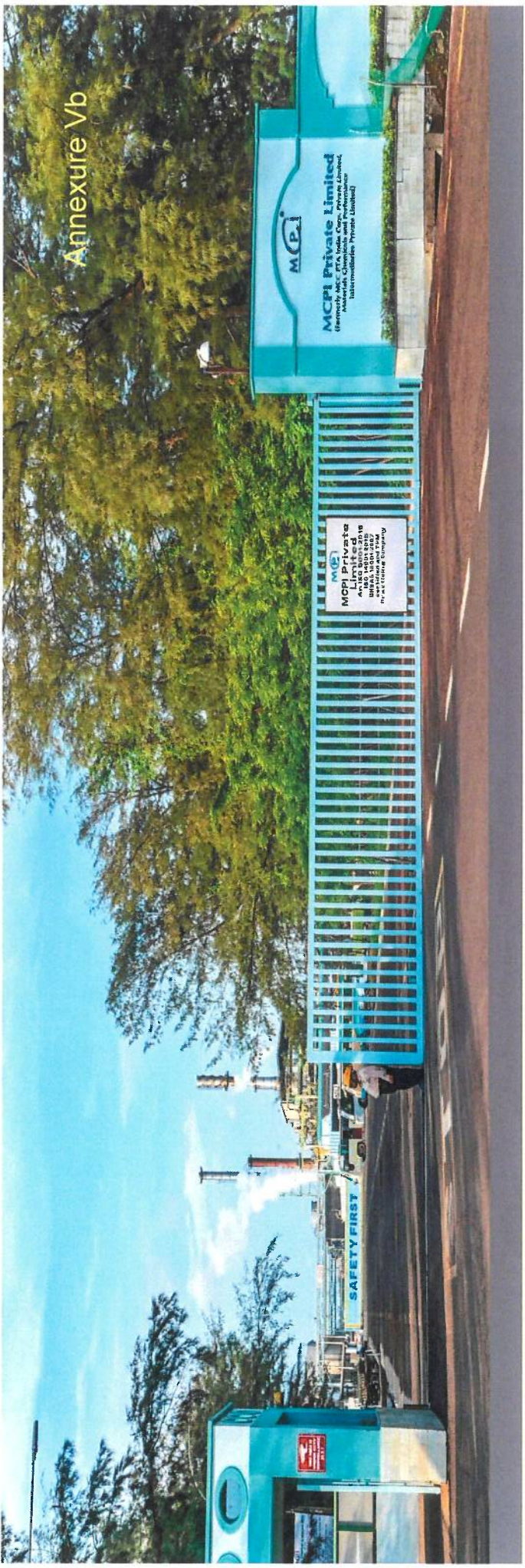
1. Accident free work environment and protection of workers from health hazards.
2. 100% compliance of regulatory requirements
3. Minimization of adverse impact on Environment by adopting new environmental norms.
4. Continual improvement of HS&E culture and propagation of the same among all stakeholders.

MCPI Private Limited



Occupier

October 20, 2020



Annexure Vb

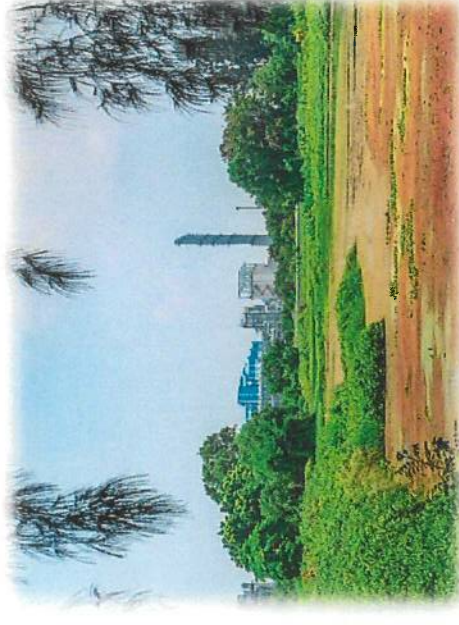


Glimpses of MCPI Green belt

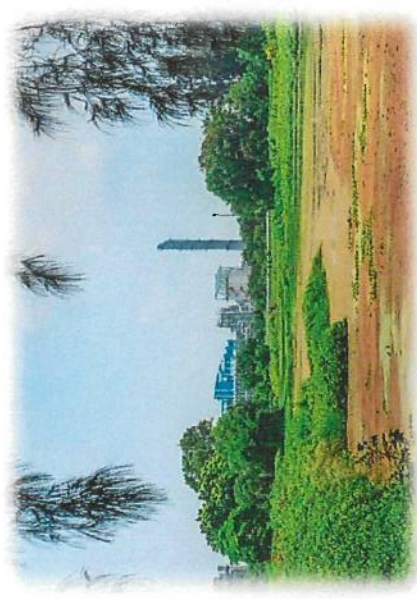
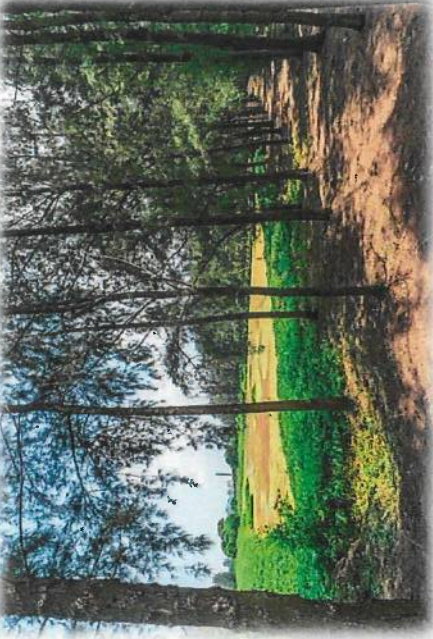




Migrated Birds in Green Belt

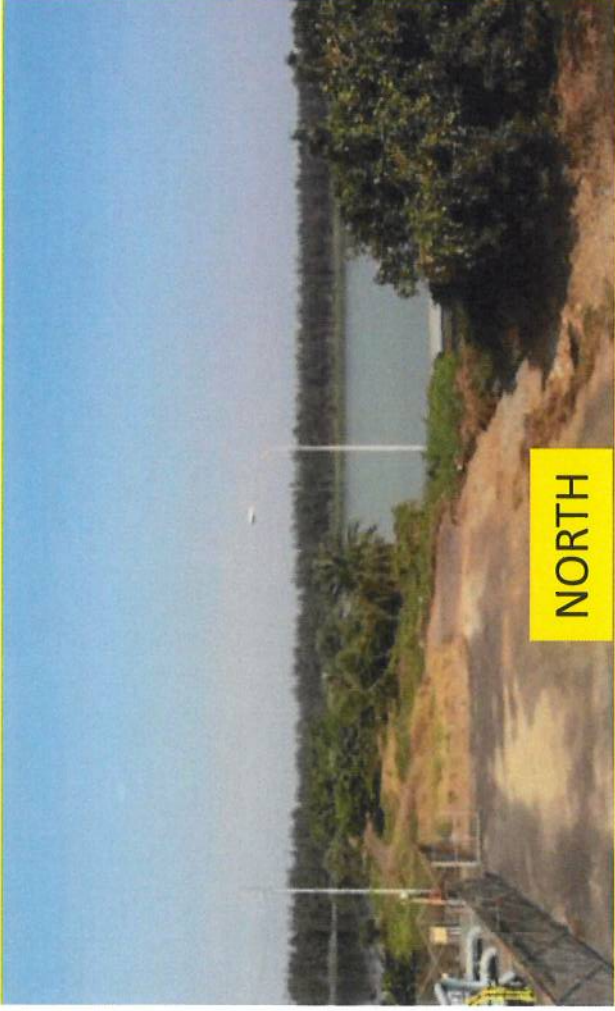


Green Belt



Green Belt



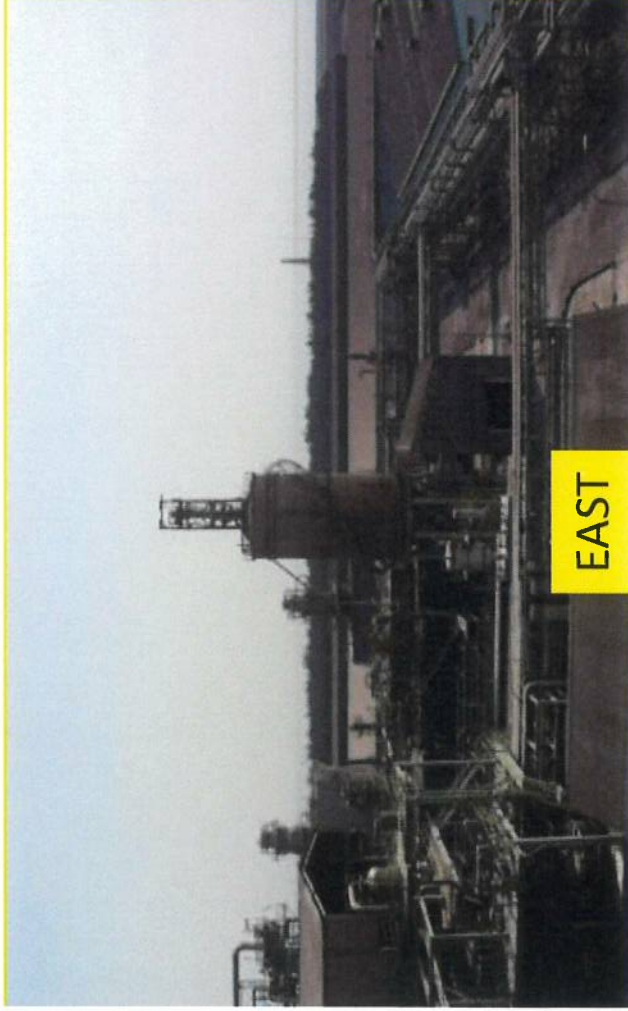


NORTH



SOUTH

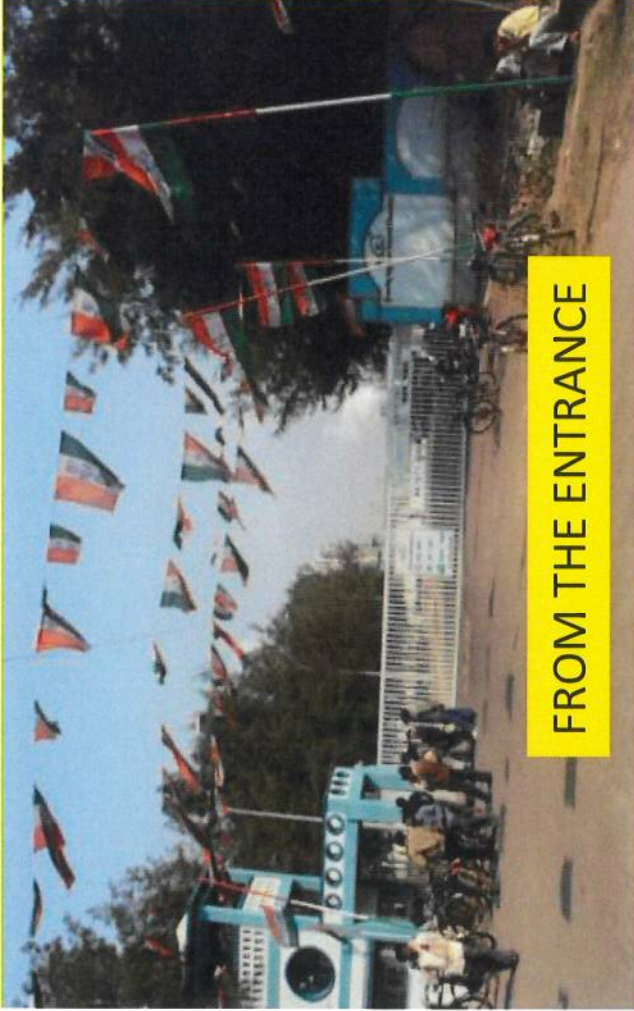
GREEN BELT THROUGHOUT THE BOUNDARY



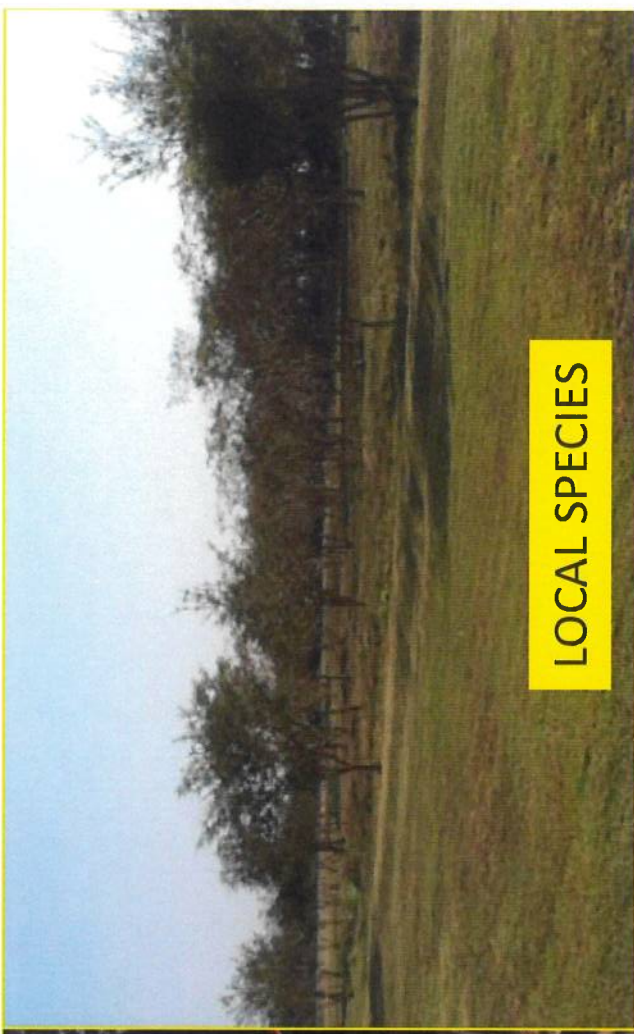
EAST



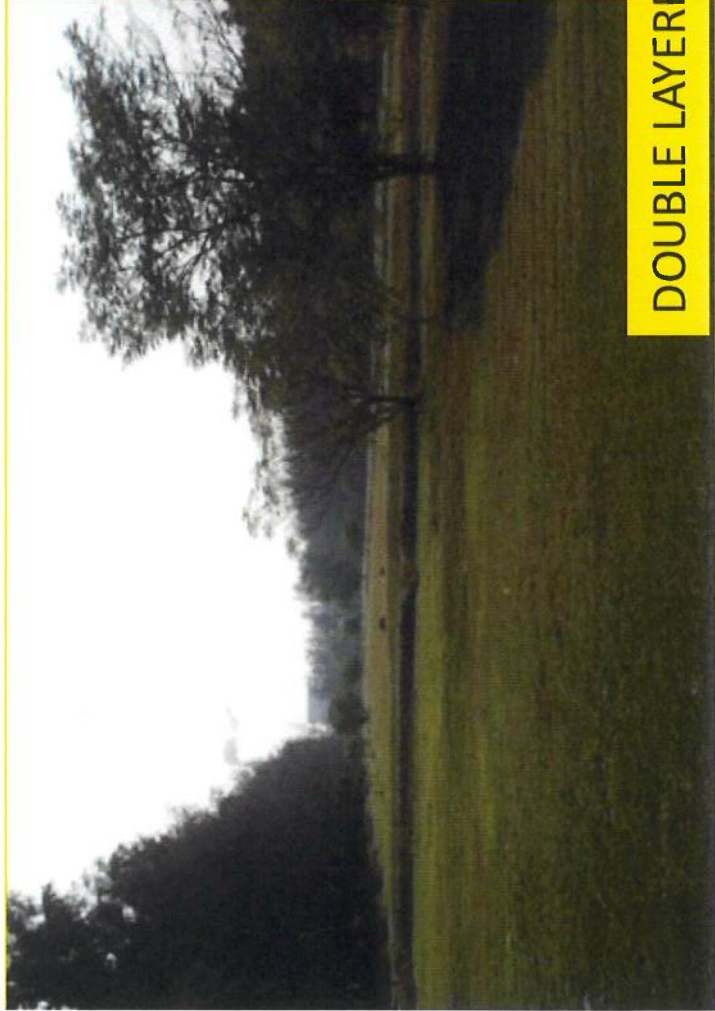
WEST



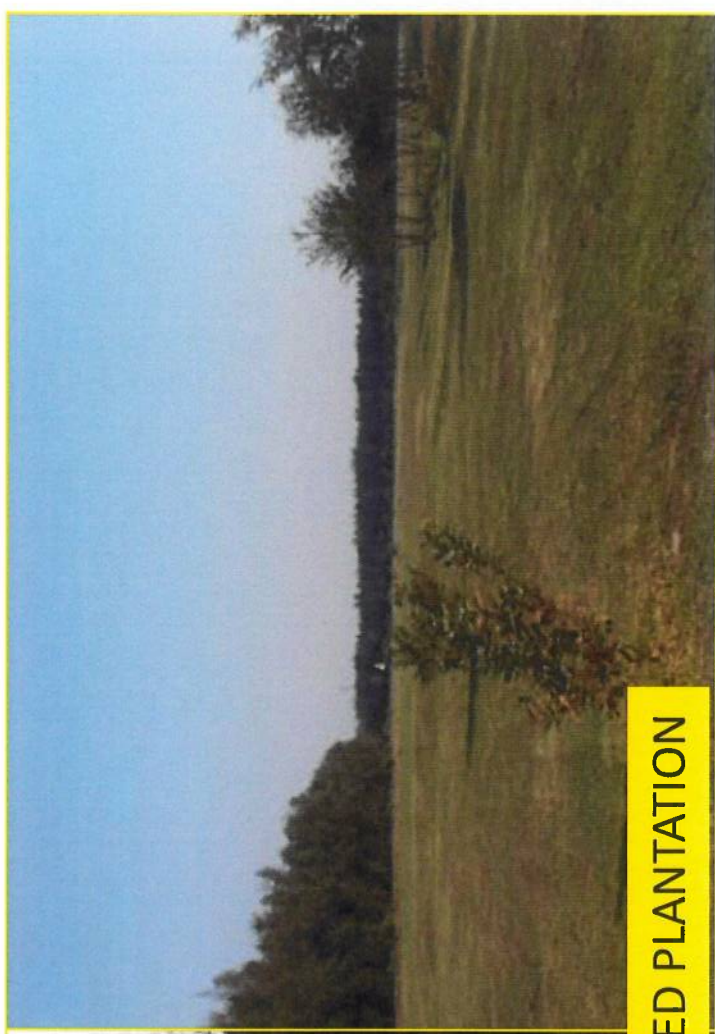
FROM THE ENTRANCE

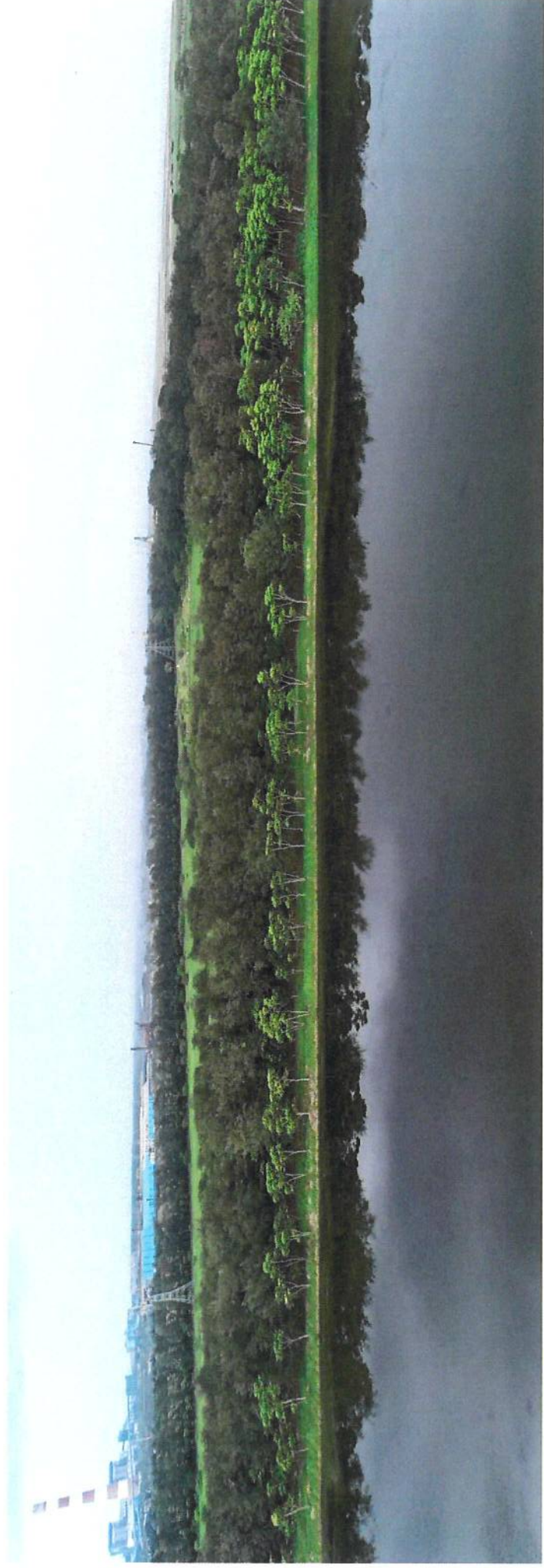


LOCAL SPECIES



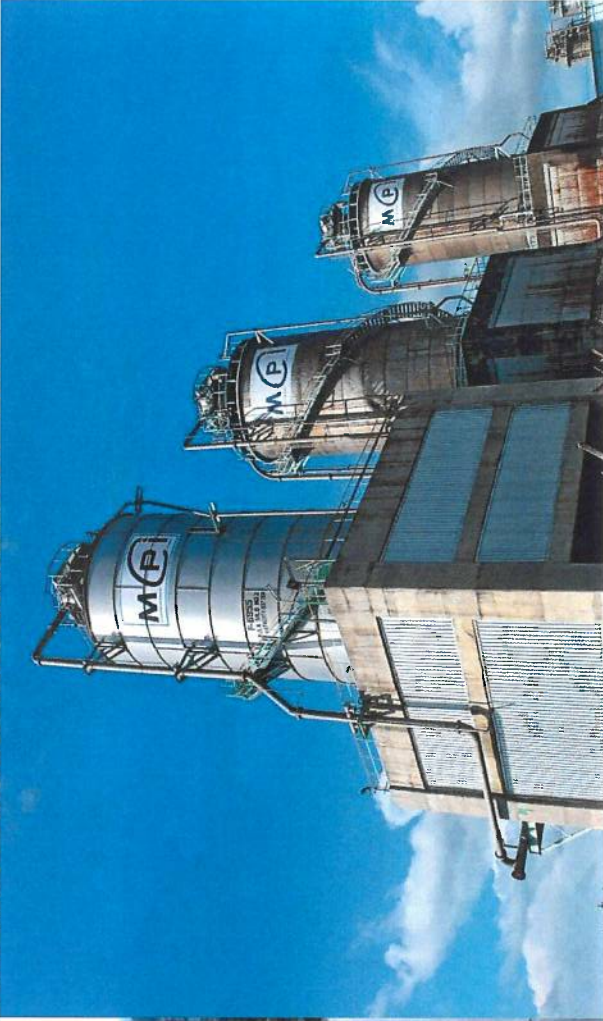
DOUBLE LAYERED PLANTATION





MCPI Private Limited

**(Formerly MCC PTA India Corp. Private Limited
Material Chemical Performance Intermediaries Private**



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

New Expansion Project:

- Some new PTA technology is being incorporated in this new project. The object are:
 - a) Better Environmental Compliance
 - b) Better Resource conservation
 - c) Energy Conservation
 - d) Reduction of fixed cost

Main highlights of the Project w.r.t Environmental protection are:

- i) Installation of Desulphurization units (Alkaline Scrubber) for SO_x reduction
 - ii) Off-gas burning unit for VOC reduction
 - iii) Azeotropic distillation to reduce COD load
 - iv) Incinerator & ESP with much higher design standard
 - v) Wastewater Treatment plant
 - vi) Fluidized bed dryer
 - vii) Flash drying etc.
 - viii) Installation of new sludge dryer for reduction of moisture from ETP sludge.
-
- Install Sedimentation cum Filtration Unit in the De-Sulphurisation Unit in order to separate SS before the ETP.
 - Co-processing of solid Hazardous waste (ETP & Process Sludge, Scrap PTA, PTA Liner, Oil & Chemical soaked cotton waste) with M/s OCL India Ltd (Dalmia Cement Unit). Dalmia Cement got the approval from Odisha State Pollution Control Board, so we are sending waste for Co-processing at M/s OCL India Ltd (Dalmia Cement Unit) – Odisha.
 - LDAR Monitoring has been done.
 - A Continuous On-line Ambient Air Monitoring Station has been installed within our premises and data is transferring to CPCB/ WBPCB servers.

- Continuous On-line stack emission monitoring system has been implemented in our old & new plant stacks on-line stack emission data is transferring to CPCB/ WBPCB servers.
- Continuous on-line effluent monitoring system has been installed at Final discharge outlet and on-line effluent monitoring data is transferring to CPCB server.

Hazardous Waste:

- All hazardous wastes are temporarily stored in Integrated Scrap Yard and finally disposed off through TSDF at Haldia periodically.

Green Belt:

- Around 3000 nos. of trees planted (Pollutant Attenuation Species) as a part of World Environment Day celebration in our existing & future green belt Annexure - **Via**

□

Emergency Preparedness:

- Adequate resources available for emergency tackling. MCPI have Mutual Aid agreement with IOC, HPL & PHBPL. Periodic emergency drills are conducted for maintaining highest level of preparedness.
- On-site Emergency mock drill conducted twice a year taking various probable scenarios for Emergency Preparedness.



REPORT ON

Annexure -V/a

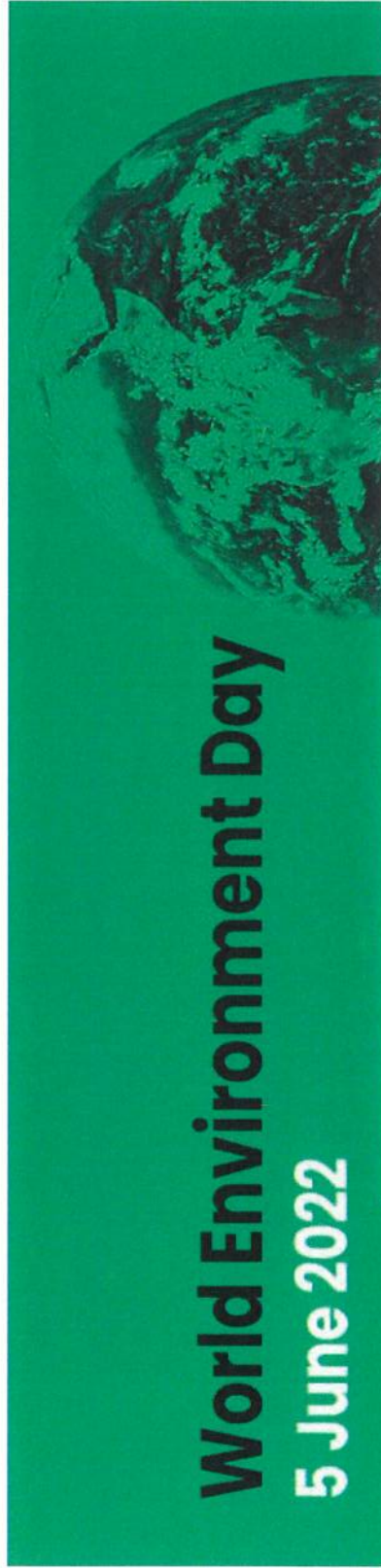
#OnlyOneEarth.



World Environment Day 5 June 2022



WORLD ENVIRONMENT DAY 2022



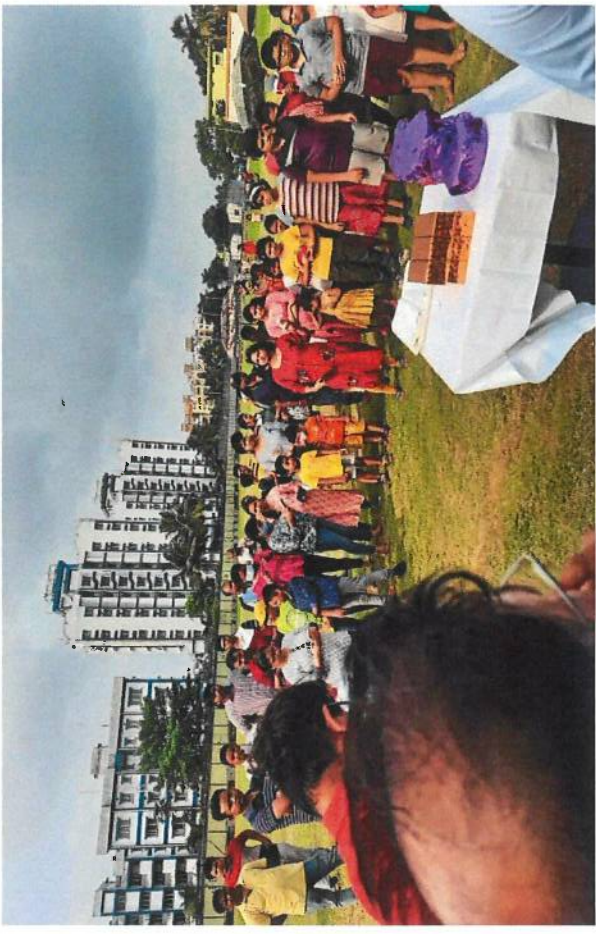
World Environment Day 5 June 2022

#OnlyOneEarth.



Celebration of World Environment day 2022 at Shataku-1

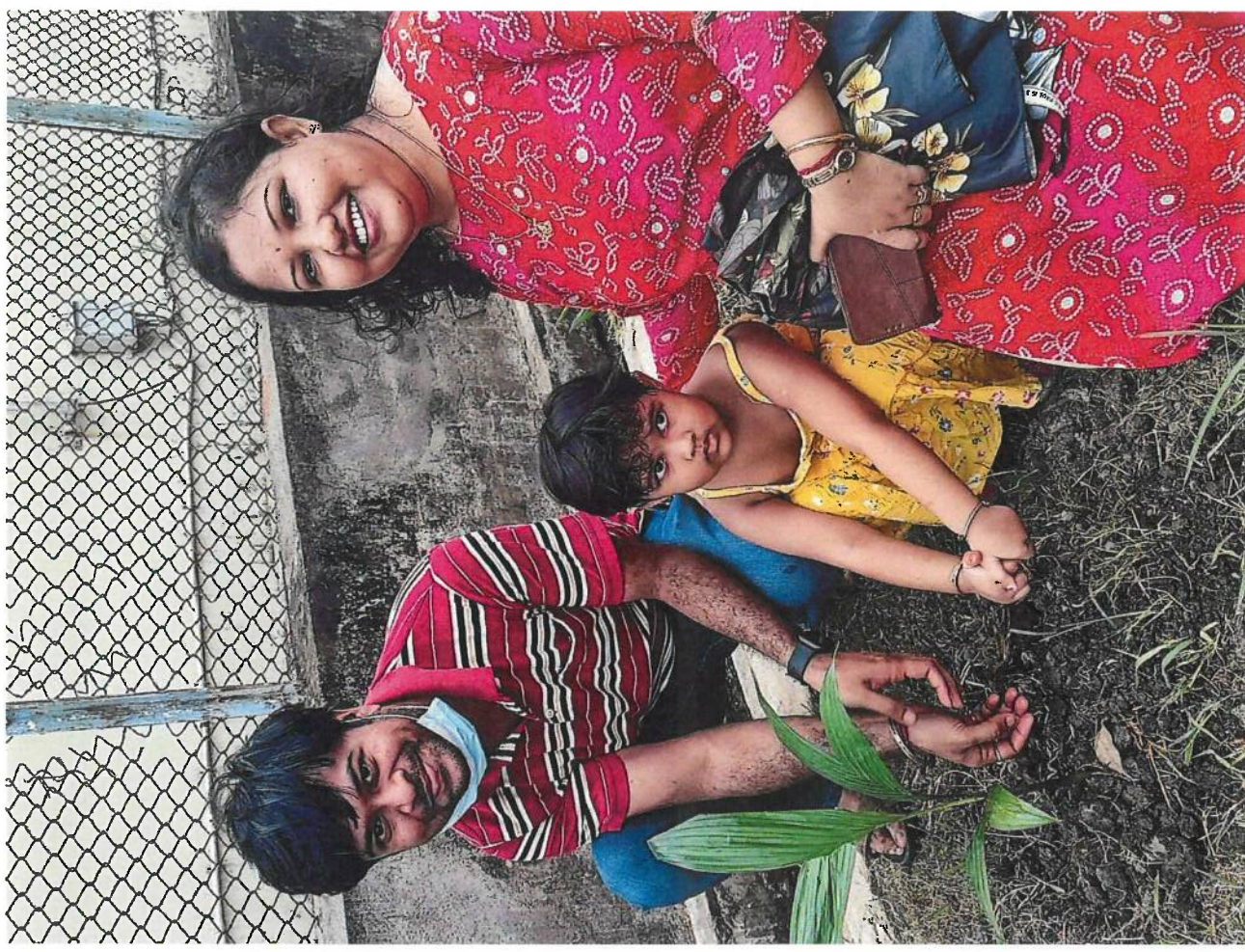
Plantation by SH-1 Family members





Celebration of World Environment day 2022 at Shataku-1

Plantation by SH-1 Family members



Drawing Winners prize Distribution at SH-1





Celebration of World Environment day 2022 at Shataku-1

Environment Quiz for SH-1 Kids & Family members



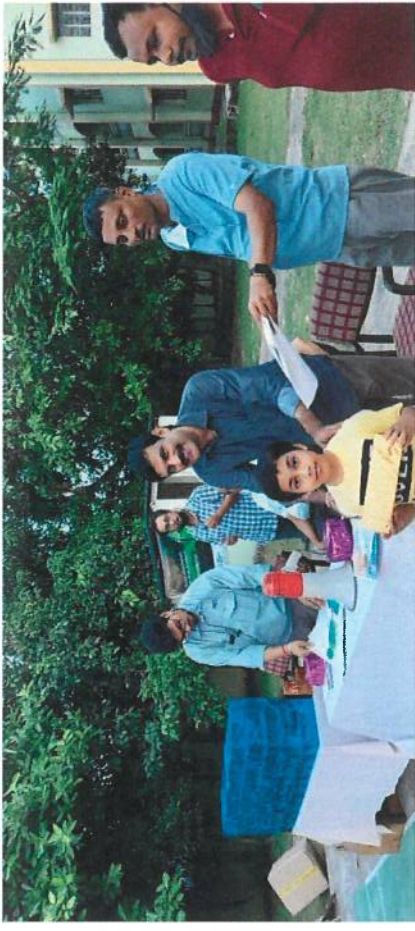
Plantation by SH-2 Family members





Celebration of World Environment day 2022 at Shataku-2

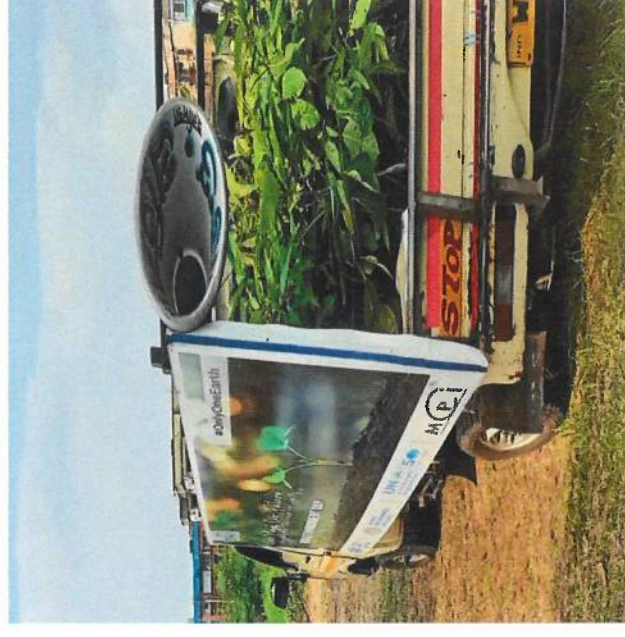
Drawing Winners Prize distribution & Quiz for SH-2 Kids & Family





CELEBRATION OF WORLD ENVIRONMENT DAY -2022

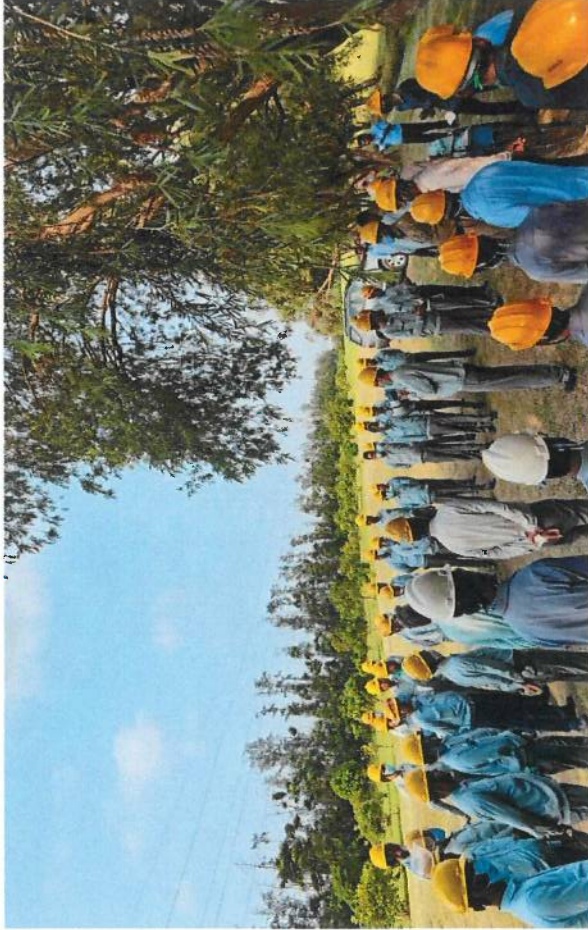
Tableau & Sapling Distribution to surrounding community



Special Spot Quiz on Environment at different departments in Plant



Plantation at Plant Green Belt





CELEBRATION OF WORLD ENVIRONMENT DAY -2022

Plantation at Plant Green Belt



**Gathering of MCPI employees for Tree plantation at Green Belt area
Under the leadership of Mr. A.C.Mishra – Plant Head on 5th June'2022**



THANK YOU

Any other particulars for improving the quality of the environment

Re-certified to Integrated Management System (ISO-9001:2015, ISO-14001:2015 & OHSAS-45001:2018).

MCPI is a signatory of Responsible Care programmed. Published Responsible Care report.

MCPI have got First position in Environment Excellence Award – 2004 in Industry sector.

MCPI got second position in SHE awards competition conducted by CII, Eastern Region in 2005.

MCPI got third position in National Safety Council Safety Award for the year 2006.

MCPI have got First position in Paryavaran Parirakshak Puraskar from Ramky Foundation – 2012 in Industry sector.

MCPI Private Limited - Winner of 14th ICC Environment Excellence Award (2020) Under the Large Industry Category of Chemicals & Petroleum

MCPI Private Limited – Selected for the Platinum Award for Chemicals & Petrochemicals Sector in Large Enterprise Category under ICC National Occupational Health and Safety Awards 2020

MCPI is also a member of District Crisis Group for Disaster management

MCPI have full- fledged Occupational Health center and manned round the clock. Periodic health checks up of all employees are conducted to ascertain the health status.

PLI Policy is being renewed periodically.

Stack Monitoring, Ambient Air monitoring, Work zone monitoring (Static), are being conducted periodically by 3rd party.

MoEF's Half yearly compliance report for the existing as well as for the new expansion project being submitted as per schedule.

World Environment day celebrated on every 5th June for increasing the environmental awareness. Besides periodic awareness in-house training is conducted for increasing the environmental & Safety awareness among the employees.

Japanese 5'S' model on Housekeeping has been adopted in our company since commercial production. The basic goal of the 5'S' system is to create clean, safe & work friendly environment by effective participation of all employees. In order to achieve the basic goal, Factory 5'S' committees for Housekeeping & improving the work environment have been formed. The action plan has been formulated starting with creating awareness within the employees followed by effective implementation & monitoring of 5'S' system by the respective departments. Regular 5'S' patrol & inter departmental audit in various sections of the plant are being conducted as per prepared schedule. The audit findings and counter measures for improvement of housekeeping standards are planned to implement in the meeting within specific target date. Every Friday of the week has been declared as 5'S' day and each member is responsible for cleaning his/her job area. As a part of 5'S' activity, regular cleaning of plant areas, drains & pits etc. are being done as per the schedule.

Quality Circle groups within the organization exist from various departments. These groups take different problem area in the working area including problems related to Safety, Health & Environment. These groups represent at regional, national as well as international levels.

MCPI have undertaken Corporate Social Responsibilities (CSR) programmed which includes commitment towards society for better environment through various initiatives like- Medical camp, Book distribution to children, eye check up etc. **Annexure- VIIb**

May 18, 2022

Mcpi Private Limited

Bengal Eco Intelligence Park, Tower, 1, Block Em, Plot No3, Salt
Lake City, Sector V, 3rd Floor, North 24 Parganas, West
Bengal-700091

Dear Customer,

Sub: Business Public Liability Insurance (Under PLI Act 1991) Policy No: 3133204166071501000

We thank you for having preferred us for your *Insurance* requirements. We at HDFC ERGO General Insurance believe "*Insurance*" as not only to be an assurance to indemnify in the event of unfortunate circumstances, but one that signifies protection and support, which you can count on when you need it most.

The Insurance Policy enclosed herewith is a written agreement providing confirmation of our responsibility towards you that puts insurance coverage into effect against stipulated perils.

Please note that the policy has been issued based on the information contained in the proposal form and / or documents received from you or your representative / broker.

Name of the Intermediary: Aon India Insurance Broker
Intermediary Code: 200445091293

Where the proposal form is not received, information obtained from you or your representative /broker, whether orally or otherwise, is captured in the policy document.

If you wish to contact us in reference to your existing policy and /or other general insurance solutions offered by us, you may write to our correspondence address as mentioned below. Alternatively, you may visit our website www.hdfcergo.com. To enable us to serve you better, you are requested to quote your Policy Number in all correspondences.

Thanking you once again for choosing HDFC ERGO General Insurance Company Limited and looking forward to many more years of association.

Yours sincerely,



Authorised Signatory

Public Liability Insurance (Under PLI Act 1991)

SCHEDULE

Policy No: 3133204166071501000

Item 1.	Insured	:	Mcpri Private Limited
Item 2.	Producer	:	Aon India Insurance Broker
Item 3.	Financial Interest	:	Not Applicable
Item 4.	Mailing address of the Insured	:	Bengal Eco Intelligence Park, Tower, 1, Block Em, Plot No3, Salt Lake City, Sector V, 3rd Floor, North 24 Parganas, West Bengal, 700091.
Item 5.	Pan Card Number	:	AAACM9169K
Item 6.	Business	:	Manufacturing
Item 7.	Policy Period	:	From 00:01 hours : 01 April 2022 To (Midnight) : 31 March 2023
Item 8.	Premium	:	Rs. 21,802.00
Item 9.	Premium & Coverage Statement	:	Refer to Page 2
	9.1 Premium Computation		
	9.2 Insurance Limits & Excess		
Item 10.	Clauses, Conditions & Warranties :		

Form Number	Form Name	Effective Date	Date Issued
PL-02-0032	Policy Schedule	1 April 2022	18 May 2022
PL-02-0031	Insurance contract	1 April 2022	18 May 2022

Subject otherwise to terms and conditions of Public Liability Insurance Policy.

Signed for and on behalf of HDFC ERGO General Insurance Company Limited, on 18 May 2022



Authorised Signatory

GST Registration No: 19AABCL5045N1Z5. The contract will be cancelled ab intio in case; the consideration under the policy is not realized.

" The stamp duty of ₹ 0.50 paid by Demand Draft, vide Receipt/Challan no. LOA/CSD/303/2022/1381 dated 28/03/2022 as prescribed in Government of Maharashtra Order No. Mudrank-2017/CR.97/M-1, dated the 09th January 2018".

Note: Where the proposal form is not received, information obtained from insured, whether orally or otherwise, is captured in the policy document. Discrepancies, if any, in the information contained in the policy document may be pointed out by an insured within 15 days from the policy issue date after which information contained in the policy document shall be deemed to have been accepted as correct.

Branch	4th Floor, Block- C, 22 Camac Street Kolkatta, 700016. Tel.: +91-22-39883600
---------------	--

Broker Name : Aon India Insurance Broker
Broker Code : 200445091293

Premium & Coverage Statement

(Item. 9 of Schedule, Attached to and forming part of Policy No: 3133204166071501000)

9.1 Premium Computation

Premium Details	Amount (Rs.)
Net Premium	10,001.00
GST 18% : Central Tax 9% (Rs. 900.09) + State Tax 9% (Rs. 899.91)	1,800.00
Add: Contribution to Environment Relief Fund	10,001.00
Total Premium	21,802.00
Invoice Number :	2051800816041
GSTN :	19AAACM9169K1ZU
Place of Supply	West Bengal
SAC Code	997139

9.2 Insurance Limits & Excess

Insurance Limits

Details	Amount (Rs.)
Each Accident Insurance Limit	50,000,000.00
Aggregate Insurance Limit	150,000,000.00

Excess

Compulsory Excess	Not Applicable
Voluntary Excess	Not Applicable

CSR PROJECTS : 2021-22

1	EYE Treatment for Poor People thro' Vivekananda Mission Asram.
2	Project for Blind School : To sponsor cost of i.Wooden Seat Bench & High Bench for Blind Students, or ii. Submersible Pump for water supply to Blind Girls
3	School Project : Sponsoring Cost of Construction of Toilet for Girl students in Joynagar H.S. School
4	Book distribution amongst poor students in Joynagar High School
5	In an Orphanage Home, Bharat Seva Mission, sponsoring cost of Construction of RCC Framed Room, renovation of temporary Shed etc., for lodging students of backward caste, damaged in AMPHAN
6	Rajlakhmi Bastralaya- Blanket Distribution
7	New Polithin- Blanket Distribution
8	Construction of SULABH TOILET outside MCPI-Plant
9	Songspathak Haldia Art & Cultural welfare society- Social awareness programme
10	TCG Foundation- through Vivekananda Mission Ashram, Haldia Township Sri Sri Ramakrishna Sevayatan, Pranavananda Siksha Niketan (KG School) and Iswarer Bagan KG Nursery School
11	TCG Centres for Research and Education in Science and Technology- Food Lab Project
12	IIT-KGP- Enhancement of battery related technologies

Photographs of the Project (Contd)



PHOTOGRAPHS OF GOODS CONTRIBUTED AND HANDING OVER



PHOTOGRAPHS OF GOODS CONTRIBUTED AND THE HANDING OVER CEREMONY



Photographs of Instruments Contributed and Handing Over Ceremony



