



GIL-CDR/ENV/2023-24/494

28.11.2023

To,
 Addl. Principal Chief Conservator of Forests (C),
 Regional Office (ECZ)
 Ministry of Environment, Forests & Climate Change
 2nd Floor, Headquarter- Jharkhand State Housing Board
 Harmu Chowk, Ranchi, Jharkhand - 834002

Sub: Submission of Six Monthly (April 2023 to September 2023) EC Compliance

Ref: MoEF EC letter no. J-11011/1213/2007-IA-II(I) Dated 11.02.2009

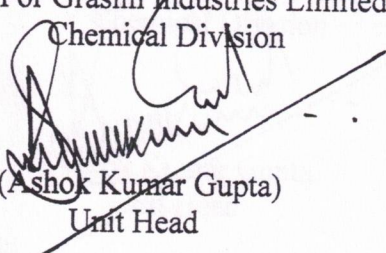
Dear Sir,

This has reference to the captioned subject and cited reference, we are herewith submitting six monthly Compliance report for the conditions stipulated in the Environment Clearance, for the period of April 2023 to September 2023 for your kind consideration.

Hope the above are in line with the statutory requirements.

Thanking you,

Yours faithfully,
 For Grasim Industries Limited,
 Chemical Division

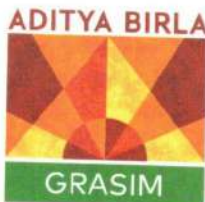

 (Ashok Kumar Gupta)
 Unit Head

Encl.: As above.

Copy to:

1. Regional Director, Regional Directorate (East), Central Pollution Control Board, Southern Conclave, Block 502, 5th and 6th Floors, 1582 Rajdanga Main Road, Kolkata – 700107 (W.B)
2. Member Secretary, Jharkhand State Pollution Control Board, T.A. Division Building, HEC Campus, Dhurwa, Ranchi – 834004 (Jharkahnd)
3. Regional Officer, Jharkhand State Pollution Control Board, E-1, CTI Colony, Dhurwa, Ranchi-834004 (Jharkahnd)





GIL-CDR/ENV/2023-24/494

28.11.2023

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Regional Office (ECZ)
Ministry of Environment, Forests & Climate Change
2nd Floor, Headquarter- Jharkhand State Housing Board
Harmu Chowk, Ranchi, Jharkhand - 834002

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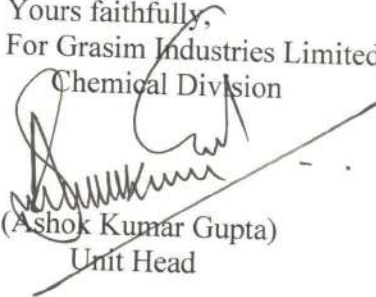
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Email grasim.rehla@adityabirla.com

Regd. Office P.O. Birlagram, Nagda 456 331 (M.P.)

ENVIRONMENTAL CLEARANCE COMPLIANCE STATUS REPORT

April 2023 to September 2023

**Six Monthly Compliance Status Report of
Environmental Clearance for Expansion of Caustic
Soda Lye Plant from 225 TPD to 550 TPD and CPP
from 30 MW to 60 MW**

(EC letter no. J-11011/1213/2007-IA-II(I) Dated 11.02.2009)



GRASIM INDUSTRIES LIMITED

CHEMICAL DIVISION REHLA

PALAMAU-822124 (JHARKHAND)

Email- grasim.rehla@adityabirla.com

Telephone- +91 6584 262211 / 221



A) Specific Conditions

- (i) **All the mercury cell operation shall be based on membrane cell and no mercury cell based operation shall be carried.**

Compliance Status:

- Mercury Cell based Caustic soda production was stopped in the year 2006. Membrane cell based technology is adopted for the production Caustic Soda.

- (ii) **The company shall install Waste Air De-chlorination (WAD) system with Sodium bi-sulphite for neutralizing chlorine emissions as waste gases from cell house and brine recycle and saturation. Demister shall be provided in Hydrochloric Acid Plant vents. The vent gases from Sodium hydrochloride plant and HCL acid plant shall be controlled at source by effective absorption system so that Chlorine concentration in the vent gases shall not exceed 5 ppm.**

Compliance Status:

- Unit has installed Waste Air De-chlorination system to control the chlorine emission at source by effective absorption system and to arrest the concentration within the limit.
- Chlorine Concentration in the vent gases is maintained within the prescribed limit, which is being monitored through OCEMS as well as manual sampling & analysis methodology. NABL Accredited Laboratory Analysis report attached as *Annexure 1*.

- (iii) **The Company shall install Chlorine gas detectors to detect leakage of Chlorine at liquid Chlorine storage tanks, Sodium hypo plant, HCL synthesis unit and Electrolysis area. The Company shall install on-line analyzer in HCL plant and hypo stack with recording facility.**

Compliance Status:

- Unit has installed chlorine gas detector at different locations of plant including liquid chlorine storage, Sodium hypo plant, HCL synthesis and electrolysis area. List of installed CI sensors attached as *Annexure 2*.
- OCEMS having connectivity with JSPCB and CPCB server is installed in HCL and Sodium Hypo stack.

- (iv) **Cyclone & ESP to the CFBC boiler of power plant with inter locking facility, Dust extractor & bag filter to coal handling plant and pneumatic & closed ash collection & conveying system shall be provided in power plant for control of particulate emission below 100mg/Nm³.**

Compliance Status:

- Unit has an appropriate arrangements of interlocking system & efficient Air pollution control devices at different source type for controlling the particulate emission below the prescribed standards.
- NABL Accredited Laboratory Analysis report attached as *Annexure 1*.

- (v) **The company shall provide the monitoring arrangement with vents and regular monitoring shall be carried out and reports submitted to Jharkhand SPCB, CPCB and Ministry's Regional Office at Ranchi.**

Compliance Status:

- Unit has provided the monitoring arrangement with all stacks and vents and the regular monitoring report is being submitted to nodal agencies. Apart from that GIL has also



**Six Monthly Compliance Status Report for Environmental Clearance
Letter No. J-11011/1213/2007-IA-II(I) Dated 11.02.2009**

installed Online Continuous Monitoring system with the connectivity to JSPCB and CPCB server. Also, OCEMS report is being submitted to CPCB & SPCB on a weekly basis. Weekly Report Communication attached as *Annexure 3*.

- (vi) **Fugitive emissions in the work zone environment, product and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by Jharkhand SPCB**

Compliance Status:

- Fugitive emission monitoring is being done regularly, and the emissions are within specified limit as prescribed by SPCB.
- Fugitive emission report is attached in *Annexure 1*.

- (vii) **The water requirement and waste water generation shall not exceed 9888 KLD and 840 KLD respectively.**

Compliance Status:

- The average water requirement between April 2023 to September 2023 was 7087 KLD against 9888 KLD and average waste water generation between April 2023 to September 2023 was 486 KLD against 840 KLD. All the waste Water generated from plant is being treated through ETP & RO plant and RO reject is being treated through MEE+ATFD plant.

Month	Water Drawl Month (KL)	Water Drawl (KLD)
Apr-23	213149	7105
May-23	225787	7283
Jun-23	196988	6566
Jul-23	221519	7146
Aug-23	233283	7525
Sep-23	206870	6896
Average Water Drawl (KLD)		7087

- (viii) **The company shall install full-fledged effluent treatment plant to treat the waste water generated from the plant including RO system to recycle or reuse all the treated wastewater.**

Compliance Status:

- Unit has installed centralized ETP with additional facility (i.e. MEE and ATFD) for achieving zero liquid discharge to treat the waste water, And the same was informed to JSPCB vide letter no. GIL-CDR/UH/ENV/2019-20/4019 Dated 29th September 2019. (Photographs attached in *Annexure 4*)

- (ix) **Green belt shall be developed in 24.62 acre out of total 81.94 acre to mitigate the effects of fugitive emissions all around the plant. The development of green belt shall be as per the Central Pollution Control Board guidelines.**

Compliance Status:

- Unit already have a green belt area of 33% & above. Aside, unit is continuously identifying the places & planting the sapling within & nearby the premises to develop the denser green belt. In the FY 23-24 unit have distributed above 1200 saplings in the nearby areas to support & develop the greenery in the region. (Photographs attached in *Annexure 5*)

**Six Monthly Compliance Status Report for Environmental Clearance
Letter No. J-11011/1213/2007-IA-II(I) Dated 11.02.2009**

- Green Belt plan drawing submitted to MOEF Ranchi vide our letter no. GIL- CDR/ ENV/ MOEF/ 18-19/3233 Dated 10th July 2018.

(x) The fly ash generated from the power plant shall be handled pneumatically and disposed of in accordance with the provisions of Fly Ash Notification, 2003.

Compliance Status:

- Fly Ash is being handled & disposed of in accordance with the provisions of Fly Ash Notification Rules 2016 and as amended. Unit have a dedicated silo for the storage of Ash & the these are further being sent to Cement Manufacturing, NHAI etc. for its final utilisation. (Photographs attached in *Annexure 4*).
- Annual implementation report of FY 2022-23 has been submitted to board vide our letter no. GIL-CDR/ENV/2023-24/51 Dated 24th April 2023.

(xi) The hazardous wastes generated from the plant shall be disposed of in accordance with the Hazardous Waste (Management and Handling) Rules 1989 and as amended.

Compliance Status:

- Hazardous Waste generated from plant is being disposed at authorized CHW-TSDF in Jharkhand as per Hazardous & other Waste Rules, 2016 and as amended. Also, the disposal Quantity along with White Manifest or Form 10 is being submitted on a monthly basis to the Board.
- Details of Hazardous Waste Disposal & Recycling is attached as *Annexure 5*.

(xii) During transfer of materials, spillages shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.

Compliance Status:

- Unit is being maintained with adequate measures, to avoid any spillage and to comply the stipulated condition.

(xiii) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

Compliance Status:

- Occupational Health surveillance of the workers are being done timely & the records are being maintained as per the Factories Act.

(xiv) Training shall be imparted to all employees on safety and health aspects of chemicals handling. As informed to the Ministry, OHSAS 18001 shall be continued. Pre- employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.

Compliance Status:

- Regular Trainings are being delivered to the employees and workers on various aspects of safety & health and handling of chemicals.
- Pre-employment and routine periodical medical examinations for all employees are being done on regular basis and the records are being maintained.

(xv) Usage of PPEs by all employees/ workers shall be ensured

Compliance Status:

- Usage of PPE's by all employees/ workers are being ensured and strictly followed.
- (xvi) **The company shall strictly follow all the recommendations mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP) for Caustic Soda plant.**

Compliance Status:

- Unit has followed & implemented the recommendations mentioned in the CREP for caustic soda plant e.g. Switch from Mercury Cell based Caustic soda production technology to Membrane cell based technology for the production Caustic Soda
- (xvii) **The company shall comply with all the commitments made during public hearing held on 28th August, 2008.**

Compliance Status:

- Unit has ensured and complied the Commitments made during public hearing held on 28th August 2008.
- (xviii) **Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.**

Compliance Status:

- Unit has Complied the stipulated condition.

B) General Conditions

- (i) **The project authorities shall strictly adhere to the stipulations of the SPCB/State government or any statutory body.**

Compliance Status:

- We are abiding by all the compliance conditions made by SPCB/state government or any statutory body.
- (ii) **No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.**

Compliance Status:

- Agreed & it is being complied. No further expansion beyond the existing capacity in the plant will be carried out without prior approval from statutory body.
- (iii) **At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.**

Compliance Status:

- Agreed & it is being complied. Site is already equipped with the Air pollution control systems. All processes and flue gas stacks are monitored through online monitoring system, which is connected to JSPCB and CPCB server.
- (iv) **The gaseous emissions (SO₂, NO_x, HCL, CO) and particulate matter along with RSPM levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.**

Compliance Status:

- Gaseous emission and particulate matter along with RSPM levels from various process units are within prescribed limits and are also been monitored through online monitoring system.
- NABL accredited laboratory analysis report attached as *Annexure 1*.
- (v) **The locations of ambient air quality monitoring stations shall be reviewed in consultation with the State Pollution Control Board (SPCB) and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated.**

Compliance Status:

- Locations of the Ambient Air Quality Monitoring Station were reviewed and based on the GLC study, unit has installed the CAAQMS at 04 locations and all the stations are well connected with JSPCB server.
- (vi) **Dedicated scrubbers and stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided to control the emissions from various vents. The scrubbed water shall be sent to ETP for further treatment.**

Compliance Status:

- Stack height is appropriate as per the guideline and Dedicated Scrubbers are there in HCL and Sodium Hypo to Control HCL Mist & Chlorine.
- (vii) **All the storage tanks will be under negative pressure to avoid any leakages. Breather valves, N₂ blanketing and secondary condensers with brine chilling system shall be provided for all the storage tanks to minimize vapour losses. All liquid raw materials shall be stored in storage Tanks and Drums.**

Compliance Status:

- Stipulated conditions are being complied, as the storage tanks are well maintained under negative pressure to avoid any leakages. Even other adequate measures are in its place to minimize vapour losses.
- (viii) **The company shall undertake following Waste Minimization measures.**
 - **Metering and control of quantities of active ingredients to minimize waste**
 - **Reuse of by-products from the process as raw material substitutes in other processes**
 - **Use of automated filling to minimize spillage**
 - **Use of "Closed Feed" system into batch reactors.**
 - **Venting equipment through vapour recovery system**
 - **Use of high pressure hoses for equipment cleaning to reduce waste water generation**



Compliance Status:

- GIL has taken following measures to reduce waste:
 - a) Site is using washed / super washed salt to minimize waste
 - b) Site is using Chlorine by-product in production of Stable Bleaching Powder as well as Anhydrous Aluminium Chloride
 - c) All products are filled through this methodology like Stable Bleaching Powder, Anhydrous Aluminium Chloride and Caustic Flakes.
 - d) Products are made through this methodology to avoid waste
 - e) Appropriate Venting equipment's are provided.
 - f) Site is continuously working on this methodology to reduce the waste water generation during equipment cleaning

(ix) The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules- 1989 as amended in October, 1994 and January, 2000 and Hazardous Waste (Management and Handling Rules, 1989, as amended from time to time. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous waste.

Compliance Status:

- We are abiding by all the rules & guidelines of the conditions stipulated. Unit has a valid authorization (No. JSPCB/HO/RNC/HWM-11254322/2022/09 Dated 30/03/2022) from JSPCB for Generation, Storage, Transportation, Utilisation and Disposal of Hazardous Waste.

(x) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

Compliance Status:

- Noise level in and around the plant area are being monitored periodically and the level is within prescribed limit. NABL Accredited Laboratory Analysis report attached as *Annexure 1*.
- Aside Personal Protective Equipment's have been provided to the employees to avoid any accompanied noise hazards. Also facilities like acoustic hoods, silencers, enclosures etc have been provided to reduce noise at source.

(xi) The company shall develop rain water harvesting structures to harvest the run-off water for recharge of ground water and to reduce requirement of the fresh water.

Compliance Status:

- Unit has followed the rain water harvesting methodology and installed the system at several locations for water conservation, as per the approved plan by Central Ground Water Department, Ranchi vide Letter No. G.W.D- 252/Ranchi Dated 28.05.2012. Aside unit have developed additional RWH points at different locations, covering total catchment area of 7900 square meter & above. (RWH location details attached as *Annexure 6*)

(xii) The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the



environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.

Compliance Status:

- Complied, Eco Developmental plan was Submitted Vide our letter no.- ABCIL/GM(O)/JSPCB/2009-10/2104A Dated – 02.05.2009.
- Socio economic development or community welfare activities are regularly undertaken in and around the area. The development activities undertaken in the surrounding community are need based and are in the field of health care, infra development, drinking water, Training & education like on agricultural practices, self-employment, etc. (Photographs attached as *Annexure- 4*)

(xiii) The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report.

Compliance Status:

- All the environmental protection measures & safeguards such as ETP, APCEs, Hazardous Waste proper handling, transfer and disposal are being complied in accordance with the EIA/EMP report. (Photographs attached as *Annexure- 4*)

(xiv) A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

Compliance Status:

- A separate Environmental Management Cell is constituted for the purpose of safeguarding environment, also the unit has a well-equipped & full-fledged laboratory facility to carry out the monitoring activities.

(xv) The project authorities shall earmark separate funds to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.

Compliance Status:

- Site has earmarked the separate funds for the environmental management activities. The fund is being spent on Waste Management, Air Pollution Control, Zero Waste Water Discharge and others including Greenery development, Online Monitoring, etc.

(xvi) The implementation of the project vis-a-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry/SPCB / CPCB. A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the Company.

Compliance Status:

- Six Monthly Compliance status report is being submitted to monitoring agencies and the same is being uploaded on the company website.
- Compliance report for the period OCT'22 to MAR'23 is submitted vide letter no. GIL-CDR/ENV/2023-24/102 Dated 23/05/2023

(xvii) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <http://envfor.nic.in>. This shall be advertised within seven days from

the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.

Compliance Status:

- Complied.

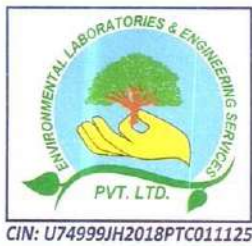


(xviii) The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.

Compliance Status:

- Complied, as the project has been already completed and the consent to operate has been issued by Jharkhand State Pollution Control Board.





ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2290103
Website : www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2023/3289	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/FA/3004
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: New Process Building
Plant Status	: Operational	Sampling Date	: 22.08.2023
Period of Analysis	: 24.08.2023 to 01.09.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Fugitive Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 31	2	Barometric Pressure (mmHg)	: 744
3	Relative Humidity (%)	: 63	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result
Chlorine (as Cl ₂)*	mg/Nm ³	GEL/SOP-01	0.57
Hydrogen Chloride (HCl)*	mg/Nm ³	GEL/SOP-01	0.11

Remarks: (*) – Parameters are outsourced to other Lab.



****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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CIN: U74999JH2018PTC011125

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
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GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com

Phone no.: 0651-2290103

Website : www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2023/3290	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/FA/3005
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Old Process Building
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 01.09.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Fugitive Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 30	2	Barometric Pressure (mmHg) : 744
3	Relative Humidity (%) : 66	4	Weather Condition : Partly Cloudy

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Result
Chlorine (as Cl ₂)*	mg/Nm ³	GEL/SOP-01	0.32
Hydrogen Chloride (HCl)*	mg/Nm ³	GEL/SOP-01	0.63

Remarks: (*) – Parameters are outsourced to other Lab.



****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in, eles.ranchi@gmail.com
Phone no.: 0651-2290103
Website : www.elespl.co.in



TC-8839

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2023/3282	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002066F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/2997
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: CPP Stack-1
Plant Status	: Operational	Sampling Date	: 22.08.2023
Period of Analysis	: 24.08.2023 to 28.08.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Boiler
2	Emission Due to	: Burning of Coal
3	Stack Connected to	: CPP Stack-1
4	Material of Construction of Duct	: MS
5	Stack Height from Ground Level (m)	: 80.0
6	Height of Sampling Port from Ground Level (m)	: 5.0
7	Inner Diameter of Duct at Sampling Point (m)	: 1.4 x1.927
8	Shape of the Duct	: Rectangular
9	Working Load of the Stack	: 74971 Ton/Month
10	Pollution Control System	: ESP
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: Coal
2	Fuel Consumption	:16681 Ton/Month
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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TC-8839

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2023/3282	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002066F	

NABL Accredited			
Discipline : Chemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part 1):1985: RA 2019	54
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	USEPA 6C :2017	369
Oxides of Nitrogen (NO _x)	mg/Nm ³	USEPA 7E :2020	91
Flue Gas Temperature	°C	IS 11255 (Part-3): 2008; RA 2018	130
Barometric Pressure	mmHg	IS 11255 (Part-3): 2008; RA 2018	744
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2008; RA 2018	22.19
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2008; RA 2018	146615



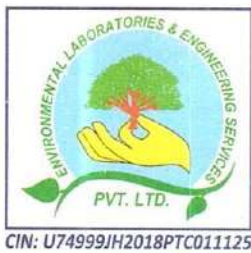
****End of Report****


Authorized Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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TC-8839

TEST REPORT

Test Report No. : ELES/RNC/2023/3283	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002067F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/2998
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: CPP Stack-2
Plant Status	: Operational	Sampling Date	: 22.08.2023
Period of Analysis	: 24.08.2023 to 28.08.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Boiler
2	Emission Due to	: Burning of Coal
3	Stack Connected to	: CPP Stack-2
4	Material of Construction of Duct	: MS
5	Stack Height from Ground Level (m)	: 110.0
6	Height of Sampling Port from Ground Level (m)	: 6.5
7	Inner Diameter of Duct at Sampling Point (m)	: 1.524 x 2.438
8	Shape of the Duct	: Rectangular
9	Working Load of the Stack	: 70244 Ton/Month
10	Pollution Control System	: ESP
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: Coal
2	Fuel Consumption	: 14937 Ton/Month
3	Calorific Value of Fuel (Kcal/Kg)	: N/A



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CIN: U74999JH2018PTC011125

TC-8839

TEST REPORT

Test Report No. : ELES/RNC/2023/3283	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002067F	

NABL Accredited

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	IS 11255(Part 1):1985; RA 2019	46
Sulphur Di-Oxide (SO ₂)	mg/Nm ³	USEPA 6C :2017	281
Oxides of Nitrogen (NO _x)	mg/Nm ³	USEPA 7E :2020	87
Flue Gas Temperature	°C	IS 11255 (Part-3): 2008; RA 2018	124
Barometric Pressure	mmHg	IS 11255 (Part-3): 2008; RA 2018	744
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2008; RA 2018	18.16
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part-3): 2008; RA 2018	167130



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Authorized Signatory

Dr. Deependra Kumar Sinha
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ELES Pvt. Ltd. Technical Manager

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TC-8839

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2023/3284	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002068F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/2999
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCL Furnace No.-B
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 28.08.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION	
1	Particular of the Plant : Caustic Plant
2	Emission Due to : Process Activity
3	Stack Connected to : HCL Furnace No.-B
4	Material of Construction of Stack : PVC/FRP
5	Stack Height from Ground Level (m) : 18.5
6	Height of Sampling Port from Ground Level (m) : 1.20
7	Inner Diameter of Stack at Sampling Point (m) : 0.15
8	Shape of the Stack : Circular
9	Working Load of the Stack : N/A
10	Pollution Control System : Wet Scrubber
11	Ladder & Platform : Permanent

FUEL CHARACTERISTICS DETAILS	
1	Type of Fuel Used : N/A
2	Fuel Consumption : N/A
3	Calorific Value of Fuel (Kcal/Kg) : N/A

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TEST REPORT

Test Report No. : ELES/RNC/2023/3284	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002068F	

NABL Accredited			
Discipline : Chemical	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Results
Flue Gas Temperature	°C	IS 11255 (Part- 3): 2008; RA 2018	37
Barometric Pressure	mmHg	IS 11255 (Part-3): 2008; RA 2018	745
Velocity of Flue Gas	m/sec	IS 11255 (Part- 3): 2008; RA 2018	5.23
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part- 3): 2008; RA 2018	280
Moisture Percentage	%	IS 11255 (Part- 3): 2008, RA 2018	10.7



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Authorised Signatory

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ELES Pvt. Ltd. Technical Manager

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TEST REPORT

Test Report No. : ELES/RNC/2023/3284	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/2999
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCL Furnace No.-B
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 01.09.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION	
1	Particular of the Plant : Caustic Plant
2	Emission Due to : Process Activity
3	Stack Connected to : HCL Furnace No.-B
4	Material of Construction of Stack : PVC/FRP
5	Stack Height from Ground Level (m) : 18.5
6	Height of Sampling Port from Ground Level (m) : 1.20
7	Inner Diameter of Stack at Sampling Point (m) : 0.15
8	Shape of the Stack : Circular
9	Working Load of the Stack : N/A
10	Pollution Control System : Wet Scrubber
11	Ladder & Platform : Permanent

FUEL CHARACTERISTICS DETAILS	
1	Type of Fuel Used : N/A
2	Fuel Consumption : N/A
3	Calorific Value of Fuel (Kcal/Kg) : N/A

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TEST REPORT

Test Report No. : ELES/RNC/2023/3284	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result
Hydrogen Chloride (HCl)*	mg/Nm ³	GEL/SOP-01	0.98

Remarks :(*)-Parameters are outsourced to other Lab.



****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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TC-8839

TEST REPORT

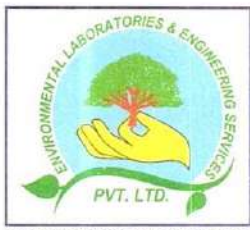
Test Report No. : ELES/RNC/2023/3285	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002069F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/3000
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCL Furnace No.-C
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 28.08.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION	
1	Particular of the Plant : Caustic Plant
2	Emission Due to : Process Activity
3	Stack Connected to : HCL Furnace No.-C
4	Material of Construction of Stack : PVC/FRP
5	Stack Height from Ground Level (m) : 40.8
6	Height of Sampling Port from Ground Level (m) : 35.1
7	Inner Diameter of Stack at Sampling Point (m) : 0.15
8	Shape of the Stack : Circular
9	Working Load of the Stack : N/A
10	Pollution Control System : Wet Scrubber
11	Ladder & Platform : Permanent

FUEL CHARACTERISTICS DETAILS	
1	Type of Fuel Used : N/A
2	Fuel Consumption : N/A
3	Calorific Value of Fuel (Kcal/Kg) : N/A

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CIN: U74999JH2018PTC011125

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TEST REPORT

Test Report No. : ELES/RNC/2023/3285	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002069F	

NABL Accredited


Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Results
Flue Gas Temperature	°C	IS 11255 (Part- 3): 2008; RA 2018	36
Barometric Pressure	mmHg	IS 11255 (Part-3): 2008; RA 2018	743
Velocity of Flue Gas	m/sec	IS 11255 (Part- 3): 2008; RA 2018	5.60
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part- 3): 2008; RA 2018	300
Moisture Percentage	%	IS 11255 (Part- 3): 2008, RA 2018	10.6



****End of Report****


Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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ENVIRONMENTAL LABORATORIES &

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Website : www.elespl.co.in

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2023/3285	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/3000
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCL Furnace No.-C
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 01.09.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: HCL Furnace No.-C
4	Material of Construction of Stack	: PVC/FRP
5	Stack Height from Ground Level (m)	: 40.8
6	Height of Sampling Port from Ground Level (m)	: 35.1
7	Inner Diameter of Stack at Sampling Point (m)	: 0.15
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2023/3285	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result
Hydrogen Chloride (HCl)*	mg/Nm ³	GEL/SOP-01	1.3

Remarks :(*)-Parameters are outsourced to other Lab.



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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TC-8839

TEST REPORT

Test Report No. : ELES/RNC/2023/3286	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002070F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/3001
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCL Furnace 810-A
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 28.08.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION	
1	Particular of the Plant : Caustic Plant
2	Emission Due to : Process Activity
3	Stack Connected to : HCL Furnace 810-A
4	Material of Construction of Stack : PVC/FRP
5	Stack Height from Ground Level (m) : 40.0
6	Height of Sampling Port from Ground Level (m) : 35.0
7	Inner Diameter of Stack at Sampling Point (m) : 0.15
8	Shape of the Stack : Circular
9	Working Load of the Stack : N/A
10	Pollution Control System : Wet Scrubber
11	Ladder & Platform : Permanent

FUEL CHARACTERISTICS DETAILS	
1	Type of Fuel Used : N/A
2	Fuel Consumption : N/A
3	Calorific Value of Fuel (Kcal/Kg) : N/A

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TC-8839

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2023/3286	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002070F	

NABL Accredited

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Results
Flue Gas Temperature	°C	IS 11255 (Part- 3): 2008; RA 2018	36
Barometric Pressure	mmHg	IS 11255 (Part-3): 2008; RA 2018	744
Velocity of Flue Gas	m/sec	IS 11255 (Part- 3): 2008; RA 2018	4.86
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part- 3): 2008; RA 2018	264
Moisture Percentage	%	IS 11255 (Part- 3): 2008, RA 2018	9.3



End of Report

Authorised Signatory

Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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TEST REPORT

Test Report No. : ELES/RNC/2023/3286	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/3001
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCL Furnace 810-A
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 01.09.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: HCL Furnace 810-A
4	Material of Construction of Stack	: PVC/FRP
5	Stack Height from Ground Level (m)	: 40.0
6	Height of Sampling Port from Ground Level (m)	: 35.0
7	Inner Diameter of Stack at Sampling Point (m)	: 0.15
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A



CIN: U74999JH2018PTC011125

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TEST REPORT

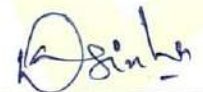
Test Report No. : ELES/RNC/2023/3286	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result
Hydrogen Chloride (HCl)*	mg/Nm ³	GEL/SOP-01	1.39

Remarks :(*)-Parameters are outsourced to other Lab.



****End of Report****



Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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TC-8839

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2023/3287	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002071F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/3002
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCL Furnace 810-B
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 28.08.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION	
1	Particular of the Plant : Caustic Plant
2	Emission Due to : Process Activity
3	Stack Connected to : HCL Furnace 810-B
4	Material of Construction of Stack : PVC/FRP
5	Stack Height from Ground Level (m) : 40.0
6	Height of Sampling Port from Ground Level (m) : 34.0
7	Inner Diameter of Stack at Sampling Point (m) : 0.15
8	Shape of the Stack : Circular
9	Working Load of the Stack : N/A
10	Pollution Control System : Wet Scrubber
11	Ladder & Platform : Permanent

FUEL CHARACTERISTICS DETAILS	
1	Type of Fuel Used : N/A
2	Fuel Consumption : N/A
3	Calorific Value of Fuel (Kcal/Kg) : N/A

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TC-8839

CIN: U74999JH2018PTC011125

TEST REPORT

Test Report No. : ELES/RNC/2023/3287	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002071F	

NABL Accredited

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Results
Flue Gas Temperature	°C	IS 11255 (Part- 3): 2008; RA 2018	35
Barometric Pressure	mmHg	IS 11255 (Part-3): 2008; RA 2018	744
Velocity of Flue Gas	m/sec	IS 11255 (Part- 3): 2008; RA 2018	4.91
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part- 3): 2008; RA 2018	269
Moisture Percentage	%	IS 11255 (Part- 3): 2008, RA 2018	8.7



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

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TEST REPORT

Test Report No. : ELES/RNC/2023/3287	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/3002
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCL Furnace 810-B
Plant Status	: Operational	Sampling Date	: 23.08.2023
Period of Analysis	: 24.08.2023 to 01.09.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: HCL Furnace 810-B
4	Material of Construction of Stack	: PVC/FRP
5	Stack Height from Ground Level (m)	: 40.0
6	Height of Sampling Port from Ground Level (m)	: 34.0
7	Inner Diameter of Stack at Sampling Point (m)	: 0.15
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A



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TEST REPORT

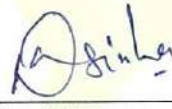
Test Report No. : ELES/RNC/2023/3287	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result
Hydrogen Chloride (HCl)*	mg/Nm ³	GEL/SOP-01	1.35

Remarks :(*)-Parameters are outsourced to other Lab.



****End of Report****


Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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CIN: U74999JH2018PTC011125

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA
HATIA, RANCHI-834003 (JHARKHAND)
GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com

Phone no.: 0651-2290103

Website : www.elespl.co.in



TC-8839

TEST REPORT

Test Report No. : ELES/RNC/2023/3288	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002072F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/3003
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Sodium Hypo Stack
Plant Status	: Operational	Sampling Date	: 22.08.2023
Period of Analysis	: 24.08.2023 to 28.08.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION	
1	Particular of the Plant : Caustic Plant
2	Emission Due to : Process Activity
3	Stack Connected to : Sodium Hypo Stack
4	Material of Construction of Stack : PVC/FRP
5	Stack Height from Ground Level (m) : 42.0
6	Height of Sampling Port from Ground Level (m) : 35.0
7	Inner Diameter of Stack at Sampling Point (m) : 0.25
8	Shape of the Stack : Circular
9	Working Load of the Stack : N/A
10	Pollution Control System : Wet Scrubber
11	Ladder & Platform : Permanent

FUEL CHARACTERISTICS DETAILS	
1	Type of Fuel Used : N/A
2	Fuel Consumption : N/A
3	Calorific Value of Fuel (Kcal/Kg) : N/A

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TEST REPORT

Test Report No. : ELES/RNC/2023/3288	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023
ULR No. : TC883923000002072F	

NABL Accredited

Discipline : Chemical

Group : Atmospheric Pollution

Parameter	Unit	Test Protocol	Results
Flue Gas Temperature	°C	IS 11255 (Part- 3): 2008; RA 2018	40
Barometric Pressure	mmHg	IS 11255 (Part- 3): 2008; RA 2018	745
Velocity of Flue Gas	m/sec	IS 11255 (Part- 3): 2008; RA 2018	6.52
Quantity of Gas Flow	Nm ³ /hr	IS 11255 (Part- 3): 2008; RA 2018	959
Moisture Percentage	%	IS 11255 (Part- -3):2008, RA 2018	10.8



End of Report

Authorised Signatory

Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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CIN: U74999JH2018PTC011125

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Phone no.: 0651-2290103
Website : www.elespl.co.in

TEST REPORT

Test Report No. : ELES/RNC/2023/3288	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2023/SM/3003
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Sodium Hypo Stack
Plant Status	: Operational	Sampling Date	: 22.08.2023
Period of Analysis	: 24.08.2023 to 01.09.2023	Sample Received Date	: 24.08.2023
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION

1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Sodium Hypo Stack
4	Material of Construction of Stack	: PVC/FRP
5	Stack Height from Ground Level (m)	: 42.0
6	Height of Sampling Port from Ground Level (m)	: 35.0
7	Inner Diameter of Stack at Sampling Point (m)	: 0.25
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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TEST REPORT


Test Report No. : ELES/RNC/2023/3288	Report Release Date : 02.09.2023
Service Order No. : 4400015473	Service Order Date : 03.06.2023

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result
Chlorine (as Cl ₂)*	mg/Nm ³	GEL/SOP-1	0.41

Remarks :(*)-Parameters are outsourced to other Lab.



****End of Report****


Authorized Signatory

Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Location Wise List of Chlorine Sensor

CL2 Filling Station:-		
S.No.	Tag No.	Location
1	CL2SNR-01A	CL2 FILLING STATION ,INFRONT OF INDRAJEET SINGH OFFICE
2	CL2SNR-01B	CL2 FILLING STATION, INFRONT OF STORAGE TANK F
3	CL2SNR-01C	CL2 FILLING STATION ,NEAR 250 NM3 COMPRESSOR
4	CL2SNR-01	CL2 FILLING STATION, EMPATY TONNER STORAGE AREA
5	CL2SNR-09	CL2 TONNER AREA , NEAR TONNER DEGASING HEADER
6	CL2SNR-17	CL2 TONNER AREA , PILLAR NO-07 FROM ROAD SIDE
7	CL2SNR-18	CL2 FILLING AREA , PILLAR NO-05 FROM ROAD SIDE
8	CL2SNR-19	CL2 FILLING AREA , NEAR BALANCE NO-06
9	CL2SNR-20	CL2 FILLING AREA , BETWEEN BALANCE NO 7 & 8
10	CL2SNR-21	CL2 FILLING AREA , BETWEEN BALANCE NO 1 & 2
11	CL2SNR-22	CL2 FILLING AREA , BETWEEN BALANCE NO 3 & 4
CL2 Storage Area :-		
12	CL2SNR-03	CHLORINE STORAGE TANK, BETWEEN CL2 STORAGE TANK 4 & 5
13	CL2SNR-01G	CHLORINE STORAGE TANK , BACK SIDE OF STORAGE TANK F
14	CL2SNR-01D	CHLORINE STORAGE TANK,BACK SIDE OF STORAGE TANK A
15	CL2SNR-01E	CHLORINE STORAGE TANK, NEAR LADDER ADJUSCENT TO STORAGE TANK A
16	CL2SNR-01F	CHLORINE STORAGE TANK, NEAR STORAGE TANK F
VAM Area :-		
17	CL2SNR-25	VAM AREA , NEAR ALCL3 VAPORISER
Brine Section :-		
18	CL2SNR-04	POLISH BRINE, OLD BUILDING
19	CL2SNR-23	NEW PRECOAT AREA , FIRST FLOOR FROM ROAD SIDE
SBP Section :-		
20	CL2SNR-12	SBP GODOWN, NEAR LOADING AREA
21	CL2SNR-13	SBP GODOWN , LEFT SIDE FROM MAIN ENTRY
22	CL2SNR-10	SBP PLANT , BACK OF DRUM NO-01
23	CL2SNR-11	SBP PLANT, BACK OF CL2 TANK
24	CL2SNR-30	SBP PLANT, IN GODOWN -A
25	CL2SNR-29	SBP PLANT, IN GODOWN -B
HCL Furnace Area :-		
26	CL2SNR-01J	HCL-FURNACE-C , TOP FLOOR
27	CL2SNR-01I	HCL-FURNACE-B , TOP FLOOR
28	CL2SNR-28	HCL-FURNACE-A , NEAR PIC602
29	CL2SNR-01H	HCL-FURNACE-A, TOP FLOOR

<u>Process / Cell House Area :-</u>		
30	CL2SNR-A1-1151	CELL HOUSE ,NEAR ELECTROLYSER B SAMPLE POINT
31	CL2SNR- 33	CELL HOUSE , NEAR ELECTROLIZER -E AT GROUND FLOOR
32	CL2SNR- 34	PROCESS BUILDING, NEAR SEAL POT AT FIRST FLOOR
33	CL2SNR- 35	PROCESS BUILDING, NEAR SEAL PH-802 AT GROUND FLOOR
<u>AlCl3 Area :-</u>		
34	CL2SNR-15	ALCL3 OLD REACTOR
35	CL2SNR-14	ALCL3 CYLINDER STORAGE
36	CL2SNR-16	ALCL3 NEW REACTOR
37	CL2SNR-31	ALCL3 NEW REACTOR NO. 11 AT 8 MTR HEIGHT
<u>Sodium Hypo Area :-</u>		
38	CL2SNR-A1-2602	SODIUM HYPO AREA , TOP FLOOR
<u>Evaporation Section :-</u>		
39	CL2SNR-08	EVAPORATION AREA , FIRST FLOOR
40	CL2SNR-02	EVAPORATION PLANT , 2ND FLOOR.
<u>Flaking Section :-</u>		
41	CL2SNR-24	FLAKING PLANT , FIRST FLOOR FROM ROAD SIDE
<u>Cl2 Compressor Room :-</u>		
42	CL2SNR-36	Near PIC-2001 IN COMPRESSOR AREA
43	CL2SNR-37	IN FRONT OF CL2 PLANT OFFICE
44	CL2SNR-38	COMPRESSOR AREA, NEAR FREON COMPRESSOR -A
45	CL2SNR-39	COMPRESSOR AREA, NEAR CL2 COMPRESSOR -E
<u>Cl2 Vaporiser Area :-</u>		
46	CL2SNR- 40	VAPORISER AREA, AT FIRST FLOOR
47	CL2SNR- 41	VAPORISER AREA, NEAR SURGE VESSEL
48	CL2SNR- 42	VAPORISER AREA, NEAR VAPORISER TANK
<u>Cl2 Liquifier Area :-</u>		
49	CL2SNR- 43	LIQUIFIER AREA, IN FRONT OF OLD VAM
50	CL2SNR- 44	LIQUIFIER AREA, NEAR CL2 FILTER AT FIRST FLOOR
<u>Boundary Wall of Plant Area :-</u>		
51	CL2SNR- 45	BOUNDRY WALL NEAR 80 Ton WEIGH BRIDGE
52	CL2SNR-32	AT WTP PLANT
53	CL2SNR-27	AT CAUSTIC STORAGE TANK- 4
54	CL2SNR-26	BOUNDRY WALL IN FRONT OF ALCL3 PLANT
<u>CPP:-</u>		
55	CL2SNR-CT	CPP-1 COOLING TOWER AREA

Kundan Kumar

From: Vikram Mani
Sent: 15 May 2023 09:46
To: ranchijspcb@gmail.com; cems.cpcb@nic.in; dinabandhu.cpcb@nic.in; 'roranchi47@gmail.com'
Cc: Ashokkumar Gupta; Sridhara Narasimha Sastry; Sanjay Singh; Ashok Kumar Singh; Videh Singh Parihar; Sourabh Dharwar; Kundan Kumar
Subject: Online CEMS & EQMS Monitoring data of Grasim Industries Limited, Chemical Division-Rehla
Attachments: FORBES_15.05.23.xlsx; NEVCO_15.05.23.xlsx

Dear Sir,

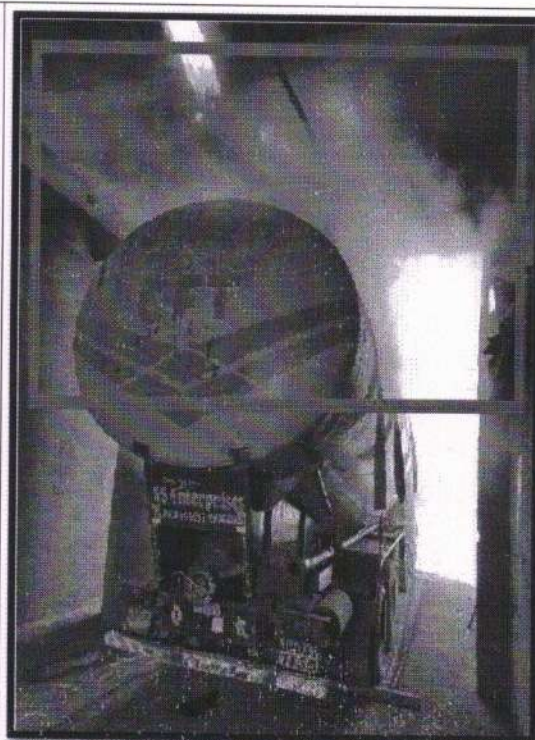
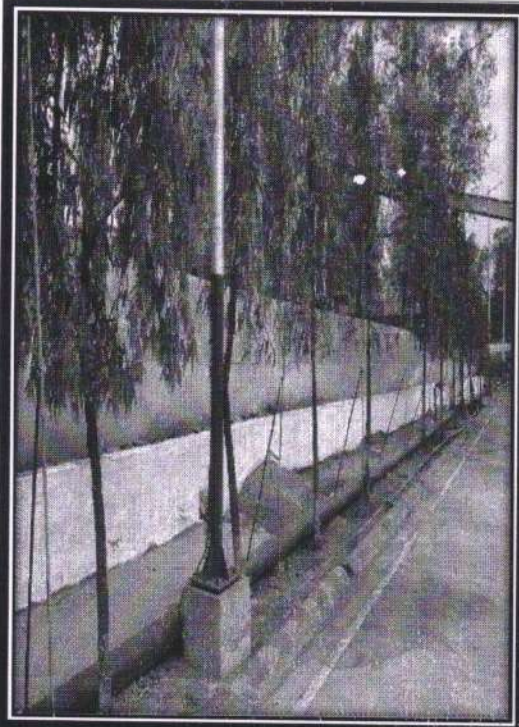
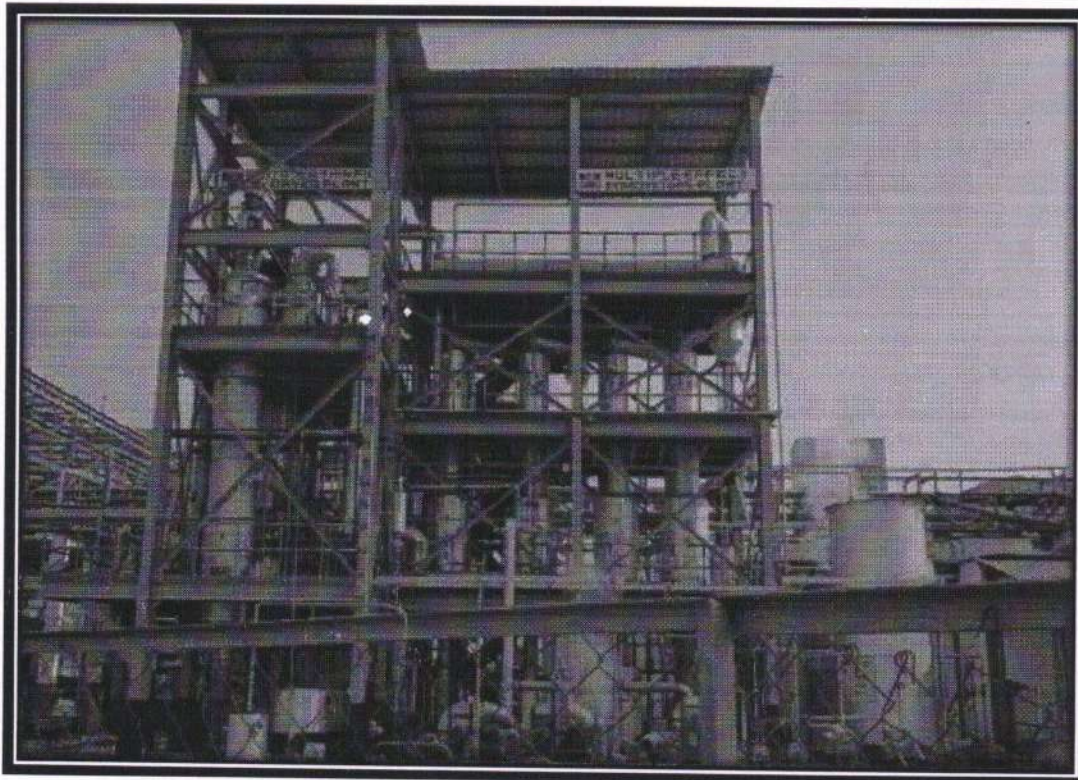
Weekly monitoring data for the period 08.05.2023 to 14.05.2023 of our plant Grasim Industries Limited, Chemical Division-Rehla, for parameters HCl Furnace A&B and C, Sodium Hypo Stack, CPP 1 & 2 Stack and TSS, pH & Flow (Effluent) is attached herewith.

This is for your kind information.

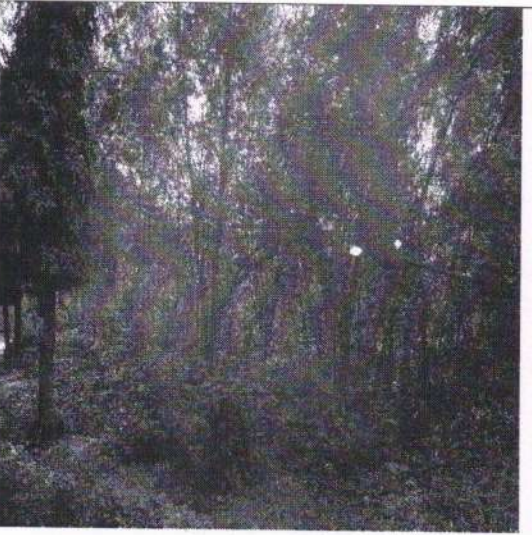
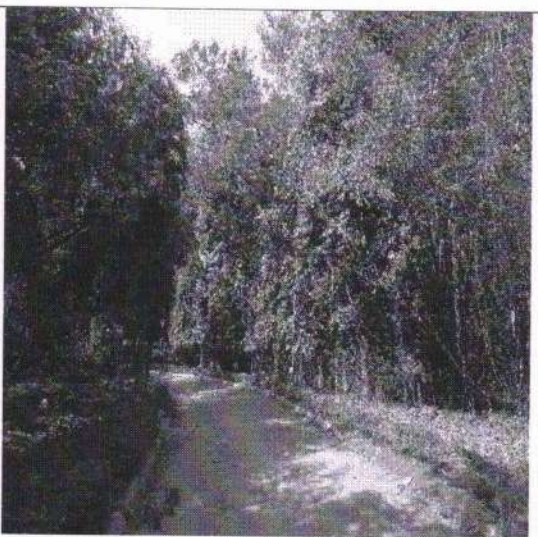
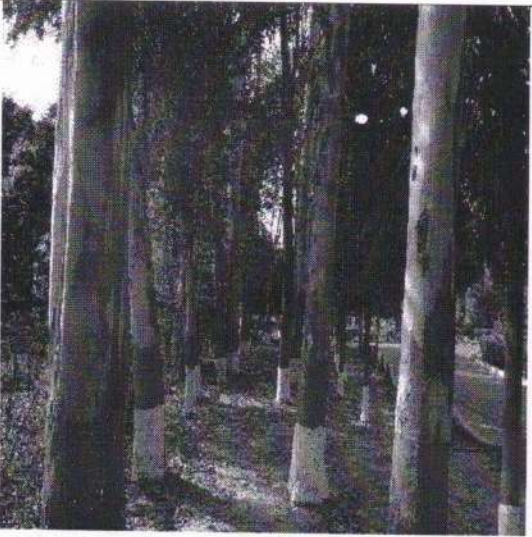
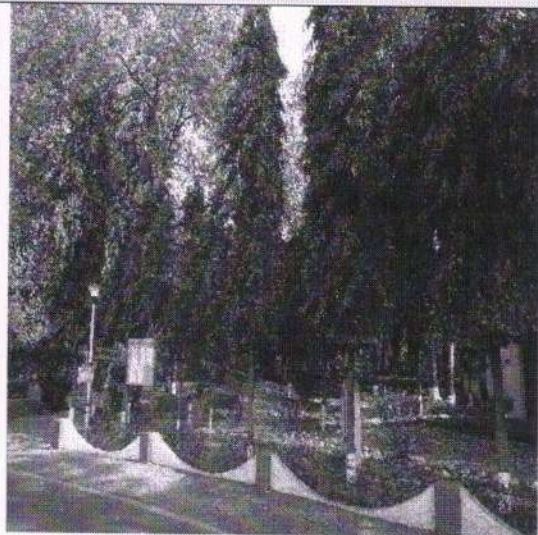
Thanking you.

Regards,
Vikram

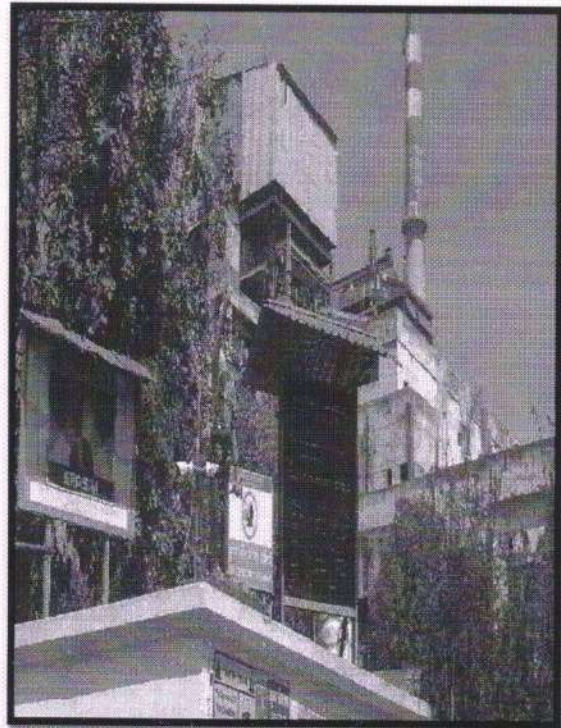
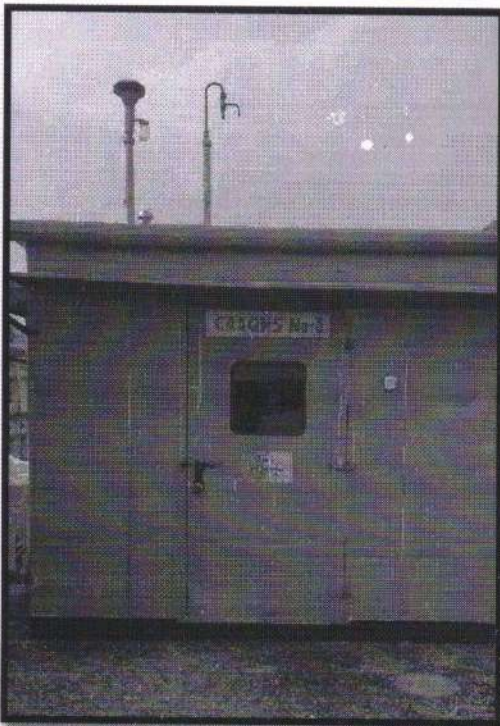
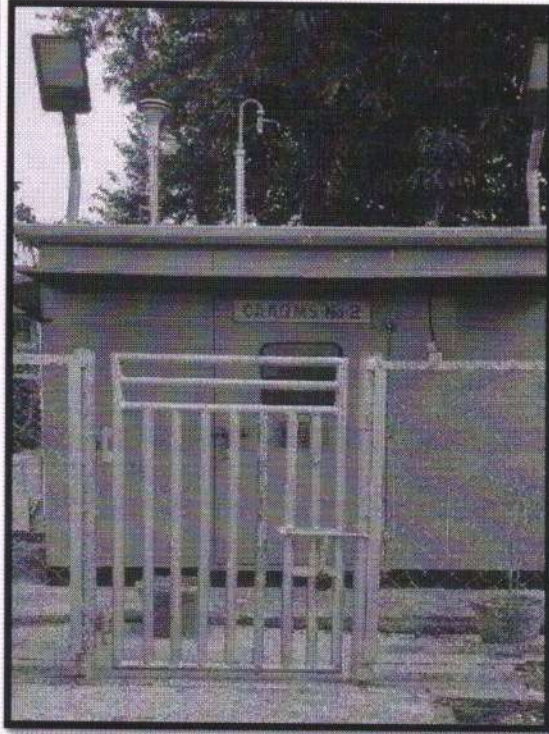
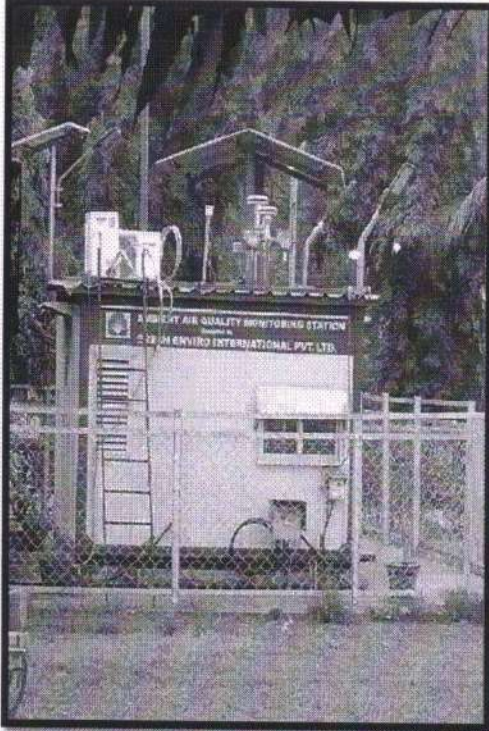
Photograph: ETP (MEE+ATFD Facility), Installed Dust Separator Systems (i.e. Dry Fog & Sprinkler)



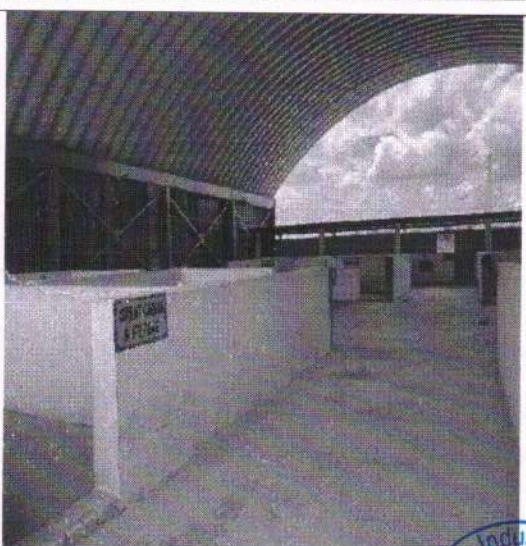
Photograph: Plantation & Greer.belt



Photographs: Continuous Ambient Air Quality Monitoring Station



Photographs: Waste Storage Area



बीसीसीएल जन सेवा ट्रस्ट ने पांच सौ जरूरतमंदों के बीच किया कंबल का वितरण



नवीन मेल संवाददाता
विश्रामपुर। रेहला ग्रामिण इंटरनेट्रीज का सामाजिक उत्तरदायित्व विभाग च बीसीसीएल जन सेवा ट्रस्ट ने प्रत्येक वर्ष की शानि मकर संक्रांति के अवसर पर इस बार भी गरीब व जरूरतमंद लोगों के बीच 500 कंबल व मुट्ठा धुदू का वितरण किया। वितरण समारोह का आयोजन

वेलफेयर व्यवसायिक केंद्र में किया गया था। कंबल वितरण समारोह को आयोजित रेहला बीसीसीएल जन सेवा ट्रस्ट के अध्यक्ष सह रेहला ग्रामिण इंटरनेट्रीज के मानव संसाधन प्रमुख अजीत तिवारी व संबलन जन सेवा ट्रस्ट के अमित मिश्र ने किया। अजीत तिवारी ने कहा कि ग्रामिण इंटरनेट्रीज हमेशा से अपने सामाजिक दायित्व का निर्वहन करता रहा है। संस्थान आस्था के क्षेत्र में सामाजिक व आर्थिक विकास के लिए एक संकल्पित है। इसी संकल्प के तहत स्वास्थ्य, शिक्षा, सामाजिक सरोकार, जरूरतमंदों को मदद सहित कई कार्य किया जाता है। श्री तिवारी ने कहा कि जनसेवा ट्रस्ट स्थानीय महिलाओं व युवाओं को रोजगार से जोड़ने के लिए प्रतिबद्ध करता है। इतना ही नहीं रोजगार के लिए दर्जनों स्वयं सहायता समूह का गठन करते हुए सभी को प्रतिबद्ध कर स्वरोजगार से जोड़ चुकी है। टेक्निकल हेड हार्दीय कोहली ने भी सामाजिक उत्तरदायित्व विभाग के द्वारा किए जाने वाले कार्यों को विस्तृत जानकारी लोगों को दी। मौके पर जन सेवा ट्रस्ट के राकेश तिवारी, डॉ. आर एन सिंह, ब्रजराज चौबे, मुखार अंसारी सहित कई लोग मौजूद थे।



विश्रामपुर : सिंगल यूज प्लास्टिक से बचने को लेकर ग्रासिम ने निकाली प्रभात रैली

कभी गोपाल में जैश रिखाव से गर्वी थी हजारों की जान

उत्तर बच संवाददाता

विश्रामपुर। नर के जेठला सिंगल ग्रासिम औद्योगिक संस्थान में शुक्रवार को नेशनल फैनटूरन अभियान के तहत 150 संस्थान कर्मियों के साथ बहिष्कार पदाधिकारों तथा प्राथमिक विद्यालय बालिका स्कूल के बच्चों सहित ने बैनर पोस्टर के साथ प्रभात रैली निकाली। इसमें प्रतिनिधि सिंगल प्लास्टिक यूज के इस्तेमाल से पूर्णतः परहेज करने का संकल्प लिया गया। साथ ही जनसमाज को भी इसके प्रयोग नही करने का संकल्प लेने के लिए प्रभात रैली के माध्यम से जागरूक किया गया।

रैली के दौरान 84 पोस्टर संस्थान में लटकाए गए। इनमें 'विश्रामपुर की जनता' शिर्षक के तहत बाली औद्योगिक इलाके में एक संस्थान के लोग भी शामिल हुए।

इस संकल्प में जैश रिखाव के साथ हजारों की जान भी शामिल होगी। जैश रिखाव के लोग भी इस संकल्प में शामिल हुए। जैश रिखाव के लोग भी इस संकल्प में शामिल हुए।

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दैनिक भास्कर **पलामू भास्कर** 23-03-2023

रेहला में मेडिकल कैंप में 100 मरीजों का मुफ्त इलाज

विश्रामपुर। नया मुख्यालय के रेहला कस्बा स्थित ग्रासिम औद्योगिक संस्थान के द्वारा संचालित व्यवसायिक चिकित्सा केंद्र में रांची के प्रतिष्ठित चिकित्सा संस्थान पारस हॉस्पिटल में विशेषज्ञ स्वास्थ्य सलाहकार के तहत मुफ्त चिकित्सा सेवाएं प्रदान की गईं। इसमें रांची से अधिक संस्थान के कर्मचारी, कोमपार और उनके परिवार के अलावा इलाहाबाद ग्रामीण का स्वास्थ्य परीक्षण के उपरांत एक प्रदान किया गया। इस पुनीत मानवीय स्वास्थ्य से जुड़े कार्यक्रम में पारस हॉस्पिटल के प्रख्यात चिकित्सक और हृदय रोग विशेषज्ञ डॉ. अशोक च. डॉ. एके ठाकुर को व्यवसायिक स्वास्थ्य केंद्र रेहला के सीएमओ डॉ. हरि प्रसाद का सुनिंद कुमार, डॉ. अरविंद शर्मा के साथ सभी स्वास्थ्यकर्मियों ने सक्रिय भागीदारी सहयोग प्रदान किया। श्रांभ में रेहला ग्रामिण इंटरनेट्रीज के पावर प्लांट के प्रमुख दीपक शर्मा ने पारस हॉस्पिटल के आयुर्दोनों चिकित्सक को बुके देकर स्वागत किया।



Photographs



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UNIFORM DISTRIBUTION AMONG STUDENTS



Grasim Industries Limited, Chemical Division, Rehla

ANNEXURE-5

Hazardous Waste Disposal & Recycle Details (April'23 - September'23)

Sl. No.	Waste Type	Category	Generation (MT)	Disposal (MT)	Disposal / Recycling Facility
1	Asbestos waste	Sch-1, Cat-15.2	33.10	33.10	CHW-TSDF (AWMPL)
2	Empty Barrels/ Container/ Liners Contaminated with Hazardous Chemicals / Wastes/ C.T.Fills	Sch-1, Cat-33.1	0.52	2.84	CHW-TSDF (AWMPL)
3	Contaminated Cotton Rags or other Cleaning materials	Sch-1, Cat-33.2	0.00	0.00	CHW-TSDF (AWMPL)
4	ETP sludge	Sch-1, Cat- 35.3	184.00	187.04	CHW-TSDF (AWMPL)
5	Fibre Reinforced Plastic Waste (F R P)	Others	0.00	0.00	CHW-TSDF (AWMPL)
6	Insulation Waste (Glass wool)	Others	0.00	0.00	CHW-TSDF (AWMPL)
7	MEE+ATFD WASTE	Others	332.00	347.74	CHW-TSDF (AWMPL)
8	Used Oil	Sch-1, Cat- 5.1	2.52	2.52	Authorised Recyclers
9	Used Membrane	Others	0.38	0.38	CHW-TSDF (AWMPL)
10	Spent Resin	Sch-1, Cat-35.2	0.00	0.00	CHW-TSDF (AWMPL)
11	Drocess & Wastes from treatment of Salt sludge	Sch-1, Cat-11.5	0.00	0.00	CHW-TSDF (AWMPL)
12	Brine Sludge (Membrane Cell Plant)	Sch-1, Cat-16.3	1297.73	3176.42	CHW-TSDF (AWMPL)
13	Spent Carbon or filter medium	Sch-1, Cat-36.2	0	0	CHW-TSDF (AWMPL)
14	Oil & Grease skimming	Sch-1, Cat-35.4	0	0	CHW-TSDF (AWMPL)

Note:

1. Disposal quantity of Brine sludge is inclusive of stored quantity (Kept in SLF)



GRASIM INDUSTRIES LIMITED, CHEMICAL DIVISION REHLA		
Rain Water Harvesting Location		
S. No.	Harvesting Point/ Location	AREA (Sq. Mtr.)
1	Near 'C' (I-Type)	400
2	Bungalow No. 1	300
3	Shopping Center	275
4	Executive Hostal	250
5	Aarav Building	575
6	B' Type SPL	600
7	B' Type near Surbhi ground	1200
8	Near transformer (E.H.) 2Nos.	600
9	Vikram Nagar Hutment area	500
10	Hospital (Rooftop)	409
11	Vikram Nagar	1640
12	D' type QTR.	390
13	Basant Nagar	800
Total Catchment area (Sq. Mtr.)		7939
Rain fall (mm)		1200

