Ref. No. BFCL/ENV/2023/29 Dated: 29.05.2023

To,

Addl. Principal Chief Conservator of Forests (C),
Ministry of Environment Forest & Climate Change
Integrated Regional Office, Bungalow No. A-2,
Shyamli Colony, Ranchi- 834002
Email ro.ranchi-mef@gov.in

Sub- Half Yearly compliance status report of Environmental Clearance Conditions for the period of October 2022 to March 2023 in respect to Ferro Alloys Unit of M/s Bihar Foundry & Castings Limited.

Ref- Environmental Clearance Letter No. J-11011/384/2010-IA.II (I) dated 31.10.2011

Dear Sir,

We are pleased to enclose herewith six monthly compliance status report for the conditions stipulated in Environmental Clearance granted to Ferro alloys unit of M/s Bihar Foundry & Castings Limited at Plot no. 1405, Ramgarh Industrial Area, Marar Village, District: Ramgarh (Jharkhand).

We are also sending herewith the soft copy of the report to your good office via email ro.ranchi-mef@gov.in for your kind perusal.

Thanking You,

Sincerely Yours,
For, Bihar Foundry & Castings Limited
Ferro Alloys Unit

(B. K. Gupta)
General Manager (Environment)

Bihar Foundry & Castings Ltd. Marar Ramgarh

Enclosures. As above

Copy to:

1. The Zonal Office Incharge, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th floors, 1582 Rajdanga Main Road Kolkata-700107 (W.B.)
2. The Member Secretary, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor) HEC, Dhurwa, Ranchi-834004
3. The Regional Officer, Jharkhand State Pollution Control Board, P.T.C. Chowk, Matwari Road, Dist- Hazaribagh (Jharkhand)-825301

List of Annexure

S. No.	Description	Annexure
1.	Six monthly Environmental Clearance Compliance status report	-
2.	Ambient air quality reports	1A
3.	Stack emission report	1B
4.	Fugitive Emission Reports	1C
5.	Analysis reports of treated waste water	1D
6.	Analysis reports of ground water	1E
7.	Slag Leachate Report	1F
8.	Noise monitoring reports	1G
9.	PUC Certificate	2
10.	Copy of the CGWA NOC	3
11.	Rain water harvesting pits details	4
12.	Copy of disaster management plan	5
13.	Details of green belt	6
14.	CSR Details	7
15.	Corporate Environment Responsibility of BFCL	8
16.	Medical examination reports	9
17.	Expenditures incurred on environmental protection	10
18.	Copy of Panchayat letter	11
19.	Six monthly compliance reports of previous period	12
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Bihar Foundry & Castings Ltd. Manar Ramgarh

Six Monthly Environmental Clearance Compliance Status Report

(Period: October 2022 to March 2023)

S. No.	A. Specific Condition	Compliance Status
i.	Compliance to all the specific and general conditions stipulated for the existing plant by the Central/State Govt. shall be ensured and regular reports submitted to the Ministry and its Regional Office at Bhubaneswar/SPCB.	Being complied. We are submitting the half yearly compliance reports to the IRO, MOEF&CC Office, Ranchi regularly.
ii.	No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.	Being complied. As per Hon'ble NGT order dated 28.03.2019 & 17.03.2021 in the matter of pet coke, we are not using pet coke in plant as fuel. Electricity is being used as the fuel for the Ferro alloys plant. Presently we are using Pearl coke, which has very low Sulphur content i.e 0.6%, that's why we are using Pearl coke to *avoid heavy emission of pollutants.*
iii.	Continuous monitoring facilities for all the stacks and sufficient air pollution control equipments viz. fume extraction system with bag filters, ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50mg/Nm3.	Being complied. Online continuous stack emission monitoring systems (CEMS) have been installed in all the stacks 1 & 2 and are well connected with the server of JSPCB & CPCB. Air Pollution control device like fume extraction system with bag filters, ID fan have been provided and the height of stack attached to the submerged arc furnace is 45 meters. The emissions level always remains below 50mg/Nm3. All data are visible in public domain on website "www.jspcb.nic.in".
iv.	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.	Being complied. Ambient air quality monitoring reports are attached as **Annexure 1A.** Online PM10 Analyzer has also been installed at the main gate and real time data is continuously transmitted online to JSPCB Server.
v.	Secondary fugitive emission from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/code of practice issued by the CPCB shall be followed.	Being complied. We have installed 60 Nos. of fixed water sprinklers & 100 Nos. of Fog nozzles. Water is also sprinkled by water tankers on all the transport. All the transport roads inside the premises have been made concrete. We have procured dust sweeping machine which arrests dust from the roads. Fugitive emission reports are enclosed as **Annexure 1C.** All vehicles have valid PUC. The PUC Certificate details given are in **Annexure 2.**
vi.	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the state pollution control board or described under the Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to all the Ministry's Regional office at Ranchi SPCB and CPCB.	Being complied. Analysis reports of treated waste water, ground water of the bore well and Slag leachate report as **Annexure 1D, 1E & 1F** respectively. There is no discharge of effluent outside the plant premises.

S. No.	A. Specific Condition	Compliance Status
vii.	The total water requirement shall not exceed 35m3/day. Permission to draw the water from competent Authority shall be obtained. Zero, effluent discharge shall be strictly followed and no wastewater shall be discharge outside the premises.	Being complied. NOC for withdrawal of 35 KLD underground water has been granted by CGWA vide Letter No. CGWA/NOC/IND/ORIG/2021/10628 dated 02.01.2021 with validity up to 01.01.2024. Copy of the NOC is attached as **Annexure 3**. There is no waste water discharge from the plant as this is zero discharge units (ZLD).
viii.	Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement should be met from other sources.	Being complied. Rain water harvesting pit is available within plant premises, further a scheme has been finalized for rain water harvesting is enclosed as **Annexure 4.**
ix.	Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture of Silico Manganese (Si-Mn). All the other ferro alloy slag shall be used in the preparation of building materials.	Complied. The Ferro manganese slag is sized and sent to zinging plant for extraction of metals and then sold. Rest parts are used in micro pellet plant for manufacturing briquette. Silico manganese slags are sold to Silico- Manganese producing unit in the nearby area.
x.	Risk and Disaster management plan along with mitigation measures, should be prepared and a copy submitted to the Ministry's regional Office at Ranchi, SPCB and CPCB within three months of issue of environment clearance letter.	Complied. Risk and disaster management plan has been submitted and is approved. Copy of the Disaster management plan is attached as **Annexure 5**.
xi.	As proposed, green belt shall be developed in at least 33% of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.	Being Complied. Plantation has been developed inside of the plant area, 33 % is not completed due to scarcity of land. Company has already purchase land adjacent to the plant to suffice the plantation in 33% of the plant area. Details of greenbelt existing and planned are attached as **Annexure 6.**
xii.	At least 5% of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to Ministry's regional Office at Ranchi. Implementation of such program shall be ensured accordingly in a time bound manner.	Being complied. Socio- economic development activities like community development program, educational program, drinking water supply and health care etc. is being done regularly in the surrounding villages. Details have already been submitted to MOEF&CC, IRO Ranchi. CSR Details for this period is attached as **Annexure 7.**
xiii.	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, 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.	Complied The condition has already been complied with during the construction phase.

S. No.	A. Specific Condition	Compliance Status
xiv.	The company shall submit within three months their policy towards corporate Environment Responsibility which should inter-alia address (i) Standard operating process/ procedure to being into focus any infringement/divination/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance/violation environmental norms to the Board of directors of the company and/or stakeholder or shareholders.	Being complied. BFCL has well laid Environmental Management System in place and established environment department with senior level. Copy of the CER policy is attached as **Annexure 8.**

S. No.	B. General Conditions	Compliance status
i.	The project authorities must strictly adhere to the stipulations made by the Jharkhand Pollution Control Board (JPCB) and the State Government.	Agree to comply. All the stipulations made by Jharkhand State Pollution Control Board (JSPCB) and state government are complied with. We have obtained consent to operate vide letter No. JSPCB/HO/RNC/CTO 4412165/2020/1819 dated 10/11/2020 with validity up to 31.12.2025 amendment CTO JSPCB/AUTO-RENEW/CTO/15367225/1341 dated 23.01.2023 & Consent to Establish vide letter No. T-551, Dated 24.02.2000 & 2577 Dated 20.05.2009 and PC/NOC/HBZ/288/09/ D-1510 (N) Ranchi Dated 21.05.2014. Hazardous Waste Authorization vide letter No. JSPCB/HO/RNC/HWM-6758737/2022/46 dated 27/10/2022 with validity upto 30.09.2024.
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Noted.
iii.	The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	Being complied.
iv.	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO2 and NOX are anticipated in consultation with the Jharkhand SPCB. Data on ambient air quality and stack	Being complied. Ambient air monitoring is regularly carried out at four different stations within the plant premises, which have been fixed in consultation with the State pollution control board, Jharkhand. Ambient air quality reports are attached as **Annexure 1A.** Stack emission report is attached as **Annexure 1B.**

S. No.	B. General Conditions	Compliance status
	emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the Jharkhand PCB / CPCB once in six months.	
v.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	Being complied. There is no waste water discharge from the plant as this is zero liquid discharge units.
vi.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	Being complied. Ambient noise level and work zone noise levels being monitored and are well within the limit prescribed. Ambient noise quality monitoring locations at near main gate, near office, near guest house (Binjhar) & near Mahto tola. Work zone noise quality monitoring location at near raw materials yard & near screening area. Noise monitoring reports are enclosed as **Annexure 1G.**
vii.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Being complied. Periodical medical examinations of workmen are organized as per Factory Act. List of medical examination of workmen are enclosed as **Annexure 9**.
viii.	The company shall develop surface as well as ground water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Being Complied. The construction work for surface water treatment system is in progress which completion is aligns as well as renovation work of water treatment plant.
ix.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development program educational program drinking water supply and health care etc.	Being complied. All the recommendation of EIA/EMP have been implemented as per detail given below:- • Online continuous stack emission monitoring systems (CEMS) have been installed in both the stacks 1 & 2 and are well connected with server of JSPCB & CPCB. • Digital display Board at the main gate has been installed and data is displayed on this Board. • The fume extraction system with bag filters, ID fan have been provided and the height of stack attached to the submerged arc furnace is 45 meters. The emissions level always remains below 50mg/Nm3. • Pucca Road has been constructed from Main gate to the temple which covers whole transport road. One dust sweeping machine has been procured to sweep dust from the Road. • Environmental monitoring such as, Ambient Air Quality, Water Quality, Stack Emission Monitoring, Noise

Bihar Foundry & Castings Ltd. Marar Ramgarh

<table>
<tr><th>S. No.</th><th>B. General Conditions</th><th>Compliance status</th></tr>
<tr><td></td><td></td><td>Monitoring is regularly carried out by NABL Accredited Laboratory.
• All the dust control systems are examined and emission is monitored and maintained within the prescribed limit. All the Dust suppression systems are working efficiently. Fugitive dust has been minimized. In order to further improve fugitive emission control in Raw Material division, Dust Control Systems are regularly checked.
• Rain water harvesting measures have been implemented to harvest the rain water inside the plant premises and we are planning to make more rain water harvesting pit.
• Noisy equipments are provided with enclosures / sound barriers.
• Regular health check up for all workers is carried out.
• Green belt has been developed all around the plant premises.
• Generated solid wastes are used for filling potholes in roads partly and rests are sold to Recycler.</td></tr>
<tr><td>x.</td><td>Requisite amount shall be earmarked towards capital cost and recurring cost/annum for Environmental pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.</td><td>Agree to comply.
Expenditures incurred on environmental protection and conservation activities like water spraying for dust suppression, cleaning of drains, dust sweeping, maintenance of air pollution control devices, expenses on air pollution control equipment, green belt development, housekeeping etc. for last three years are given below:-
<table>
<tr><th>S. No.</th><th>Financial Year</th><th>Expenses in INR</th></tr>
<tr><td>1.</td><td>2020-21</td><td>22169772</td></tr>
<tr><td>2.</td><td>2021-22</td><td>4883029</td></tr>
<tr><td>3.</td><td>2022- 23</td><td>5233771</td></tr>
</table>
Details of expenditure for this period (Oct 2022-March 2023) are enclosed as Annexure 10.</td></tr>
<tr><td>xi.</td><td>A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.</td><td>Complied.
Copy of the EC has been submitted to the respective heads of local bodies, panchayats and municipal bodies in addition to the relevant offices of the government. The clearance letter has been put on the web site of the company. Copy of Panchayat Letter is attached as Annexure 11.</td></tr>
</table>

Bihar Foundry & Castings Ltd. Manar Rangam

S. No.	B. General Conditions	Compliance status
xii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the JPCB. The criteria pollutant levels namely; SPM, RSPM, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Being complied. Compliance reports along with monitoring data are being regularly uploaded on company website www.bfcl.co.in. Digital displays Board at the main gate have been installed and data is being displayed on this Board. Manual board is also installed and data are displayed near main gate for public domain.
xiii.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the JPCB. The Regional Office of this Ministry / CPCB / JPCB shall monitor the stipulated conditions.	Complied. Six monthly compliance reports are submitted regularly on the status of implementation of the stipulated environmental safeguards to the MOEF&CC, Regional office Ranchi, and JSPCB & CPCB. Latest submission Vide Letter No. BFCL/ENV/2022/22 Dated 22.11.2022 for the period of April 2022 to September 2022. Copy of the Letter is attached as **Annexure 12**.
xiv.	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	Being complied. The environmental statements for the financial year 2021-22 have been submitted Vide Letter No. BFCL/ENV/2022/17 Dated 06.09.2022 and the same has been hosted on company website www.bfcl.co.in. Further, compliance status on environmental clearance conditions was also sent to the Regional office of the Ministry of Environment and Forest, Ranchi by e-mail. Copy of the Letter is attached as **Annexure 13.**
xv.	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 and may also be seen at Website of the Ministry of Environment and Forests 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	Complied. We have advertised in the newspapers. Copy of the same has been submitted to Regional Office. Ranchi express dated- 04.11.2011 Sunmarg dated- 04.11.2011

S. No.	B. General Conditions	Compliance status
	the Regional office.	
xvi.	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 commencing the land development work.	Complied. The plant is already in operation conditions. Date of financial closure of project is 1st June 2014.

Annexure 1A

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)

Certified by: - ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.						T	C	4	0	3	2	2	3	0	0	0	0	0	0	3	7	4	F			

Discipline	Chemical	Group	Atmospheric Pollution	Sample Description	Ambient Air Quality
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842- A01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/A/Apr.-23/03
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Period		04/04/2023 – 05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS:5182 and CPCB Air Manual Volume-1(NAAQM/36/2012-13)			
Sampling Locations		A. Near Main Gate		23°39'33"N, 85°30'22"E	
		B. Near Office		23°39'25"N, 85°30'21"E	
		C. Near Mahto Tola		23°39'14"N, 85°35'22"E	
		D. Near Binjhar Guest House		23°39'05"N, 85°29'53"E	
Meteorological Cond. of Field		W.C.– Clear	RH % - 38	Temp. - 34°C	W.D.– East-West
Sample receipt Date		06/04/2022	Analysis Started on 06/04/2022	Analysis completed on	10/04/2022

******Test Results******

Parameters	Test Methods	Units	MU %	Sampling Location				Limits
				Site A	Site B	Site C	Site D	
Particulate matter (PM_{10})	IS:5182 (P-23) 2006, RA 2017	µg/m³	2.68	96.2	94.1	89.8	92.6	100
Particulate matter ($PM_{2.5}$)	IS:5182 (P-24) 2019	µg/m³	2.60	55.2	52.8	46.4	44.7	60
Sulphure Dioxide (SO_2)	IS:5182 (P-2) 2001 RA 2017	µg/m³	7.84	55.6	36.7	21.4	24.6	80
Nitrogen Dioxide (NO_2)	IS:5182 (P-6) 2006 RA 2017	µg/m³	4.17	64.8	46.4	41.0	44.3	80
Ammonia (NH_3)	IS:5182 (P-25) 2018	µg/m³	3.7	35.7	32.9	31.4	26.7	400
Ozone (O3)	IS:5182 (P-09) 2019	µg/m³	9.09	106.7	75.8	80.8	45.8	180 (1 hr.)
Lead (Pb)	IS:5182 (P-22) 2004, RA 2019	µg/m³	7.95	0.096	0.089	0.061	0.082	1
Nickel (Ni)	IS:5182 (P-26) 2020	ng/m³	14.71	BDL (MDL- 4)	BDL (MDL- 4)	BDL (MDL- 4)	BDL (MDL- 4)	--
Arsenic (As)	USEPA – IO 3.2	ng/m³	2.05	BDL (MDL -02)	BDL (MDL -02)	BDL (MDL -02)	BDL (MDL -02)	--

******End of Report******

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise.
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Samples comply with prescribed limits.

Sample Drawn By – Angad Munda

Tested By – Akash Khalkho (Lab Analyst)

Only CONCERN for

Jharkhand State Pollution Control Board

Application No. 15747848

Allotted Date 06-03-2023

Submission Date 10-04-23

10/04/23	10/04/23
Verified by	Issued by
Sumit Kant Srivastava	Sanjeev Kumar Singh
(Sr. Lab Analyst)	(Technical Manager)

Authorized Signatory

Atmospheric Pollution

Yugantar Bharati Analytical & Environmental Engineering Laboratory

Bihar Foundry & Castings Ltd. Marar Ramgarh

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by: - An ISO 9001:2015 & ISO 45001:2018

JHARKHAND State Pollution Control Board

Test Certificate

Discipline	Chemical	Group	Atmospheric Pollution	Sample Description	Ambient Air Quality
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842- A01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/A/Apr.-23/03
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Period		04/04/2023 – 05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS:5182 and CPCB Air Manual Volume-1(NAAQM/36/2012-13)			
Sampling Locations		A. Near Main Gate		23°39'33"N, 85°30'22"E	
		B. Near Office		23°39'25"N, 85°30'21"E	
		C. Near Mahto Tola		23°39'14"N, 85°35'22"E	
		D. Near Binjhar Guest House		23°39'05"N, 85°29'53"E	
Meteorological Cond. of Field		W.C.– Clear	RH % - 38	Temp. - 34°C	W.D.– East-West
Sample receipt Date		06/04/2022	Analysis Started on 06/04/2022	Analysis completed on	10/04/2022

******Test Results ******

Parameters	Test Methods	Units	MU %	Sampling Location				Limits
				Site A	Site B	Site C	Site D	
Carbon Monoxide (CO)	SOP No. YBAEEL/SOP/AIR/01	mg/m³	--	BDL (MDL 1.8)	BDL (MDL 1.8)	BDL (MDL 1.8)	BDL (MDL 1.8)	4
Benzene (C_6H_6)	IS:5182 (P-11) 2006	µg/m³	10.94	BDL (MDL 0.06)	BDL (MDL 0.06)	BDL (MDL 0.06)	BDL (MDL 0.06)	--
Benzo (a)pyrene (BaP) (Particulate Phase Only)	IS:5182 (P-12) 2004	ng/m³	--	BDL (MDL 0.2)	BDL (MDL 0.2)	BDL (MDL 0.2)	BDL (MDL 0.06)	--

******End of Report******

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Samples comply with prescribed limits.

Sample Drawn By – Angad Munda
Tested By – Akash Khalkho (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-2023
Submission Date 10-04-23

10/04/23	10/04/23
Verified by	Issued by
Sumit Kant Srivastava	Sanjeev Kumar Singh
(Sr. Lab Analyst)	(Technical Manager)

Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Bihar Foundry & Castings Ltd. Marar Ramgarh

Annexure 1B

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)

Certified by :- ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.					T	C	4	0	3	2	2	3	0	0	0	0	0	0	3	7	6	F				
Discipline	Chemical	Group	Atmospheric Pollution						Sample Description									Stationary Source Emission								
Report Release Date		10th April, 2023							Report ID									YBAEEL-230306-121842- S1								
W. Order / JSPCB App. No.		15747848							Work Order Date									06.03.2023								
Type of Industry(If any)		Ferro Alloys Plant							Job code/ Ref. no.									YBAEEL/WA/L/A/Apr.-23/03								
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117																									
Sampling Period		05/04/2023							Mode of sample collection									By YBAEEL Team								
Sampling Protocol		IS: 11255 & CPCB Guideline (Lats/80/2013-14)																									
Meteorological Cond. of Field		W.C.– Clear							RH % - 48									Temp.– 31°C								
Sample receipt Date		06/04/2023	Analysis Started on						06/04/2023									Analysis completed on								10/04/2023

General Information

As observed while sampling		As reported by customer	
Location	Sampling port hole	Type of fuel Used	Coal, Coke & Electric
Platform	Permanent	Quantity of Fuel Used(During Sampling)	Coal 400 Kg/MT, Coke 300 Kg/MT
Stack Description (Shape & Material)	Circular / Metal	Total production Capacity	Ferro Alloys Silico/Manganese – 96 TPD
Sampling port	Available	Height of Stack from ground level	45.0 m
Stack Identification	Submerged Arc Furnace 3 & 4	Inner Diameter of Stack	1.8
Height of port hole from Ground level	18.0 m	Pollution Controlling Device (if any)	Bag Filter
Running Oven during sampling (if any)	N/A	Total No. of Oven (if any)	N/A

******Test Results ******

Sl	Parameters	Test Method	Units	MU %	Results	Limits
1.	Stack gas Temperature	IS 11255 (Part 3)2008	k	--	415.0	-
2.	Stack gas Velocity	IS 11255 (Part 3)2008	m/s	--	25.8	-
3.	Volumetric Flow Rate	IS 11255 (Part 3)2008	Nm^3/hr	--	230959.0	-
3.	Particulate Matter (PM)	IS 11255 (Part 1)2009	mg/Nm^3	2.12	29.2	50
4.	Sulphure Dioxide (SO_2)	IS 11255 (Part 2)2009	mg/Nm^3	3.06	305.9	-
5.	Oxide of Nitrogen (as NO_x)	IS 11255 (Part 7)2005 RA 2012-	mg/Nm^3	2.70	110.4	-
7.	Carbon Monoxide (CO)	IS 13270:1992 (RA 2009)	%	--	BDL (MDL 0.2)	-

Emission Rate

1.	Particulate Matter (PM)	IS 11255 (Part 1)2009	kg/hr.	6.7	--
2.	Sulphure Dioxide (SO_2)	IS 11255 (Part 2)2009	kg/hr.	70.6	--
3.	Oxide of Nitrogen (as NO_x)	IS 11255 (Part 7)2005 RA 2012	kg/hr.	25.5	--

******End of Report******

Limit is specified as	As per EC issued by MoEF. (F. No. – J-11011/310/2009-IA II (I).
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15743848
Allotted Date 06-03-23
Submission Date 10-04-23

Sample Drawn By – Angad Munda

Tested By – Akash Khalkho (Lab Analyst)

10/04/23	10/04/23
Verified by	Issued by
Sumit Kant Srivastava	Sanjeev Kumar Singh
(Sr. Lab Analyst)	(Technical Manager)

Authorised Signatory
Atmospheric Pollution
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Bihar Foundry & Castings Ltd. Marar Ramgarh

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by : - ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.		T C 4 0 3 2 2 3 0 0 0 0 0 0 3 7 7 F			
Discipline	Chemical	Group	Atmospheric Pollution	Sample Description	Stationary Source Emission
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842- S2
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/A/Apr.-23/03
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Period		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS: 11255 & CPCB Guideline (Lats/80/2013-14)			
Meteorological Cond. of Field		W.C.– Clear		RH % - 49	Temp.– 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

General Information

As observed while sampling		As reported by customer	
Location	Sampling port hole	Type of fuel Used	Coal, Coke & Electric
Platform	Permanent	Quantity of Fuel Used(During Sampling)	Coal 400 Kg/MT, Coke 300 Kg/MT
Stack Description (Shape & Material)	Circular / Metal	Total production Capacity	Ferro Alloys Silico/Manganese – 96 TPD
Sampling port	Available	Height of Stack from ground level	45.0 m
Stack Identification	Submerged Arc Furnace 1 & 2	Inner Diameter of Stack	1.8
Height of port hole from Ground level	18.0 m	Pollution Controlling Device (if any)	Bag Filter
Running Oven during sampling (if any)	N/A	Total No. of Oven (if any)	N/A

******Test Results ******

Sl	Parameters	Test Method	Units	MU %	Results	Limits
1.	Stack gas Temperature	IS 11255 (Part 3)2008	k	--	360.0	-
2.	Stack gas Velocity	IS 11255 (Part 3)2008	m/s	--	14.2	-
3.	Volumetric Flow Rate	IS 11255 (Part 3)2008	Nm^3/hr	--	127117.0	-
3.	Particulate Matter (PM)	IS 11255 (Part 1)2009	mg/Nm^3	2.12	28.4	50
4.	Sulphure Dioxide (SO_2)	IS 11255 (Part 2)2009	mg/Nm^3	3.06	248.1	-
5.	Oxide of Nitrogen (as NO_x)	IS 11255 (Part 7)2005 RA 2012	mg/Nm^3	2.70	55.2	-
7.	Carbon Monoxide (CO)	IS 13270:1992 (RA 2009)	%	--	BDL (MDL 0.2)	-

Emission Rate

1.	Particulate Matter (PM)	IS 11255 (Part 1)2009	kg/hr.	3.6	--
2.	Sulphure Dioxide (SO_2)	IS 11255 (Part 2)2009	kg/hr.	31.5	--
3.	Oxide of Nitrogen (as NO_x)	IS 11255 (Part 7)2005 RA 2012	kg/hr.	7.02	--

******End of Report******

Limit is specified as	As per EC issued by MoEF. (F. No. – J-11011/310/2009-IA II (I).
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample Complies with prescribed limits.

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date ....: 06-03-23
Submission Date.. 10-04-23

Sample Drawn By – Angad Munda
Tested By – Akash Khalkho (Lab Analyst)

10/04/23	10/4/23
Verified by	Issued by
Sumit Kant Srivastava	Sanjeev Kumar Singh
(Sr. Lab Analyst)	(Technical Manager)

Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Foundry & Casting Ltd. Marar Ramgarh

Annexure 1C

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by : - An ISO 9001:2015 & ISO 45001:2018

JHARKHAND State Pollution Control Board

Test Certificate

Discipline	Chemical	Group	Atmospheric Pollution	Sample Description	Work Zone Ambient Air Quality
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842- WZAAQ-01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/A/Apr.-23/03
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Period		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS:5182 and CPCB Air Manual Volume-1(NAAQM/36/2012-13)			
Sampling Locations		A. Near Raw Material Yard		23°39'29"N, 85°30'22"E	
		B. Near Screening Area		23°39'25"N, 85°30'22"E	
Meteorological Cond. of Field		W.C.– Clear	RH % - 38	Temp. - 34°C	W.D.– East-West
Sample receipt Date		06/04/2023	Analysis Started on 06/04/2023	Analysis completed on	10/04/2023

******Test Results ******

Parameters	Test Method	Units	Sampling Location		Limits
			Site A	Site B	
Particulate matter (TSPM)	IS:5182 (P-23) 2006	$\mu g/m^3$	1790.1	1579.0	2000
Sulphure Dioxide (SO_2)	IS:5182 (P-2) 2001 RA 2012	$\mu g/m^3$	25.7	19.3	-
Nitrogen Dioxide (NO_2)	IS:5182 (P-6) 2006 RA 2012	$\mu g/m^3$	38.9	42.1	-

End of Report

Limit is specified as	G.S.R. 414 (E), 30th May 2008.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Samples comply with prescribed limits.

Sample Drawn By – Angad Munda
Tested By – Akash Khalkho (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 10-04-23

10/04/23	10/4/23
Verified by	Issued by
Sumit Kant Srivastava	Sanjeev Kumar Singh
(Sr. Lab Analyst)	(Technical Manager)

Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Foundry & Castings Ltd. Marar Ramgarh

ISO 45001:2018

Branch Office : - Jamshedpur | Dhanbad | Hazaribag | Pakur
Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in

ISO 9001:2015

Annexure 1D

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)

Certified by :- ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.					T	C	4	0	3	2	2	3	0	0	0	0	0	0	3	7	8	F

Discipline	Chemical	Group	Pollution & Environment	Sample Description	Waste Water / Effluent Water
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842-WW01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/W/Apr.-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	230406-WW-W01
Sampling Location		Settling Tank		Sampling Source	Effluent Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	3000 ml
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp.–33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

******Test Results ******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	*pH*	2.51	7.18	5.5-9.0
2.	Total Solids	IS 3025 (P-15):2009	mg/l	7.33	996.0	--
3.	Total dissolved solids	IS 3025 (P-16):2006	*mg/l*	0.38	980.0	--
4.	Total Suspended Solids	IS 3025 (P-17):2012	*mg/l*	8.26	14.0	100
5.	BOD (3 days at 27°C)	IS 3025 (P-44):2009	*mg/l*	6.72	8.0	30
6.	COD (Open reflux)	IS 3025 (P-58):2006	*mg/l*	4.02	28.0	250
7.	Oil & Grease	IS 3025 (P-39):2003	*mg/l*	14.62	4.2	10
8.	Sulphate (as SO_4^{2-})	IS 3025 (P-24):2003	mg/l	4.37	155.4	--
9.	Nitrate (as NO_3-)	APHA 4500 NO3- (B) 23rd edition 2017	mg/l	11.33	3.62	--

******End of Report******

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limit.

Sample Drawn By – Angad Munda

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 10-04-23

10.4.23	10/4/23
Tested By	Verified & Issued by
Shivani Kumar Singh	Sanjeev Kumar Singh
(Lab Analyst)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Foundry & Castings Ltd. Marar Ramgarh

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Annexure 1E

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by : - ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.		T C 4 0 3 2 2 3 0 0 0 0 0 0 3 7 9 F			
Discipline	Chemical	Group	Water	Sample Description	Ground Water
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842-GW01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/C/Apr.-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	230406-GW-W01
Sampling Location		Near Main Gate		Sampling Source	Ground Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	3000 ml
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp. – 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

******Test Results ******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	pH	1.77	6.65	6.5-8.5
2.	Colour	IS 3025 (P-04):1983	Hazen	--	5	5-15
3.	Conductivity	IS 3025 (P-14):2013	µs/cm	1.90	624.0	--
4.	Turbidity	IS 3025 (P-10):2002	NTU	3.63	BDL (MDL 1.0)	1-5
5.	Total Alkalinity (as $CaCO_3$)	IS 3025 (P-23):2003	mg/l	3.68	124.0	200-600
6.	Total Hardness (as $CaCO_3$)	IS 3025 (P-21):2009	mg/l	1.35	216.0	200-600
7.	Total dissolved solids	IS 3025 (P-16):2006	mg/l	2.85	312.0	500-2000
8.	Chloride (as Cl^-)	IS 3025 (P-32):2003	mg/l	3.41	38.0	250-1000
9.	Fluoride (as F^-)	APHA 4500 F-C 23rd edition 2017	mg/l	12.22	1.1	1.0-1.5
10.	Calcium (as Ca^{2+})	IS 3025 (P-40): 2003	mg/l	4.19	66.2	75-200
11.	Magnesium (as Mg^{2+})	APHA 3500 Mg B : 2017	mg/l	1.90	12.27	30-100
12.	Sulphate (as SO_4^{2-})	IS 3025 (P-24):2003	mg/l	5.42	74.0	200-400
13.	Sodium (as Na^+)	APHA 3111 B 23rd edition 2017	mg/l	16.98	24.0	--
14.	Potassium (as K^+)	APHA 3111 B 23rd edition 2017	mg/l	9.21	2.0	--

******End of Report******

Limit is specified as	IS 10500: 2021
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By – Angad Munda
Tested By – Satyam Kumar (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 10-04-23

10.4.23	10/4/23
Verified by	Issued by
Shivani Kumari Singh	Sanjeev Kumar Singh
(Authorized Signatory)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Bihar Foundry & Castings Marar Ramgarh

Branch Office : - Jamshedpur | Dhanbad | Hazaribag | Pakur

Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in

State Pollution Control Board

ISO 9001:2015
ISO 45001:2018

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by : - An ISO 9001:2015 & ISO 45001:2018

State Pollution Control Board

Test Certificate

Discipline	Chemical	Group	Water	Sample Description	Ground Water
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842-GW01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/C/Apr.-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	230406-GW-W01
Sampling Location		Near Main Gate		Sampling Source	Ground Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	3000 ml
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp. – 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

******Test Results ******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	Odour	IS 3025 (P-05):2002	--	--	Agree.	Agreeable
2.	Taste	IS 3025 (P-07):2002	--	--	Agree.	Agreeable
3.	Phenols (C_6H_5OH)	IS 3025 (P-43):1992	mg/l	--	BDL (MDL 0.001)	0.001-0.002
4.	Hexavalent Chromium (as Cr^{+6})	IS: 3025 (P-52):2003	mg/l	--	BDL (MDL 0.03)	--

******End of Report******

Limit is specified as	IS 10500: 2021
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility This report, in full or in part, shall not be used for advertising or as evidence in any court of law. This report cannot be reproduced, except when in full, without the written permission of the CEO. The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise The liability of the laboratory is limited to the invoiced amount. All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By – Angad Munda
Tested By – Satyam Kumar (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 10-04-23

10.4.23	10/04/23
Verified by	Issued by
Shivani Kumari Singh	Sanjeev Kumar Singh
(Authorized Signatory)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Bihar Foundry & Castings Ltd. Marar Ramgarh

Branch Office : - Jamshedpur | Dhanbad | Hazaribag | Pakur

Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in

ISO 45001:2018
ISO 9001:2015

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by :- ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.			T C 4 0 3 2 2 3 0 0 0 0 0 0 0 3 8 1 F		
Discipline	Chemical	Group	Water	Sample Description	Residue & Contaminants in Water
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842-GW01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/R/Apr.-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	230406-GW-W01
Sampling Location		Near Main Gate		Sampling Source	Ground Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	1000 ml
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp. – 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

******Test Results ******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	Arsenic (as As)	APHA 3114 C 23rd edition 2017	mg/l	10.34	BDL (MDL 0.003)	0.01-No relaxation
2.	Copper (as Cu)	APHA 3111 B 23rd edition 2017	mg/l	11.11	BDL (MDL 0.01)	0.05-1.5
3.	Iron (as Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.20	1.0-No relaxation
4.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	10.64	BDL (MDL 0.02)	0.01-No relaxation
5.	Selenium (as Se)	APHA 3111 C 23rd edition 2017	mg/l	5.08	BDL (MDL 0.01)	0.01-No relaxation
6.	Zinc (as Zn)	APHA 3111 B 23rd edition 2017	mg/l	15.35	BDL (MDL 0.1)	5-15
7.	Cadmium (as Cd)	APHA 3111 B 23rd edition 2017	mg/l	5.0	BDL (MDL 0.02)	0.003-No relaxation
8.	Mercury (as Hg)	APHA 3112 B 23rd edition 2017	mg/l	8.47	BDL (MDL 0.003)	0.001-No relaxation
9.	Chromium (as Cr)	APHA 3111 B 23rd edition 2017	mg/l	12.53	BDL (MDL 0.02)	0.05-No relaxation
10.	Cobalt (Co)	APHA 3111 B 23rd edition 2017	mg/l	28.33	BDL (MDL 0.03)	--

******End of Report******

Limit is specified as	IS 10500: 2021
Abbreviation	MDL : Minimum detection limit. BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By – Angad Munda

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 10-04-23

Shivani 10.4.23	Sinayl 10/4/23
Tested by	Verified & Issued by
Shivani Kumari Singh	Sanjeev Kumar Singh
(Lab Analyst)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Foundry & Castings Ltd. Marar Ramgarh

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by : - ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.						T	C	4	0	3	2	2	3	0	0	0	0	0	0	3	7	0	F

Discipline	Biological	Group	Water	Sample Description	Ground Water
Report Release Date		08th April, 2023		Report ID	YBAEEL-230402-113921-GW01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/M/Apr-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			

Sampling Date	05/04/2023		Mode of sample collection	By YBAEEL Team	
Sampling Protocol	IS : 1622:1982, R - 2019		Sample Code	230406-GW-W01	
Sampling Location	Near Main Gate		Sampling Source	Ground Water	
Sample pkg. Condition	Sealed Pack in PP Bottle		Sample Quantity	250 m	
Meteorological Cond. of Field	W.C.– Clear		RH % - 28	Temp. – 33°C	
Sample receipt Date	06/04/2023	Analysis Started on	06/04/2023	Analysis completed on	08/04/2023

******Test Results ******

Sl	Parameter	Test Method	Units	Results	Limits
1.	Total coliform	APHA 9221 B, 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Shall not to be Detectable in any 100 ml sample
2.	Fecal coliform	APHA 9221 E, 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	

******End of Report******

Limit is specified as	IS 10500: 2012
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit, <1.8 / < 1.1 MPN/100 ml denotes that the presence probability of bacteria is absent in the tested sample.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
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	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise.
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limit.

Sample Drawn By – Angad Munda

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-2023
Submission Date 08-04-23

Madhuri Sinha 8.4.23	Mukesh Kumar 8-4-23
Tested by	Verified & Issued by
Madhuri Sinha	Mukesh Kumar
(Lab Analyst)	(Authorized Signatory)

Authorized Signatory
Microbiological Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Foundry & Castings Ltd. Marar Ramgarh

JHARKHAND State Pollution Control Board

Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in

ISO 9001:2015
ISO 45001:2018

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by : - ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.				T	C	4	0	3	2	2	3	0	0	0	0	0	0	3	8	0	F			

Discipline	Chemical	Group	Water	Sample Description	Ground Water
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842-GW02
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/C/Apr.-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	230406-GW-W02
Sampling Location		Coal Yard		Sampling Source	Ground Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	3000 ml
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp. – 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

******Test Results******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	*pH*	1.77	6.86	6.5-8.5
2.	Colour	IS 3025 (P-04):1983	Hazen	--	5	5-15
3.	Conductivity	IS 3025 (P-14):2013	µs/cm	1.90	1928.0	--
4.	Turbidity	IS 3025 (P-10):2002	*NTU*	3.63	BDL (MDL 1.0)	1-5
5.	Total Alkalinity (as $CaCO_3$)	IS 3025 (P-23):2003	*mg/l*	3.68	112.0	200-600
6.	Total Hardness (as $CaCO_3$)	IS 3025 (P-21):2009	*mg/l*	1.35	524.0	200-600
7.	Total dissolved solids	IS 3025 (P-16):2006	*mg/l*	2.85	966.0	500-2000
8.	Chloride (as Cl^-)	IS 3025 (P-32):2003	*mg/l*	3.41	300.0	250-1000
9.	Fluoride (as F^-)	APHA 4500 F-C 23rd edition 2017	*mg/l*	12.22	1.2	1.0-1.5
10.	Calcium (as Ca^{2+})	IS 3025 (P-40): 2003	*mg/l*	4.19	172.4	75-200
11.	Magnesium (as Mg^{2+})	APHA 3500 Mg B : 2017	*mg/l*	1.90	22.6	30-100
12.	Sulphate (as SO_4^{2-})	IS 3025 (P-24):2003	*mg/l*	5.42	113.0	200-400
13.	Sodium (as Na^+)	APHA 3111 B 23rd edition 2017	mg/l	16.98	76.0	--
14.	Potassium (as K^+)	APHA 3111 B 23rd edition 2017	mg/l	9.21	3.0	--

******End of Report******

Limit is specified as	IS 10500: 2021
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By – Angad Munda
Tested By – Satyam Kumar (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. ...1547848
Allotted Date 06-03-23
Submission Date.....10-04-23

10.4.23	10/4/23
Verified by	Issued by
Shivani Kumari Singh	Sanjeev Kumar Singh
(Authorized Signatory)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Foundry & Castings Ltd. Marar Ramgarh

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by : - An ISO 9001:2015 & ISO 45001:2018

JHARKHAND State Pollution Control Board

Test Certificate

Discipline	Chemical	Group	Water	Sample Description	Ground Water
Report Release Date		10th April, 2023		Report ID	YBAEEL-230306-121842-GW02
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/C/Apr.-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	230406-GW-W02
Sampling Location		Coal Yard		Sampling Source	Ground Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	3000 ml
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp. – 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

******Test Results ******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	Odour	IS 3025 (P-05):2002	--	--	Agree.	Agreeable
2.	Taste	IS 3025 (P-07):2002	--	--	Agree.	Agreeable
3.	Phenols (C_6H_5OH)	IS 3025 (P-43):1992	mg/l	--	BDL (MDL 0.001)	0.001-0.002
4.	Hexavalent Chromium (as Cr^{+6})	IS: 3025 (P-52):2003	mg/l	--	BDL (MDL 0.03)	--

******End of Report******

Limit is specified as	IS 10500: 2021
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By – Angad Munda
Tested By – Satyam Kumar (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 10-04-23

10.4.23	10/04/23
Verified by	Issued by
Shivani Kumari Singh	Sanjeev Kumar Singh
(Authorized Signatory)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Foundry & Castings Marar Ramgarh

ISO 45001:2018 ISO 9001:2015

Branch Office : - Jamshedpur | Dhanbad | Hazaribag | Pakur
Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com; Web - https://ybaeel.in

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by: - ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.				T C 4 0 3 2 2 3 0 0 0 0 0 0 3 8 2 F			
Discipline	Chemical	Group	Water	Sample Description		Residue & Contaminants in Water	
Report Release Date		10th April, 2023		Report ID		YBAEEL-230306-121842-GW02	
W. Order / JSPCB App. No.		15747848		Work Order Date		06.03.2023	
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.		YBAEEL/WA/L/R/Apr.-23/01	
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117					
Sampling Date		05/04/2023		Mode of sample collection		By YBAEEL Team	
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code		230406-GW-W02	
Sampling Location		Coal Yard		Sampling Source		Ground Water	
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity		1000 ml	
Meteorological Cond. of Field		W.C.– Clear		RH % - 28		Temp. – 33°C	
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on		10/04/2023

******Test Results ******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	Arsenic (as As)	APHA 3114 C 23rd edition 2017	mg/l	10.34	BDL (MDL 0.003)	0.01-No relaxation
2.	Copper (as Cu)	APHA 3111 B 23rd edition 2017	mg/l	11.11	BDL (MDL 0.01)	0.05-1.5
3.	Iron (as Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.36	1.0-No relaxation
4.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	10.64	BDL (MDL 0.02)	0.01-No relaxation
5.	Selenium (as Se)	APHA 3111 C 23rd edition 2017	mg/l	5.08	BDL (MDL 0.01)	0.01-No relaxation
6.	Zinc (as Zn)	APHA 3111 B 23rd edition 2017	mg/l	15.35	BDL (MDL 0.1)	5-15
7.	Cadmium (as Cd)	APHA 3111 B 23rd edition 2017	mg/l	5.0	BDL (MDL 0.02)	0.003-No relaxation
8.	Mercury (as Hg)	APHA 3112 B 23rd edition 2017	mg/l	8.47	BDL (MDL 0.003)	0.001-No relaxation
9.	Chromium (as Cr)	APHA 3111 B 23rd edition 2017	mg/l	12.53	0.10	0.05-No relaxation
10.	Cobalt (Co)	APHA 3111 B 23rd edition 2017	mg/l	28.33	BDL (MDL 0.03)	--

******End of Report******

Limit is specified as	IS 10500: 2021
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C)
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits, except Chromium.

Sample Drawn By – Angad Munda

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 10-4-23

10.4.23	10/4/23
Tested by	Verified & Issued by
Shivani Kumari Singh	Sanjeev Kumar Singh
(Lab Analyst)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Foundry & Castings Ltd. Marar Ramgarh

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by : - ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.			T C 4 0 3 2 2 3 0 0 0 0 0 0 3 7 1 F		
Discipline	Biological	Group	Water	Sample Description	Ground Water
Report Release Date		08th April, 2023		Report ID	YBAEEL-230402-113921-GW02
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/M/Apr-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 1622:1982, R - 2019		Sample Code	230406-GW-W02
Sampling Location		Coal Yard		Sampling Source	Ground Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	250 m
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp. – 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 08/04/2023

******Test Results ******

Sl	Parameter	Test Method	Units	Results	Limits
1.	Total coliform	APHA 9221 B, 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Shall not to be Detectable in any 100 ml sample
2.	Fecal coliform	APHA 9221 E, 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	

******End of Report******

Limit is specified as	IS 10500: 2012
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit, <1.8 / < 1.1 MPN/100 ml denotes that the presence probability of bacteria is absent in the tested sample.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limit.

Sample Drawn By – Angad Munda

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 08-04-23

Madhuri Sinha 8.4.23	Mukesh Kumar 8-4-23
Tested by	Verified & Issued by
Madhuri Sinha	Mukesh Kumar
(Lab Analyst)	(Authorized Signatory)

Authorized Signatory
Microbiological Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Foundry & Castings Ltd. Marar Ramgarh

JHARKHAND State Pollution Control Board

Branch Office : - Jamshedpur | Dhanbad | Hazaribag | Pakur
Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in

ISO 9001:2015
ISO 45001:2018

Annexure 1F

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by: - An ISO 9001:2015 & ISO 45001:2018

State Pollution Control Board

Test Certificate

Discipline	Chemical	Group	Pollution & Environment	Sample Description	Slag/Soil/Sludge
Report Release Date		10th April, 2023		Report ID	YBAEEL-230402-113921 - S02
W. Order / JSPCB App. No.		N/A		Work Order Date	N/A
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/S/Apr.-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	230406-S-W02
Sampling Location		Near Furnace – 1 & 2		Sampling Source	Silico -1 (Slag)
Sample pkg. Condition		Sealed Packed in Zipper Bag		Sample Quantity	3 kg Approx.
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp.– 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

******Test Results ******

Sl.No.	Parameter	Test Method	Units	Results
1.	Cadmium (Cd)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	BDL (MDL 0.02)
2.	Chromium (Cr)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.25
3.	Copper (Cu)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.02
4.	Zinc (Zn)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.09
5.	Lead (Pb)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	BDL (MDL 0.02)
6.	Manganese (Mn)	YBAEEL/SOP/Soil/01	ppm	10.22
7.	Arsenic (As)	USEPA 3050B:1996/APHA 3114 B 23rd edition 2017	ppm	BDL (MDL 0.003)
8.	Iron (Fe)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	16.32
9.	Mercury (Hg)	USEPA 3050B:1996/APHA 3112 B 23rd edition 2017	ppm	BDL (MDL 0.003)
10.	Nickel (Ni)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.22
11.	Cobalt (Co)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.07

******End of Report******

Limit is specified as	----------
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	----------

Sample Drawn By – Angad Munda

10.04.23	10/04/23
Tested By	Verified & Issued by
Shivani Kumari Singh	Sanjeev Kumar Singh
(Lab Analyst)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Branch Office : - Jamshedpur | Dhanbad | Hazaribag | Pakur

Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in

ISO 45001:2018 ISO 9001:2015

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by: - An ISO 9001:2015 & ISO 45001:2018

State Pollution Control Board

Test Certificate

Discipline	Chemical	Group	Pollution & Environment	Sample Description	Slag/Soil/Sludge
Report Release Date		10th April, 2023		Report ID	YBAEEL-230402-113921 - S01
W. Order / JSPCB App. No.		N/A		Work Order Date	N/A
Type of Industry(If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/L/S/Apr.-23/01
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Date		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	230406-S-W01
Sampling Location		Near Furnace – 3 & 4		Sampling Source	Ferro Slag (Slag)
Sample pkg. Condition		Sealed Packed in Zipper Bag		Sample Quantity	3 kg Approx.
Meteorological Cond. of Field		W.C.– Clear		RH % - 28	Temp.– 33°C
Sample receipt Date		06/04/2023	Analysis Started on	06/04/2023	Analysis completed on 10/04/2023

******Test Results******

Sl.No.	Parameter	Test Method	Units	Results
1.	Cadmium (Cd)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	BDL (MDL 0.02)
2.	Chromium (Cr)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.33
3.	Copper (Cu)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.06
4.	Zinc (Zn)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.32
5.	Lead (Pb)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	BDL (MDL 0.02)
6.	Manganese (Mn)	YBAEEL/SOP/Soil/01	ppm	3.82
7.	Arsenic (As)	USEPA 3050B:1996/APHA 3114 B 23rd edition 2017	ppm	BDL (MDL 0.003)
8.	Iron (Fe)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	10.26
9.	Mercury (Hg)	USEPA 3050B:1996/APHA 3112 B 23rd edition 2017	ppm	BDL (MDL 0.003)
10.	Nickel (Ni)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.38
11.	Cobalt (Co)	USEPA 3050B:1996/APHA 3111 B 23rd edition 2017	ppm	0.27

******End of Report******

Limit is specified as	----------
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	----------

Sample Drawn By – Angad Munda

Shivani 10.04.23	Sanjeev 10/04/23
Tested By	Verified & Issued by
Shivani Kumari Singh	Sanjeev Kumar Singh
(Lab Analyst)	(Technical Manager)

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical & Environmental Engineering Laboratory

ISO 45001:2018

Branch Office :- Jamshedpur | Dhanbad | Marar | Hazaribag | Pakur

Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in

ISO 9001:2015

Annexure 1G

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - Jharkhand State Pollution Control Board (JSPCB)

Certified by :- ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.	T C 4 0 3 2 2 3 0 0 0 0 0 0 3 7 5 F				
Discipline	Chemical	Group	Atmospheric Pollution	Sample Description	Ambient Noise
Report Release Date	10th April, 2023			Report ID	YBAEEL-230306-121842- N01
W. Order / JSPCB App. No.	15747848			Work Order Date	06.03.2023
Type of Industry(If any)	Ferro Alloys Plant			Job code/ Ref. no.	YBAEEL/WA/L/A/Apr.-23/03
Report Issue to	M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117				
Sampling Period	04/04/2023 – 05/04/2023		Mode of sample collection	By YBAEEL Team	
Sampling Protocol	IS 9989:1981 (RA 2020)				
Meteorological Cond. of Field	W.C.– Clear		RH % - 38	Temp. - 34°C	
Sample receipt Date	06/04/2023	Analysis Started on	06/04/2023	Analysis completed on	10/04/2023

******Test Results ******

Sl	Locations	Parameters	Units	MU %	Day Time (6.00 a.m. to 10.00 p.m.)	Night Time (10.00 p.m. to 6.00 a.m.)	Limits
1.	Near Main Gate	Leq	dB (A)	3.32	71.2	62.7	Day -75 Night -70
2.	Near Office	Leq	dB (A)	3.32	59.6	52.7	
3.	Near Binjhar Guest House	Leq	dB (A)	3.32	54.3	43.0	Day -55 Night -45
4.	Near Mahto Tola (Near Temple)	Leq	dB (A)	3.32	47.6	39.8	Day -50 Night -40

******End of Report******

- Silence zone is an area comprising not less than 100 meters around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.
- Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
- dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale(A) which is relatable to human hearing.

	Area	Unit	Day Time	Night time
A	Industrial Area	dB (A)	75.0	70.0
B	Commercial Area	dB (A)	65.0	55.0
C	Residential Area	dB (A)	55.0	45.0
D	Silence Zone	dB (A)	50.0	40.0

Limit is specified as	Noise pollution (Regulation & Control) Rules, 2000.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Samples comply with prescribed limit.

Sample Drawn By – Angad Munda

Tested By – Akash Khalkho (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date 10-04-23

10/04/23	10/4/23
Verified by	Issued by
Sumit Kant Srivastava	Sanjeev Kumar Singh
(Sr. Lab Analyst)	(Technical Manager)

Bihar Foundry & Castings Ltd. Marar Ramgarh

Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by :- Jharkhand State Pollution Control Board (JSPCB)
Certified by :- ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.		T C 4 0 3 2 2 3 0 0 0 0 0 0 3 8 9 F			
Discipline	Chemical	Group	Atmospheric Pollution	Sample Description	Work Zone Noise
Report Release Date		17th April, 2023		Report ID	YBAEEL-230306-121842-N-01
W. Order / JSPCB App. No.		15747848		Work Order Date	06.03.2023
Type of Industry (If any)		Ferro Alloys Plant		Job code/ Ref. no.	YBAEEL/WA/LJA/Apr.-23/03
Report Issue to		M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) At.+P.O. - Marar, Ramgarh Industrial Area, Dist. - Ramgarh, Jharkhand - 829117			
Sampling Period		05/04/2023		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS 9989:1981, CPCB (RA 2020)			
Meteorological Cond. of Field		W.C.– Clear		RH % - 38	Temp. - 34°C
Sample receipt Date		05/04/2023	Analysis Started on	05/04/2023	Analysis completed on 10/04/2023

******Test Results******

Sl	Locations	Parameters	Units	MU %	Results	Limits
1.	Near Raw Material Yard	Leq	*dB (A)*	1.32	71.9	85
2.	Near Screening Area	Leq	*dB (A)*	1.32	79.8	

******End of Report******

Limit is specified as	The Factories Act 1948. (8 hrs.)
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise.
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Samples comply with prescribed limit.

Sample Drawn By – Angad Munda
Tested By – Akash Khalkho (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No. 15747848
Allotted Date 06-03-23
Submission Date.....10-04-23

17/04/23	17/04/23
Verified by	Issued by
Sumit Kant Srivastava	Sanjeev Kumar Singh
(Sr. Lab Analyst)	(Technical Manager)

Bihar Foundry & Castings Ltd. Marar Ramgarh

Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Branch Office :- Jamshedpur | Dhanbad | Hazaribag | Pakur

Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97960, 093049-55304 Email - ybaeel@gmail.com, Web - https://ybaeel.in

State Pollution Control Board

ISO 9001:2015
ISO 45001:2018

BIHAR FOUNDRY & CASTINGS LIMITED,FERRO ALLOYS UNIT					
VEHICLE POLLUTION UNDER CONTROL CERTIFICATE DETAILS					
Registration No.	Certificate Serial No.	Type of fuel	Date of testing	Valid till date	Test result
JH02BB9207	JH02400450005883	DIESEL	26.05.2023	25.05.2024	PASS
JH02BB2205	JH02400450005869	DIESEL	26.05.2023	25.05.2024	PASS
JH02AL2232	JH02400450005870	DIESEL	26.05.2023	25.11.2023	PASS
JH01BY4653	JH02400450005872	DIESEL	26.05.2023	25.11.2023	PASS
JH24H3638	JH02400450005874	DIESEL	26.05.2023	25.05.2024	PASS
JH01EJ6685	JH02400450005876	DIESEL	26.05.2023	25.05.2024	PASS
JH08B5200	JH02400450005875	DIESEL	26.05.2023	25.11.2023	PASS
JH01ER5951	JH02400450005871	DIESEL	26.05.2023	25.05.2024	PASS

Bihar Foundry & Castings Ltd. Mairar Ramgarh

Form 59

[See rules 115 (2)]

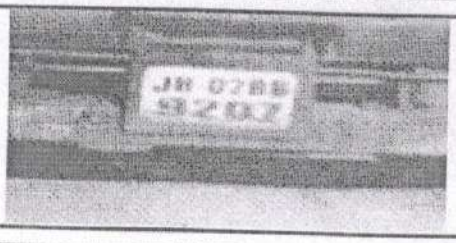
Pollution Under Control Certificate

Authorised By :
Government of Jharkhand

Date	:	**26/05/2023**
Time	:	**17:24:37 PM**
Validity upto	:	**25/05/2024**

Certificate SL. No.	:	JH02400450005883
Registration No.	:	JH02BB9207
Date of Registration	:	17/Mar/2020
Month & Year of Manufacturing	:	December-2019
Valid Mobile Number	:	******1655
Emission Norms	:	BHARAT STAGE IV
Fuel	:	DIESEL
PUC Code	:	JH0240045
GSTIN	:	
Fees	:	Rs.300.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	1.62	0.02

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

JAMNA DASS PETROL SUPPLY CO. RAMGARH

Bihar Foundry & Castings Ltd. Marar Ramgarh

Form 59

[See rules 115 (2)]

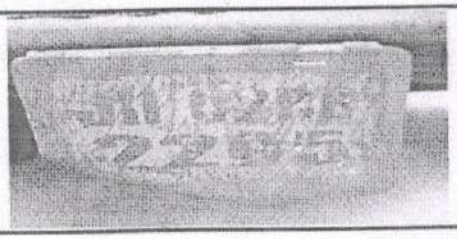
Pollution Under Control Certificate

Authorised By :
Government of Jharkhand

Date	:	**26/05/2023**
Time	:	**15:39:13 PM**
Validity upto	:	**25/05/2024**

Certificate SL. No.	:	JH02400450005869
Registration No.	:	JH02BB2205
Date of Registration	:	17/Mar/2020
Month & Year of Manufacturing	:	January-2020
Valid Mobile Number	:	******1501
Emission Norms	:	BHARAT STAGE IV
Fuel	:	DIESEL
PUC Code	:	JH0240045
GSTIN	:	
Fees	:	Rs.300.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	1.62	0.02

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Bihar Foundry & Castings Ltd. Mirzar Ramgarh

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Jharkhand

Date	:	**26/05/2023**
Time	:	**15:51:21 PM**
Validity upto	:	**25/11/2023**

Certificate SL. No.	:	JH02400450005870
Registration No.	:	JH02AL2232
Date of Registration	:	01/Jun/2016
Month & Year of Manufacturing	:	September-2015
Valid Mobile Number	:	******1501
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	JH0240045
GSTIN	:	
Fees	:	Rs.300.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.32

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

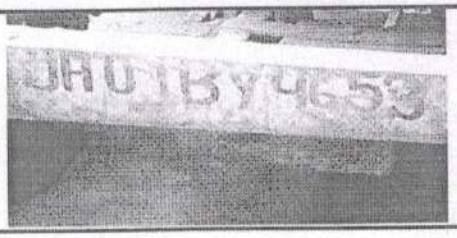
Authorised By :
Government of Jharkhand

Date	:	**26/05/2023**
Time	:	**16:03:50 PM**
Validity upto	:	**25/11/2023**

JH01BY4653

Certificate SL. No.	:	JH02400450005872
Registration No.	:	JH01BY4653
Date of Registration	:	23/Apr/2016
Month & Year of Manufacturing	:	March-2015
Valid Mobile Number	:	******1501
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	JH0240045
GSTIN	:	
Fees	:	Rs.120.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.05

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

JAMA PETROL PUMP CO. RAMGARH

Bihar Foundry & Castings Ltd. Mirar Ramgarh

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Jharkhand

Date	:	**26/05/2023**
Time	:	**16:16:00 PM**
Validity upto	:	**25/05/2024**

Certificate SL. No.	:	JH02400450005874
Registration No.	:	JH24H3638
Date of Registration	:	11/Oct/2021
Month & Year of Manufacturing	:	March-2021
Valid Mobile Number	:	******1501
Emission Norms	:	BHARAT STAGE VI
Fuel	:	DIESEL
PUC Code	:	JH0240045
GSTIN	:	
Fees	:	Rs.300.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.32

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Jharkhand

Date	:	**26/05/2023**
Time	:	**16:28:11 PM**
Validity upto	:	**25/05/2024**

Certificate SL. No.	:	JH02400450005876
Registration No.	:	JH01EJ6685
Date of Registration	:	24/Jul/2021
Month & Year of Manufacturing	:	March-2021
Valid Mobile Number	:	******1501
Emission Norms	:	BHARAT STAGE VI
Fuel	:	DIESEL
PUC Code	:	JH0240045
GSTIN	:	
Fees	:	Rs.120.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.02

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

JHARIA PATH PETROL PUMP CO. RAMGARH

Bihar Foundry & Castings Ltd. Marar Ramgarh

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Jharkhand

Date	:	**26/05/2023**
Time	:	**16:23:48 PM**
Validity upto	:	**25/11/2023**

Certificate SL. No.	:	JH02400450005875
Registration No.	:	JH08B5200
Date of Registration	:	19/Jul/2011
Month & Year of Manufacturing	:	February-2011
Valid Mobile Number	:	******1501
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	JH0240045
GSTIN	:	
Fees	:	Rs.300.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.02

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

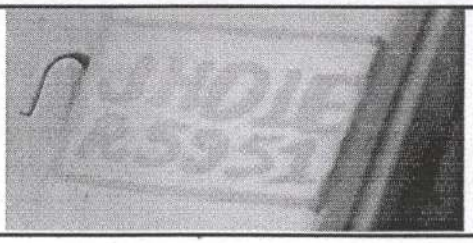
Authorised By :
Government of Jharkhand

Date	:	**26/05/2023**
Time	:	**15:56:35 PM**
Validity upto	:	**25/05/2024**

JH01ER5951

Certificate SL. No.	:	JH02400450005871
Registration No.	:	JH01ER5951
Date of Registration	:	25/Apr/2022
Month & Year of Manufacturing	:	March-2022
Valid Mobile Number	:	******1501
Emission Norms	:	BHARAT STAGE VI
Fuel	:	DIESEL
PUC Code	:	JH0240045
GSTIN	:	
Fees	:	Rs.300.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	0.7	0.05

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Bihar Foundry & Castings Ltd. Marar Ramgarh

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)
NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Bfcl- Gautam Ferro Alloys		
Project Address:	Plot1405 (p), Marar Industrial Area, Ps Ramgarh		
Town:	Mandu (ct)	Block:	Mandu
District:	Ramgarh	State:	Jharkhand
Pin Code:			
Communication Address:	Managing Director, M/s Bihar Foundry And Castings Ltd, Main Road, Ranchi-834001, Namkum, Ranchi, Jharkhand - 834001		
Address of CGWB Regional Office :	Central Ground Water Board Mid Eastern Region, 6th & 7th Floor, Lok Nayak Jai Prakash Bhawan, Frazer Road Dak Banglow, Patna, Bihar - 800011		

1.	**NOC No.:**	CGWA/NOC/IND/ORIG/2021/10628			
2.	Application No.:	21-4/590/JH/IND/2019	3.	Category: (GWRE 2017)	Semi Critical
4.	Project Status:	Existing Project	5.	NOC Type:	New
6.	**Valid from:**	02/01/2021	7.	**Valid up to:**	01/01/2024

8. Ground Water Abstraction Permitted:

Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
35.00	12775.00						

9. Details of ground water abstraction /Dewatering structures

	Total Existing No.:2						**Total Proposed No.:1**					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	2	0	0	0	0	0	1	0	0	0

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

10.	Ground Water Abstraction/Restoration Charges paid (Rs.):		76650.00		
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers	Monitoring Mechanism		
			Manual	DWLR**	DWLR With Telemetry
	**DWLR - Digital Water Level Recorder	1	1	0	0

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

Bihar Foundry & Castings Ltd. Marar Ramgarh

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

1) Installation of digital water flow meter (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate through the web-portal.

2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.

3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines . Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II.

4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.

5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.

6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.

7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.

8) The firm shall submit the water audit report in case of water requirement is in excess of 100 m3/day through certified auditors within three months of completion of the same to CGWA.

9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.

10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).

12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).

13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.

14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.

15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.

16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.

17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.

18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.

19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.

20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.

21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.

22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

RAIN WATER HARVESTING SCHEME FOR

M/s BIHAR FOUNDRY AND CASTING LTD., (FERRO ALLOYS UNIT) INDUSTRIAL AREA, (PLOT NO.-1405), MARAR – 829117, RAMGARH, JHARKHAND.

SAVE WATER

SAVE EARTH

Prepared by:

CEMP

CENTER FOR ENVIRONMENTAL MANAGEMENT AND PLANNING

Bihar Foundry & Castings Ltd. Marar Ramgarh

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RAIN WATER HARVESTING SCHEME FOR

M/s BIHAR FOUNDRY AND CASTING LTD., (FERRO ALLOYS UNIT)
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List of Maps

List of Annexure

Bihar Foundry & Castings Ltd. Hararr Ramgarh

1. CONCEPT OF RAIN WATER HARVESTING

The only permanent source of water that is available to human kind today is conservation. The days of wasteful flow of water are over. Now is the time to reduce, recycle and reuse. Rain Water Harvesting is a simple, economical and eco – friendly technique of preserving every drop of water by guiding the rain water for its storage for further use. Use of rain water, resource of water supply, is probably the only source that will gain more and more importance in the coming years. Rain Water Harvesting is neither a costly process nor a cumbersome constructional scheme. It is neither energy intensive nor labour intensive. It can be cost – effective and alternative to other water accruing methods, such as desalination of sea water and diversion of rivers. Rain Water Harvesting builds inland water tables. Rain Water Harvesting will also increase the soil moisture content which will make the soil fertile and hence, conducive for agriculture, water availability, controls human concentration and growth of industrialization. At the same time excessive withdrawals of ground water result in environmental imbalance. The conjunctive use of surface water, ground water and rain water is the need of hour. As huge quantity of rain water finds its way ultimately to sea through canals and rivers, the only alternative and conserve this precious gift of nature by implementing Rain Water Harvesting Schemes.

Eminent meteorologist, Shri P.R.Pisharoty point out that in most parts of the country, there is a precipitation during not more than 50 days. Even on days when rainfall does occur, it does not fall over the entire period of four hours. Heavy showers of short duration are common. Most of the places of the country therefore receive rainfall for just 100 hours in a year. The remaining 8660 hours in a year, there is no rain. Therefore, if the rain is not harvested in those 100 hours, in a year when it fall in these few hours, when the river and streams swell up, then there is little water to capture to meet human need.

Every time in rainy season only about 5 – 20% of the total rain is recharged into the ground depending upon the terrain, top soil condition, subsurface formation, rainfall pattern etc.

The top soil can hold only a fraction of water that falls on it and the rest gradually percolates down, depending on the type of soil and joins the aquifers. In such case looking to rocky terrain – steep slopes and undulating topography – of Jharkhand – maximum 5 to 10% total rain is recharged in to the ground. When the rain is falling at very slow rate without impact, mostly all water is infiltrated in ground. In case of heavy rains by impact less quantity percolates in ground and more water goes as run – off to the streams. Infiltration directly depends on the porosity of the soil. If the soil is more porous and has more percentage of sand more will be infiltration. On the other hand if the soil is of clayey nature with the fine particles, less will be infiltration. It should be noted that porosity in percent is not as important as the size of pore.

The nature water cycle can be seen in Map No. - 01 and, the concept of the confined and unconfined Aquifers can be seen in Map No. - 02.

Bihar Foundry & Castings Ltd. Marar Ramgarh

2. OBJECTIVES OF RAIN WATER HARVESTING

Ferro alloys unit of M/s Bihar Foundry and Casting Ltd. on very environmental concuss unit in the state. This unit is already having Rain Water Harvesting system in the factory premises. However - this need important as per guidelines of Central Ground Water Authority. Management has decided to conserve every drop of water which falls inside the factory premises for the purpose to utilize or to conserve it for further use. The main objective of Rain Water Harvesting to recharge underground water as far as possible and also utilize Rain Water for sprinkling on road for dust suppression and green belt development during Rainy season.

3. NATURE OF INDUSTRY

The unit comes in the category of Primary ferrous Metallurgical processing industries. Ferro Alloys with different base elements can be manufactured by adopting alternate technologies, which vary primarily with respect to types of furnace used. The generally used furnace types of different Ferro Alloys are:-

I. Submerged electric arc furnace (SAF)
II. Exothermic (metallothermic) reaction furnace
III. Electrolytic cell

As per industry best practices it is noted that SAF is the most suitable route for production of High Carbon Ferro Manganese and Silicon Manganese. The project proponent has selected this route for this project as it is relatively more economical as compared to the other processes.

4. DRAINAGE

Damodar is the Main River of the district and it also forms a major river basin, Comprising a number of tributaries. Important amongst them are: Naikari, Bhervi or Bhera and Bokaro river. Small Rivers are Hurhuri, Gomti, Barki, Kurum, Kochi, Sherbhuki, Dhobdhab etc. Subarnarekha River flow south eastern part of district. The drainage map of Ramgarh district is shown in Map no. - 03.

5. LOCATION

The unit is located in industrial Area, Marar (Plot no.- 1405) industrial area, by the side of main unit of M/s Bihar Foundry and Casting Ltd. and having separate boundary. The unit is nearly 60 km away from Ranchi city and 1.5 km from NH - 20. This unit can be easily seen Goggle Earth Map no. - 04.

Bihar Foundry & Castings Ltd. Marar Ramgarh

6. HYDROMETEROLOGY

6.1 RAINFALL

The average annual rainfall of the district is 1251.2 mm More than 80% of the precipitation is received during the monsoon months.

6.2 CLIMATE

The area lies in the sub-humid region of Chotanagpur Plateau and enjoys semi-extreme type of climate. The day temperature rises around 40°C during the summers and drops down to around 10°C during the winter.

7. GEOMORPHOLOGY AND SOIL TYPES

7.1 GEOMORPHOLOGY

The district is a part of Chotanagpur plateau. Important physiographic regions of the district is Damodar Valley. Major area of the district come under Damodar Valley. Damodar Valley is bounded by Hazaribag Plateau in north and Ranchi Plateau in south. Ranchi and Hazaribag plateau is separated by East-West running Damodar valley. Barka Pahar (Marang Buru) 1049 meters high above sea level located along the Ramgarh - Ranchi border is probably the highest Peak and it also separate both district.

7.2 SOIL

Mainly two type of soil found -Red Soil and Sandy loam. Three soil orders namely Entisols, Inceptisols and Alfisols were observed in the district.

8. GROUND WATER SCENARIO

8.1 HYDROGEOLOGY

The district is having varied hydrogeological characteristics due to which ground water potential differs from one region to another. It is underlain by Chotanagpur granite gneiss of pre-Cambrian age in three-fourth of the district.

Aquifer systems - Two types of aquifers are found. Weathered aquifer and fractured aquifers. Thickness of weathered aquifers varies from 10 - 20 m in granite terrain and 30 - 60 m in lateritic terrain. In weathered aquifer ground water occurs in unconfined condition while in fractured aquifer ground water occurs in semi confined to confined condition. The Hydrogeology of Ramgarh district can be easily seen in Map no.-05.

Bihar Foundry & Castings Ltd. Marar Ramgarh

8.2 DEPTH TO WATER LEVEL

During pre-monsoon season the minimum and maximum water level were observed as 2.25 mbgl at Barwatola and 11.19 mbgl at Bhurkunda respectively. The water level during the post-monsoon season of the district ranges from 1.6 to 5.9 mbgl. The pre-monsoon and post-monsoon depth to water level has been presented. This unit can be easily seen in Map no.- 06 and 07.

8.3 WATER LEVEL TREND

Water level depends upon the storage of ground water development and variation in rainfall over a long period. The long term water level trend is showing declining trend between 0.120 – 0.361, 0.017 – 0.966 and 0.105– 0.236 m/ year for pre monsoon, post monsoon and all period respectively.

9. AREA AVAILABLE FOR RAIN WATER HARVESTING

The areas available for Rain Water Harvesting inside the factory campus are as follows:-

I. Total area of factory campus = 31403.61 i.e. 31404 sq mt.
II. Total built up area including Factory shed = 23682.09 i.e. 23682 sq mt.
III. Area covered in paved roads inside factory premises = 257.10 i.e. 257 sq mt.
IV. Open space inside factory campus = 5411 sq mt.

10. POTENTIAL OF RAIN WATER HARVESTING FOR GROUND WATTER RECHARGE

To workout Rain Water Harvesting system inside the factory premises of Ferro Alloys unit of M/s Bihar Foundry & Casting Ltd., the average Rainfall in the area has been considered as 1251.2 mm for rain water potential calculation, it is considered as 1250 mm.

I. Total built up area including factory shed = 23682 sq mt.
Av. Annual Rainfall = 1250 mm
Considering runoff coefficient = 0.8
Rain water potential = 0.80 x 23682 x 1.25 = 23682 m^3

II. Area covered in paved road = 257 sq mt.
Av. Annual Rainfall = 1250 mm
Considering runoff coefficient = 0.50
Rain Water potential = 0.50 x 257 x 1.25 = 160.625 i.e. 161 m^3

III. Open space inside factory campus = 5411 sq mt.
Av. Annual Rainfall = 1250 mm
Considering runoff coefficient = 0.20
Rain water potential = 0.20 x 5411 x 1.25 = 1352.75 i.e. 1353 m^3

Therefore total Rain water potential of factory premises will be 23682+161+1353 = **25,196 m^3.**

11. DESIGN CONSIDERATIONS FOR DESIGNING RAIN WATER HARVISTING STRUCTURE

Design Considerations

Three most important components, which need to be evaluated for designing the rain water harvesting structure, are:-

1. Hydrogeology of the area including nature and extent of aquifer, soil cover, topography, depth to water levels and chemical quality of ground water.
2. Area contributing for runoff i.e. how much area and land use pattern, whether industrial, residential or green belts and general built up pattern of the area.
3. Hydro – meteorological characters like rainfall duration, general pattern and intensity of rainfall.

Design Criteria of Recharge Structures

Recharge structures should be designed based on availability of space, availability of runoff, depth to water table & lithology of the area.

Assessment of Runoff

The runoff should be assessed accurately for designing the recharge structure and may be assessed by following formula.

Runoff = Catchment area* Runoff Coefficient * Rainfall

Runoff Coefficients

Runoff coefficient plays an important role in assessing the runoff availability and it depends upon catchment of the area to be considered for designing Recharge structure. Some rainfall will be lost from the catchment by evaporation and retention on the surface itself.
General values are tabulated below which may be utilized for assessing the runoff availability.

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TYPE OF CATCHMENT	RUNOFF COEFFICIENT
Roof Catchments	
Tiles	0.8 – 0.9
Corrugated Metal Sheets	0.7 – 0.9
Ground Surface Coverings	
Concrete	0.6 – 0.8
Brick pavement	0.5 – 0.6
Untreated Ground Catchments	
Soil on slopes less than 10 percent	0.0-0.3
Rocky natural catchments	0.2 – 0.5
Green area	0.05 – 0.10

In addition to above – Rain water Harvesting System for Industrial unit – also depends on following factors:-

- Nature of Industry.
- Quality of water required for Industrial process and other purposes.
- Water requirement.
- Sources of water supply.
- Potential of Rain water – covering Roof area + open space inside the factory campus.
- Sub – soil water level in the surrounding areas.
- Types of soil and its porosity and other characteristics of soil.
- Abandoned source of water supply inside the factory Campus – such as Bore wells – Open wells – ponds etc.
- Rainfall in the area.
- Surrounding water resources etc.

Water Management plan for the factory considering recycling of waste water – Reduction in water consumption, Recharging ground water – and also Harvesting Rain water for its future use.

12. METHODS OF GROUND WATER RECHAREGE

1. **Storage tank** –

For harvesting the roof top rain water, the storage tank may be used. These tanks may be constructed on the surface as well as underground by utilizing local material. The size of tank depends upon availability of runoff and water demand. After proper chlorination, the stored water may be used for drinking purpose.

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2. **Recharge pits** –

Recharge pits are constructed for recharging the shallow aquifers. These are constructed 1 to 2 m. wide and 2m to 3m deep which are back filled with boulders, gravels & coarse sand.

3. **Trenches** –

These are constructed when the permeable strata is available at shallow depths. Trench may be 0.5 to 1m wide, 1 to 1.5m deep and 10 to 20m long depending upon availability of water. These are back filled with filter materials. In case of clay layer encountered at shallow depth, the number of auger holes may be constructed and back filled with fine gravels.

4. **Abandoned Dug wells** –

Existing abandoned dug wells may be utilized as recharge structure after cleaning and desilting the same. For removing the silt contents, the runoff water should either pass through a desilting chamber or filter chamber.

5. **Abandoned Hand pumps** –

The existing abandoned hand pumps may be used for recharge the shallow / deep aquifers, if the availability of water is limited. Water should pass through filter media before diverting it into hand pumps.

6. **Abandoned tube well** –

Abandoned tube well may be used for recharging the shallow / deep aquifers. These tube wells should be redeveloped before use as recharge structure. Water should pass through filter media before diverting it into recharge tube well.

7. **Recharge wells** –

Recharge wells of 100 to 300mm diameter are generally constructed for recharging the deeper aquifers and roof top rain water is diverted to recharge well for recharge to ground water. The runoff water may be passed through filter media to avoid choking of recharge wells.

8. **Vertical Recharge shafts** –

For recharging the shallow aquifers which are located below clayey surface at a depth of about 10 to 15m, recharge shafts of 0.5 to 3m diameter and 10 to 15m deep are constructed depending upon availability of runoff. These are back filled with boulders, gravels and coarse sand.

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9. **Shaft with recharge well** –

If the aquifer is available at greater depth say 20 or 30m, in that case a shallow shaft of 2 to 5 m diameter and 5 to 6m deep may be constructed depending upon availability of runoff. Inside the shaft, a recharge well of 100 to 300mm diameter is constructed for recharging the available water to deeper aquifer. At the bottom of the shaft, a filter media is provided to avoid choking of the recharge well.

10. **Lateral trench with bore wells** –

For recharge the upper a swell a deeper aquifers, lateral trench of 1.5 to 3m wide and 10 to 30m long depending upon availability of water with one or more bore wells may be constructed. The lateral trench is back filled with boulders, gravels and coarse sand.

13. EXISTING RAIN WATER HARVESTING STRUTURES

There are 3 nos of Rain Water Harvesting Recharge pits exist in the factory premises of Ferro Alloys unit. Out of 3 pits 2 pits are abandoned and one is operational - which needs improvement as per guidelines of Center Ground Water Authority.

14. IMPROVEMENT TO EXISTING RAIN WATER HARVESTING STRUTURES

The Rain Water recharge pit which is operational needs improvement. This recharge pit is in two parts. 1st part is Settling Chamber and 2nd part is Recharge pit. The rain water comes through covered drain - which collects rain water surface runoff of factory premises. The size of Recharge pit and Settling Chamber combined is 4m x 3m x3 m. This recharge pit is located in the corner of Factory premises and in front of work shop. The overflow of this recharge pit goes to out side of factory premises in the open drain. Provision is to be made to collect rain water from roof top of office building also. This Recharge pit can be seen in Map no.- 08.

15. PROPOSED ADITIONAL RAIN WATER HARVESTING STRUTURES

1 No. Rain water recharge pit with Settling Chamber and rain water intake chamber is proposed near main gate and cooling tower. The constriction details of this Recharge pit can be seen in Map no.- 09.

2 Nos. of Recharge Trenches have been proposed along boundary wall of Factory premises. These Recharge Trenches can be seen in Map no.- 10.

The location of Recharge pit and Recharge Trenches can be also seen on Factory layout Plan Map no.- 11.

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16. RAIN WATER HARVESTING AND POLLUTION ABATMENT THROUGH GREEN BELT

Trees or Green Belt play a very important role in Rain Water Harvesting as well as for abetment of pollution. It is observed that one hectare of vegetation transpires 17,000 lits water on a sunny day. This quantity of water must be harvested through rain for the ground water recharge. Rain water harvesting must be combined with waste water recycling. Roots of trees make the soil porous – which helps in percolation of rain – water to recharge ground water.

POLLUTION MITGATION THROUGH TREES

- Trees can arrest dust circulation and deposition by slowing wind speed.
- Plant tissues absorb Gaseous pollutants primarily within leaves, and are adsorbed at leaf surfaces.
- The particles suspended per liter of air in areas without tree cover are 4 times that of tree covered areas.
- Trees can funnel air out to protect from cyclonic winds.
- Trees also remove heavy metals from air, such as cadmium, chromium, Nickel and lead.
- Houses insulated with green cover can have rooms with temperature 10°C lower than outside.
- Light intensity under trees with dense canopy can be reduced by 75%.
- Houses insulated with green cover can have rooms with temperature 10°C lower than outside.
- Trees canopy can guide the wind up wards decreasing the speed and lowering the temperature, this minimizing the loss of moisture from the soil through evaporation.
- Noise Pollution – Comfortable, natural and acceptable sound level of 30 decibels is exceeded to a level of 120 decibels near airport and to 80 decibels by noisy trucks and motorcycles. Trees are endowed with the capability to mitigated and reduce this noise level by their leaf area.

The following species are suitable for abetment of pollution and Environmental improvement – Considering the Climate Pattern, Soil Suitability and also aesthetic point of view:-.

1. Azadirachtaindica
2. Albizialebbeck
3. Ficusebengalensis
4. Ficusbengalensis
5. Hibiscus tiliaceus
6. Lanneacoromandalica
7. Peltophorumferrugineu
8. Pungamiapinnata
9. Samaneasaman
10. Terminaliaarjuna
11. Meliaazedarachta

17. ADVANTAGES OF RAIN WATER HARVESTING

1. To meet the ever increasing demand for water. Water harvesting to recharge the ground water enhances the availability of groundwater at specific place and thus assures a continuous and reliable access to ground water.
2. To reduce the runoff which chokes storm drains and to avoid flooding of roads.
3. To reduce ground water pollution and to improve the quality of ground water through dilution when recharged to ground water thereby providing the quality of ground water through dilution when recharged to ground water thereby providing high quality water, soft and low in minerals.
4. Provides self – sufficiency to water supply and to supplement domestic water requirement during summer and drought conditions.
5. It reduces the rate of power consumption for pumping of ground water. For every 1 m rise in water level, there is a saving of 0.4 KWH of electricity.
6. Reduces soil erosion in urban areas
7. The rooftop rain water harvesting is less expensive, easy to construct, operate and maintain.
8. In saline or coastal areas, rain water provides good quality water and when recharge to ground water, it reduces salinity and helps in maintaining balance between the fresh – saline water interfaces.
9. In islands, due to limited extent of fresh water aquifers, rain water harvesting is the most preferred source of water for domestic use.
10. In desert, where rainfall is low, rain water harvesting has been providing relief to people.

18. WATER REQUIRMENT

This unit is going for expansion. The water requirement considering expansion of unit is as follows:-

Sr. No.	Unit	Existing plant	Proposed expansion	Total after expansion
1.	Ferro Alloy Plant	30 KLD	40 KLD	70 KLD
2.	CLU	-	80 KLD	80 KLD
3.	Domestic	5 KLD	28 KLD	33 KLD
Total		**35 KLD**	**148 KLD**	**183 KLD**

The unit is having No Objection Certificate (NOC) for abstraction of ground water i.e. 35 m^3/day from Central Ground Water Authority. The same is furnished in Annexure - 01.

Bihar Foundry & Castings Ltd. Marar Rangarh

19. SOURCE OF WATER SUPPLY

The main sources of water supply for its is domestic and Industrial uses in Ferro Alloys unit is Bore wells. The details of Bore wells are as follows:-

1 no. of Bore well 150 mm dia and 160 mt deep.

1 no. of Bore well 150 mm dia and160 mt deep.

For expansion project surface water of River Damodar. Intake of water will be from up stream of Tenughat Reservoir. The water allotment letter is furnished in Annexure – 02.

20. MONITORING OF GROUND WATER LEVEL THROUGH PIEZOMETER

The unit has installed Piezometer and flow meter. Piezometer is an instrument for measuring - the pressure of liquid or some thing related to pressure (such as compressibility of liquid). Piezometer is placed in bore hole to monitor the pressure or depth of ground water level. This is Digital water level recorder. The model of Piezometer is GRW – 01, Make E&E sections .The calibration certificate of Piezometer in furnished in Annexure – 03.

21. WATER MANAGEMENT

The water requirement considering future expansion also in Ferro Alloys unit of M/s Bihar Foundry and Casting Ltd., unit is 183 KLD. Considering 365 days working - the total water requirement in the year will be 183 x 365 = 66,795 KL or m^3/year.

The Rain water potential of factory premises has been worked out as 25,196 m^3/year.

Considering 60% effective recharge of 25,196 x 0.6 = 15117.6 m^3 – which is nearly 22% of water requirement.

Rain water will be mainly used in recharging the ground water aquifer. In the plant water will be mainly used for the following purposes:-

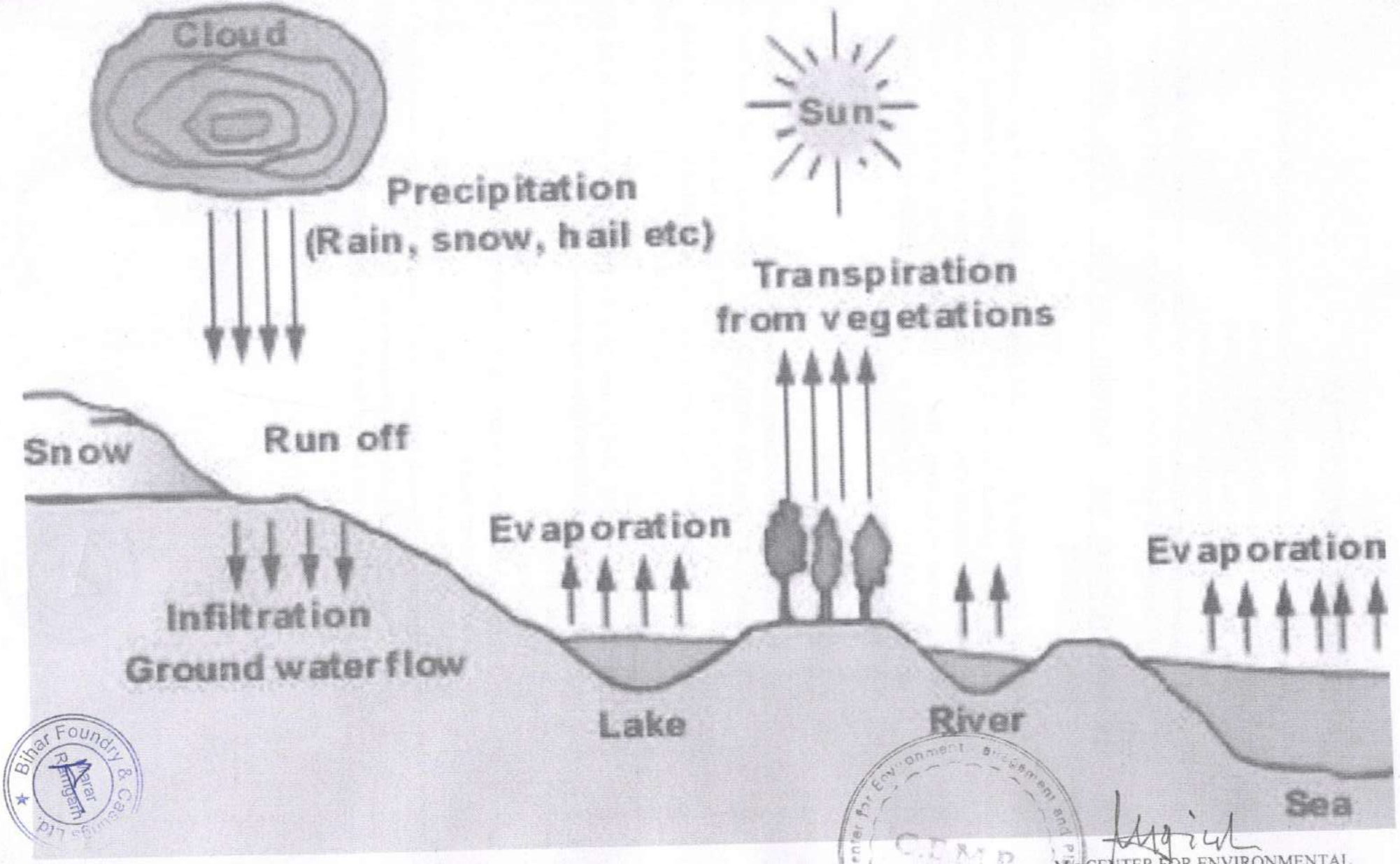
I. Industrial use
II. Domestic use
III. For dust supersession on road inside the factory premises
IV. Green belt Development

The bore well water will be used only for Industrial use and domestic use. Treated waste water and surface water (in future) will be used for dust suppression on roads and green belt development inside the factory premises. Rain Water Recharge pits and Rain water recharge trenches will be used for recharging the ground water aquifer.

Er. S.K.Singh
CEO
Centre for Environmental Management and Planning
Ranchi.

Bihar Foundry & Castings Ltd. Marar Ramgarh

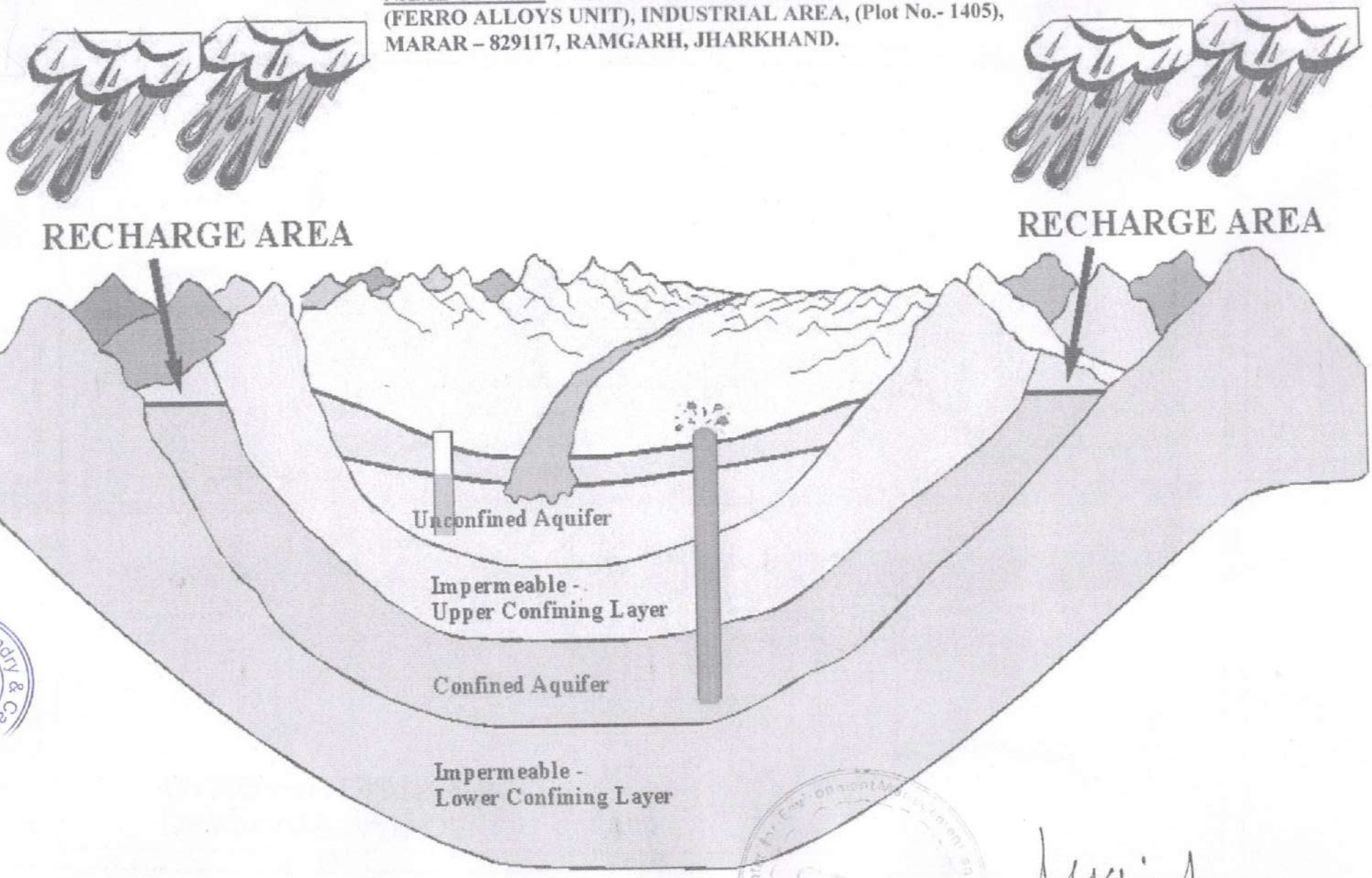
Centre for Environment C.E.M.P. 27, P.B. Adityapur Jamshedpur



THE WATER CYCLE

M/s CENTER FOR ENVIRONMENTAL MANAGEMENT AND PLANNING

NAME OF UNIT: - M/s BIHAR FOUNDRY AND CASTING LTD.,
(FERRO ALLOYS UNIT), INDUSTRIAL AREA, (Plot No.- 1405),
MARAR – 829117, RAMGARH, JHARKHAND.

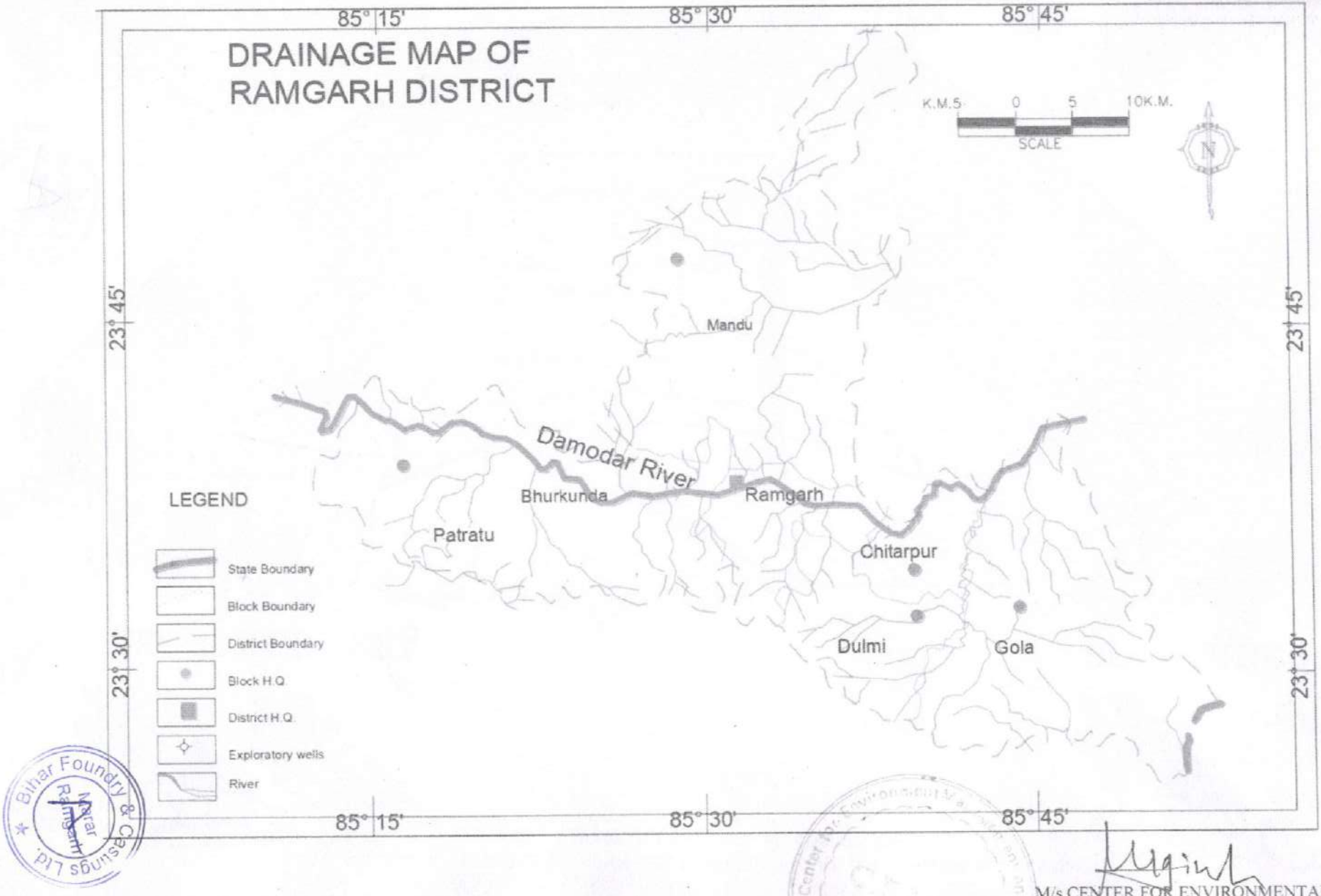


Bihar Foundry & Castings Ltd. Marar Ramgarh

THE CONFINED AND UNCONFINED AQUIFERS

MAP NO.- 02

M/s CENTER FOR ENVIRONMENTAL
MANAGEMENT AND PLANNING
M – 5, Harmu By Pass Road, Ranchi – 834002.



Bihar Foundry & Castings Ltd. Marar Ramgarh

MAP NO.- 03

M/s CENTER FOR ENVIRONMENTAL
MANAGEMENT AND PLANNING
M – 5, Harmu By Pass Road, Ranchi – 834002.

GOOGLE MAP OF

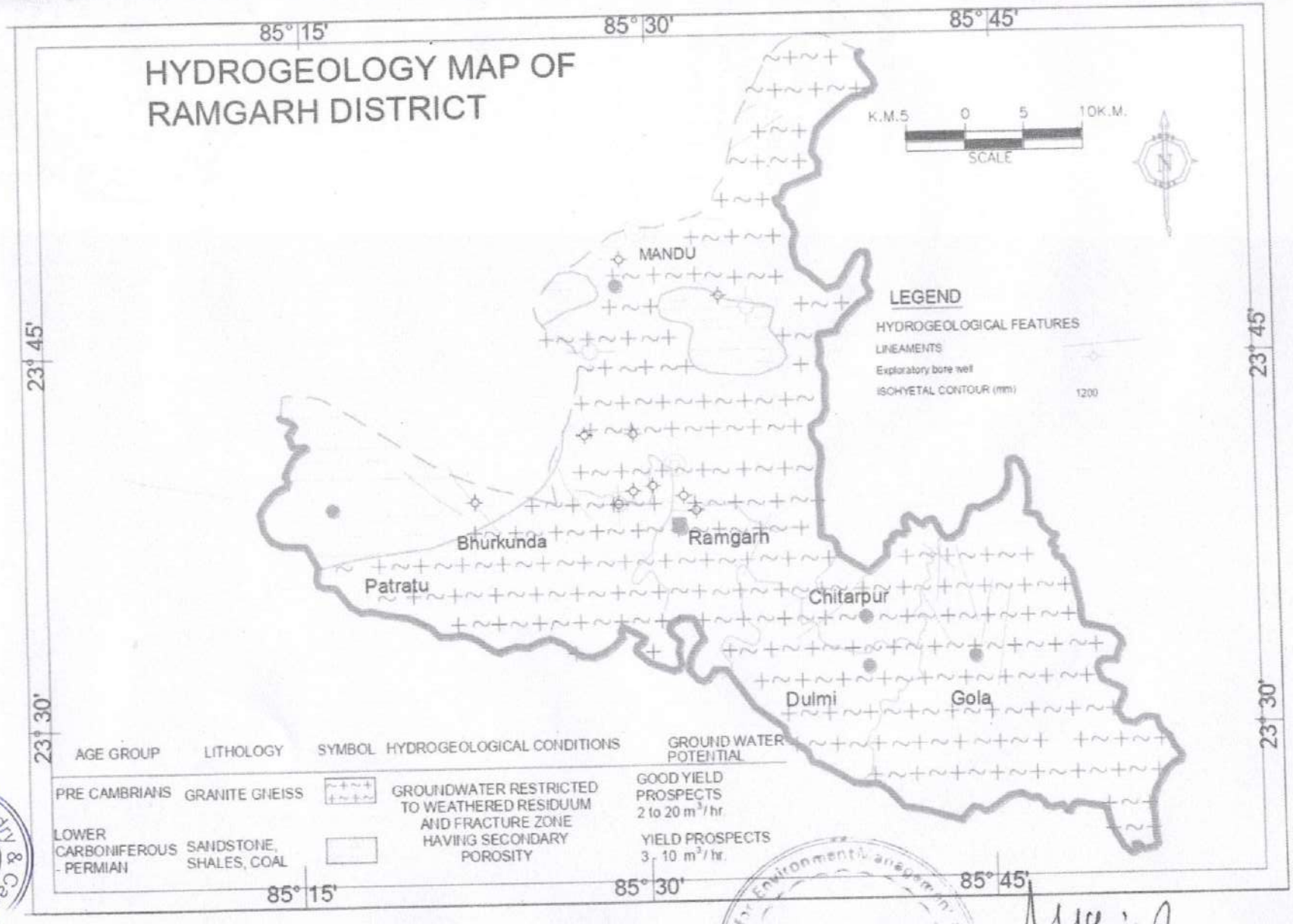
M/s BIHAR FOUNDRY AND CASTING LTD., (FERRO ALLOYS UNIT)
Industrial Area,
(Plot no.- 1405), Marar – 829117, Ramgarh, Jharkhand.

MAP NO.- 04

Bihar Foundry & Castings Ltd. Marar Ramgarh

M/s CENTER FOR ENVIRONMENTAL MANAGEMENT AND PLANNING
M – 5, Harmu By Pass Road,
Ranchi – 834002.

HYDROGEOLOGY MAP OF RAMGARH DISTRICT

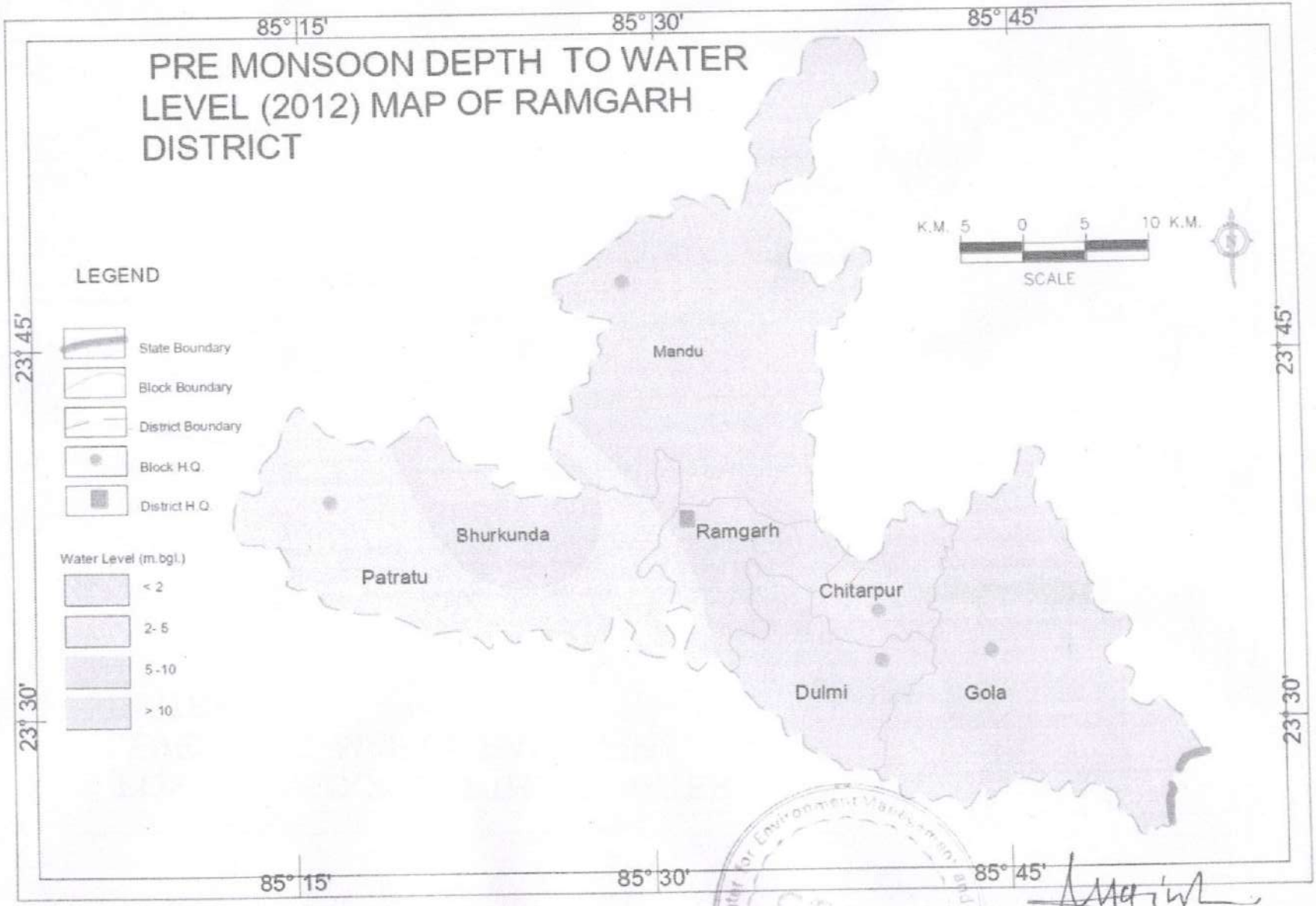


Bihar Foundry & Castings Ltd. Hararu Jamshedpur

C.E.M.P.

M/s CENTER FOR ENVIRONMENTAL MANAGEMENT AND PLANNING
M – 5, Harmu By Pass Road, Ranchi – 834002.

MAP NO.- 05



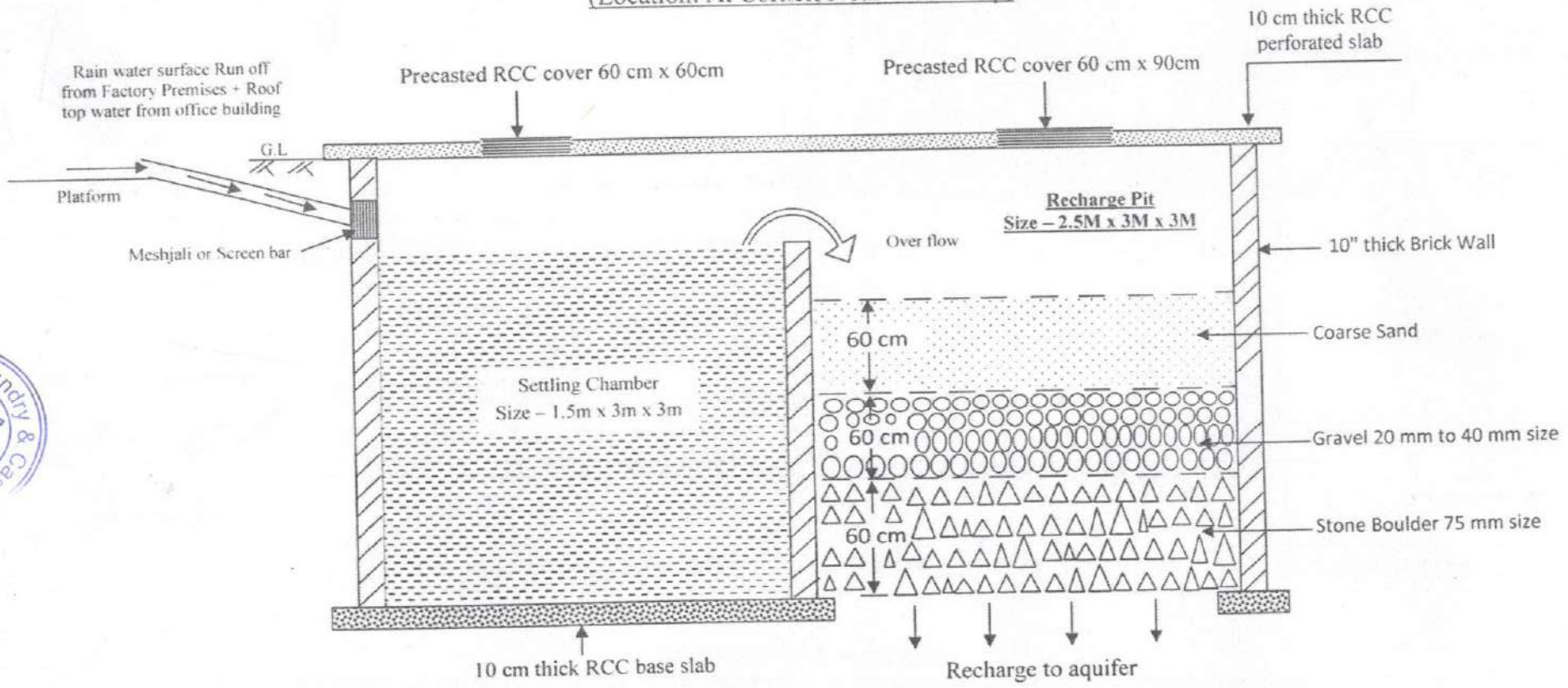
MAP NO.- 06

M/s CENTER FOR ENVIRONMENTAL MANAGEMENT AND PLANNING

NAME OF UNIT: - M/s BIHAR FOUNDRY AND CASTING LTD., (FERRO ALLOYS UNIT)
INDUSTRIAL AREA, (Plot No.- 1405), MARAR – 829117, RAMGARH, JHARKHAND.

RECHARGE PIT WITH SETTLING CHAMBER

(Location: At Corner, Near Work shop)



Note:

(i) Filtering Media of Recharge Pit should be of Standard specification and it should be replaced at every alternate year before onset of monsoon.

(ii) It is advisable to provide flowering ports on the top of the perforated slab for aesthetic view.

MAP NOT TO SCALE

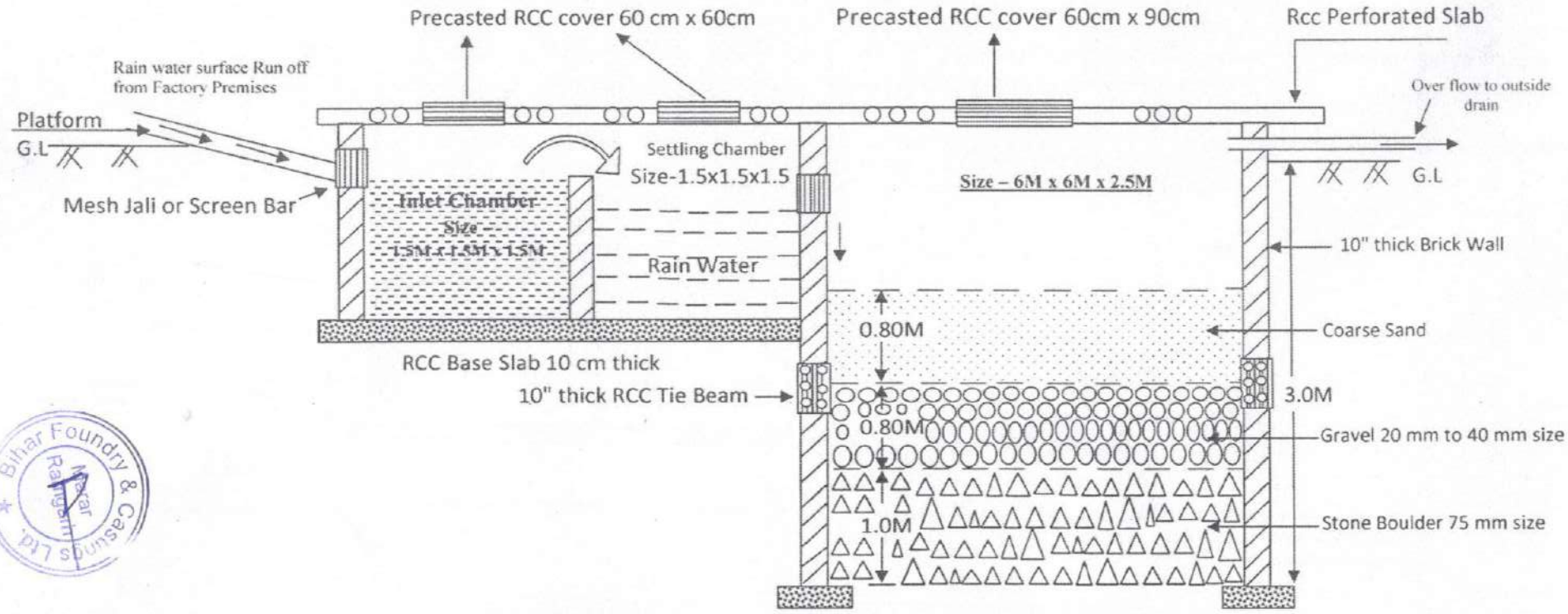
MAP NO.- 08

Prepared by
M/s CENTER FOR ENVIRONMENTAL MANAGEMENT AND PLANNING
M – 5, Harmu By Pass Road,
Ranchi – 834002.

NAME OF UNIT: - M/s BIHAR FOUNDRY AND CASTING LTD., (FERRO ALLOYS UNIT)
INDUSTRIAL AREA, (Plot No.- 1405), MARAR – 829117, RAMGARH, JHARKHAND.

RECHARGE PIT WITH SETTLING CHAMBER AND INLET CHAMBER

(Location: Near Main gate)



Note:

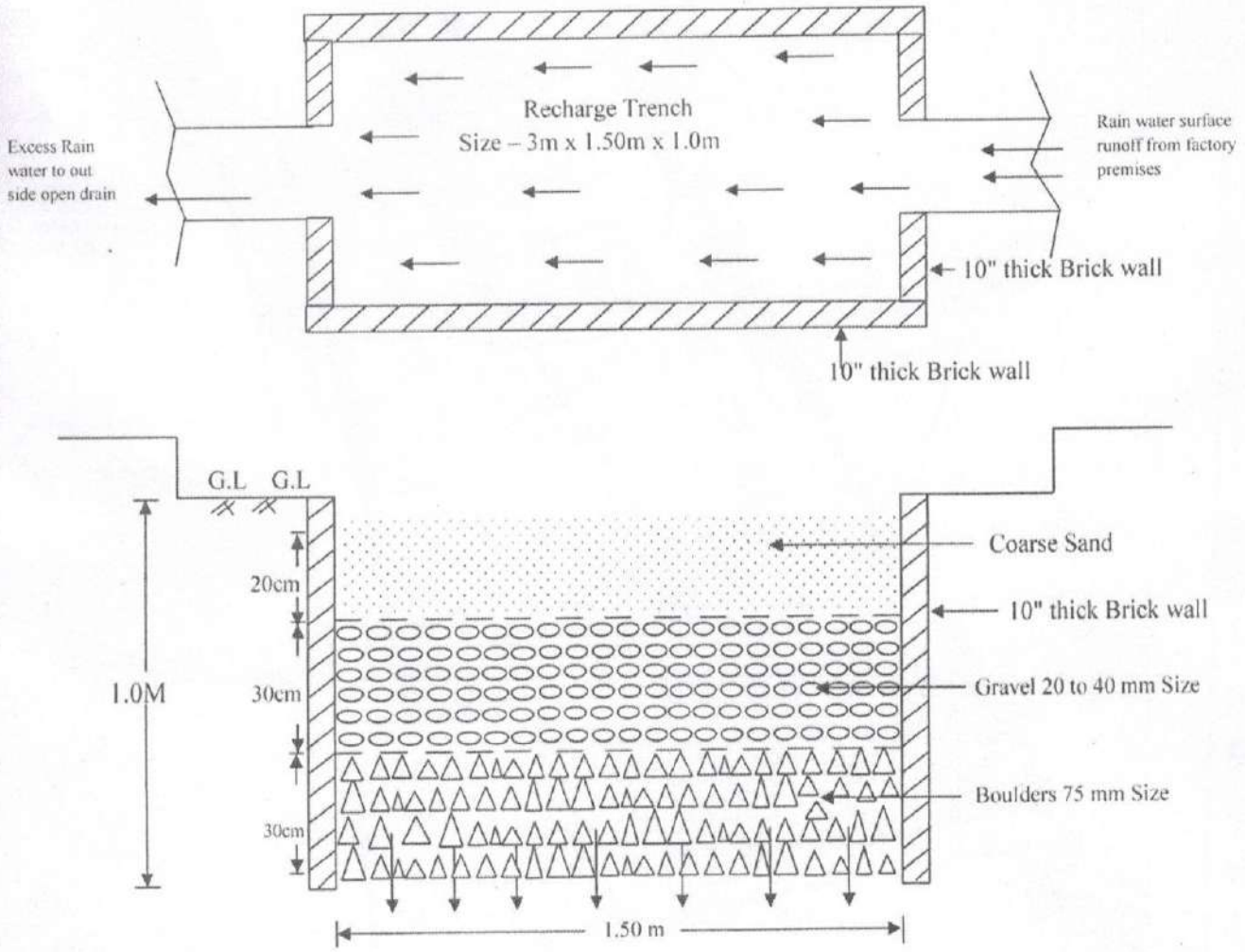
(i) Filtering Media of Recharge Pit should be of Standard specification and it should be replaced at every alternate year before onset of monsoon.

(ii) It is advisable to provide flowering ports on the top of the perforated slab for aesthetic view.

MAP NOT TO SCALE
MAP NO.- 09

Prepared by
M/s CENTER FOR ENVIRONMENTAL MANAGEMENT AND PLANNING
M – 5, Harmu By Pass Road,

NAME OF UNIT: - M/s BIHAR FOUNDRY AND CASTING LTD., (FERRO ALLOYS UNIT), INDUSTRIAL AREA, (Plot No.- 1405), MARAR – 829117, RAMGARH, JHARKHAND.



PLAN AND SECTIONAL ELEVATION OF RECHARGE TRENCH.

Note:-

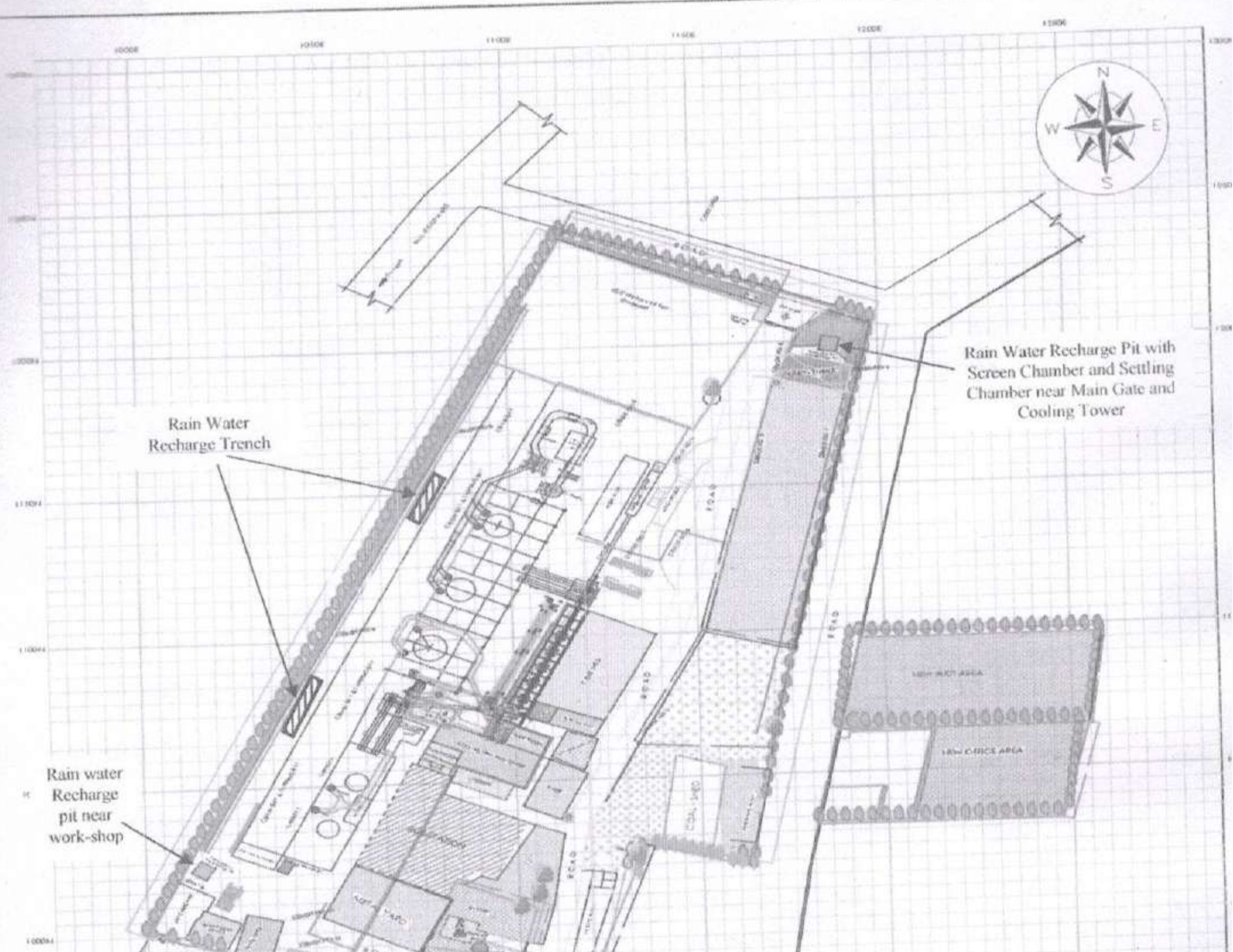
1. Recharge Trenches shall be provided by the sides of Boundary wall – as shown in Layout Plan of Factory Premises. Such type of trenches will be also useful to recharge the ground water up to some extent. These are constructed at shallow depth for increasing the soil moisture also.
2. The filtering media in Recharge trench shall be of standard specification.
3. Filtering media of Recharge trench shall be replaced at every alternate year before onset of monsoon.
4. Recharge trench shall be maintained throughout the year.

MAP NOT TO SCALE
MAP NO. - 10

Bihar Foundry & Casting Ltd. Marar Ramgarh

Center for Environment Management and Planning C.E.M.P. 27, F.E. Adityapur-2 Jharkhand

Prepared by
M/s CENTER FOR ENVIRONMENTAL MANAGEMENT AND PLANNING
M – 5, Harmu By Pass Road,
Ranchi – 834002.



MAP NO.- 11

M/s Bihar Foundry and Casting Ltd., (Ferro Alloys Unit)
Industrial Area, (Plot no.- 1405), Marar, Ramgarh, Jharkhand

FACTORY LAYOUT PLAN SHOWING
Rain Water Harvesting Recharge Pit & Recharge Trenches

Annexure -01

भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Bfcl- Gautam Ferro Alloys		
Project Address:	Plot1405 (p), Marar Industrial Area, Ps Ramgarh		
Town:	Mandu (ct)	Block:	Mandu
District:	Ramgarh	State:	Jharkhand
Pin Code:			
Communication Address:	Managing Director, M/s Bihar Foundry And Castings Ltd, Main Road, Ranchi-834001, Namkum, Ranchi, Jharkhand - 834001		
Address of CGWB Regional Office :	Central Ground Water Board Mid Eastern Region, 6th & 7th Floor, Lok Nayak Jai Prakash Bhawan, Frazer Road Dak Banglow, Patna, Bihar - 800011		

1. **NOC No.:** CGWA/NOC/IND/ORIG/2021/10628
2. Application No.: 21-4/590/JH/IND/2019
3. Category: (GWRE 2017) Semi Critical
4. Project Status: Existing Project
5. NOC Type: New
6. **Valid from:** 02/01/2021
7. **Valid up to:** 01/01/2024
8. Ground Water Abstraction Permitted:

Fresh Water		Saline Water		Dewatering		Total	
m³/day	m³/year	m³/day	m³/year	m³/day	m³/year	m³/day	m³/year
35.00	12775.00						

9. Details of ground water abstraction /Dewatering structures

	Total Existing No.:2						Total Proposed No.:1					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	2	0	0	0	0	0	1	0	0	0

*DW- Dug Well, DCB-Dug-cum-Bore Well, BW-Bore Well, TW-Tube Well, MP-Mine Pit,MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 76650.00
11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.

No. of Piezometers	Monitoring Mechanism		
	Manual	DWLR**	DWLR With Telemetry
1	1	0	0

**DWLR - Digital Water Level Recorder

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011
Phone: (011) 23383561 Fax: 23382051, 23386743
Website: cgwa-noc.gov.in

पानी बचायें - जीवन बचायें
SAVE WATER - SAVE LIFE

Bihar Foundry & Castings Ltd. Marar Ramgarh

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

1) Installation of digital water flow meter (conforming to BIS/ IS standards) having telemetry system in the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate through the web portal.

2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.

3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II.

4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.

5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.

6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.

7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.

8) The firm shall submit the water audit report in case of water requirement is in excess of 100 m3/day through certified auditors within three months of completion of the same to CGWA.

9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.

10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).

12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).

13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.

14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.

15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.

16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.

17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.

18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.

19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.

20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.

21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.

22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

Annexure -2

झारखण्ड सरकार
जल संसाधन विभाग

पत्रांक :– 1/PMC/विविध /958/2020..... /राँची, दिनांक.....

प्रेषक,

ई० नागेश मिश्र,
अभियंता प्रमुख–1

सेवा में,

Member Secretary,
DVRRC,
Central Water Commission,
Maithon, Dhanbad, Jharkhand.

विषय :– **Allocation of 0.598 MCM (0.36MGD) of Raw Water from River Damodar to M/S Bihar Foundry and casting Limited (BFCL), Ramgarh Industrial Area, P.O- Morar, Ramgarh- 829117.**

प्रसंग :– (i) DVRRU का पत्रांक :MD/DVRRC/W-6/(BFCL)/2019/1758-63, दिनांक–27.09.2021
(ii) Water Allocation Committee की कार्यवाही, दिनांक–27.11.2020

महाशय,

उपर्युक्त विषयक आपके प्रासंगिक पत्र के क्रम में जलावंटन समिति के अनुशंसा के आलोक में M/S Bihar Foundry & Casting Limited, Ramgarh Industries Area को दामोदर नदी (U/S of Tenughat Reservoir, Lat-23^0 38'31'' N एवं Long -58^0 30'19''E) से 0.598 MCM (0.36MGD) जलावंटन हेतु अनुशंसा की जाती है।

प्रस्ताव पर माननीय विभागीय (मुख्य) मंत्री का अनुमोदन प्राप्त है।

विश्वासभाजन

ह०/–
(नागेश मिश्र)
अभियंता प्रमुख–1

पत्रांक :– 1/PMC/विविध /958/2020...174... /राँची, दिनांक 09.03.2022

प्रतिलिपिः– M/S Bihar Foundry & Casting Limited, Ramgarh Industrial Area, P.O Morar, Ramgarh, Jharkhand - 829117 को सूचनार्थ प्रेषित।

09/03/2022

(नागेश मिश्र)
अभियंता प्रमुख–1

Bihar Foundry & Castings Ltd. Morar Ramgarh

Annexure -03

ENGINEERING AND ENVIRONMENTAL SOLUTIONS

Add: 4/1309, New Sir Syed Nagar, Aligarh - 202002, UP
Web: www.enggenv.com, E-mail: enggenvsolutions@gmail.com

Calibration Certificate

Customer Name & Address		Certificate No.	EES/GWLR/357
Ashish kataria Bihar foundry & castings ltd Industrial area marar Ramgarh - 829117		Date of Issue	26.10.2021
		Date of calibration	25.10.2021
		Calibration Valid Upto	24.10.2022
		Service request no. & Date	

Instrument Detail			
Name	Ground Water Level Recorder	Least Count	---
Make	E&E Solutions	Accuracy/Acceptacne	---
Model	GWR - 01	Visual Inspection	OK
Sr. No	2108001101971	Zero Error	Not Found
ID No	GWR01366	Location	In Lab
Range/Size	---	DUC Location	---

Standard Instruments used for Calibration				
Sl	Instrument Name	Calibrated By	Calibration Certificate No.	Calibration Validity
1	Pressure Transmitter	Jupiter Electronics	JI/DK/20-21/014465	02.03.2022

Environmental Condition			
Temperature (°C)	25 ± 3	Humidity (%RH)	35 to 70

Calibration Result			
S.No	Applied Pressure (BAR)	DUC Reading (m)	Standard Reading (m)
1	0.50	4.02	5.00
2	1.30	12.31	13.00
3	2.70	26.12	27.00

Results presented on this calibration certificate relates only to the item mentioned.
The calibration results reported in this certificate are valid at the time of and under the stated conditions.
The uncertainties are for a confidence probability not less than 95% unless specified otherwise.
E&E is not responsible for any damage arising out of incorrect use of the calibrated instrument.
This certificate shall not be reproduced except in full without written permission of E&E Engineering & Environmental Solutions.
NA: Stands for Less or Under Calibration.

Calibrated by

Reviewed by

Approved by

Bihar Foundry & Castings Ltd. Marar Ramgarh

Letter No. 7/EP 1014 /2022 श्रo नि०(मु०का०नि०)– 304

OFFICE OF THE CHIEF INSPECTOR OF FACTORIES, JHARKHAND, RANCHI.

LABOUR BUILDING, DORANDA, RANCHI-834002

(Email ID- cifoffice123@gmail.com)

From,

Chief Inspector of Factories, Jharkhand,
Ranchi.

To,

The Occupier,
M/s Bihar Foundry and Castings Ltd
Unit Gautam Ferro Alloys
Marar, Ramgarh Industrial Area,
District: Ramgarh- 829117

Ranchi, Date : 20-04-2022

Subject: Recommendation of On-site Emergency Plan of M/s Bihar Foundry and Castings Ltd Unit Gautam Ferro Alloys, Marar, Ramgarh Industrial Area, Ramgarh.

Reference: Your letter dated-06.04.2022.

This has reference to your letter date-06.04.2022 along with On-site Emergency Plan which consists of total forty six (46) pages. The submitted emergency response plan has been verified and examined. The above on site emergency plan is recommended subject to the following conditions: -

1. Regular Mock- drill shall be carried out in the factory at least once in every year and the report shall be made available to the area Inspector of Factories and Chief Inspector of Factories.
2. The safety audit shall be conducted by experienced competent person/ Agency/ Institutions. The safety audit report, health & safety policy, Hazard analysis report & fire load calculation report shall be submitted.
3. The Emergency Plan will be up-dated and revised as per modification in the plant.
4. Adequate arrangement of medical/relief facilities (first aid equipments etc.) shall be provided and maintained in the emergency control room.
5. Telephone number of key persons to be noted and displayed in the central control room.
6. The Independent power back-up facility for Emergency Control Room shall be provided.

Encl: A copy of the recommended plan is enclosed herewith.

Yours faithfully,

20/4/2022

Chief Inspector of Factories, Jharkhand,
Ranchi

Bihar Foundry & Castings Ltd. Marar Ramgarh

Annexure 6

Bihar Foundry & Castings Limited - Ferro Alloys Unit

Green Belt Development - Existing and Proposed Plan

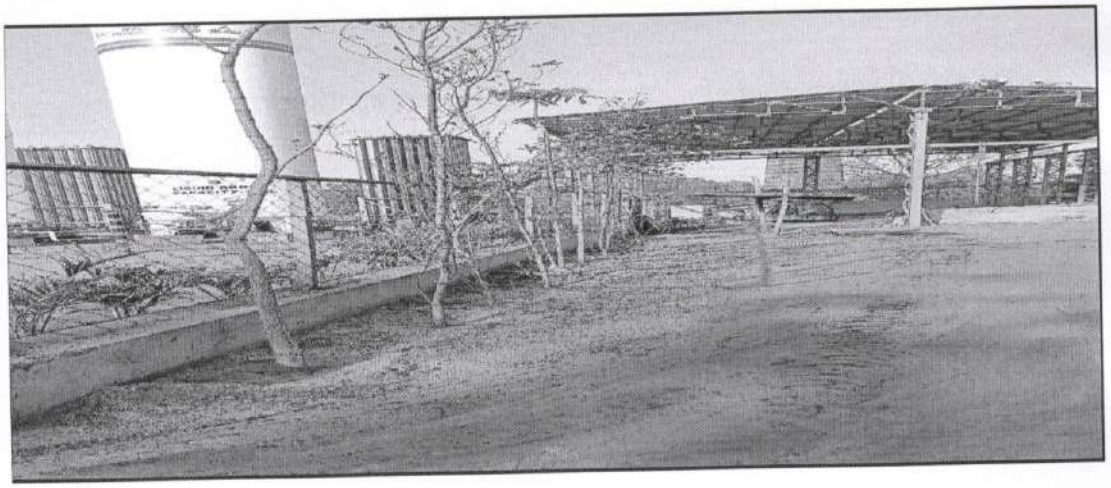
Exising Greenbelt Development

S. No.	Year	No. of trees	Area covered, acre
1	Upto 2022-23	1300	1.3

Proposed Greenbelt Development Plan

S.No	Year	No. of trees	Cumulative tree plantation	Cumulative Area to be covered, acre
1	2023-24	500	1800	1.80
2	2024-25	310	2110	2.11
3	2025-26	250	2360	2.36

Bihar Foundry & Castings Ltd. Marar Ramgarh



Bihar Foundry & Castings Ltd.
Mazar
Ramgarh

Annexure 7

BIHAR FOUNDRY & CASTINGS LIMITED, FERRO ALLOYS UNIT

CSR EXPENDITURES FOR THE PERIOD OF OCTOBER 2022 TO MARCH 2023

S. No.	Expenditure Heads	Benifeciary Name	Purpose	Amount INR
1	WOMEN EMPOWERMENT	Usha International Ltd.	Women training of tailoring	180,983
			Subtotal 'A'	**180,983**
2	COMMUNITY WELFARE	Mahar Shyamdhani Datar	-	21,000
3		Richa Prasad	Livelihood Support	30,000
4		Ranjit Sharma	Livelihood Support	9,000
5		Food Distribution	Food for needy people	239,840
6		Police Barrier	26 Nos. of Police Barrier	168,114
7		NRI Public Toilet	For public Toilet	3,375
8		Baba Fabricator / SSK Electricals Equipments LLP	Beautification work of Veer Kunwar Singh Statue	28,400
9		Pritam Kumar Jha	Maha Aarti (Rajrappa)	55,000
10		Mamta Devi	For making of her house	104,236
11		Narendra Mahto	Provide Hearing Aid for a deaf person	17,990
12		Bagaria Furniture	Visitors Chair	22,881
13		Sri Sri Kali Puja Samiti	Renovate existing temple	500,000
14		Shri Ram Handloom Industries / Shri Ram Handloom Industries / Maa Annapurna Transport Agency Pvt. Ltd.	Donation of Blanket to the needy and poor people	476,010
15		Nasrun Praveen	Daughter marriage support (Sabia Praveen)	25,000
16		Sign Board	Sign Board	35,000
17		Surati Devi	She is living alone (for livelihood support)	4,500
18		Sage Saint	Vehicle arrangement to go Ganga sagar yatra	21,884
19		Onkar Old Age Home	Providing food grains to an oldage home	4,975
20		Shafina Khatoon	Daughter's Marriage Support	25,000
21		Pankaj Kumar Mandilwar	Daughter's Marriage Support	25,000
22		Rakesh Kumar Gupta	Son's Cremation Support	25,000
23		Bimal Mandal	Wife Cremation Support	25,000
24		Prabha Devi	Husband Cremation Support	25,000
25		Shyam Singh	Wife Cremation Support	25,000
26		Sanjit Kumar	Eye Checkup & purchasing of spectacles	20,264

S. No.	Expenditure Heads	Benifeciary Name	Purpose	Amount INR
27		Junior Chamber International	To Celebrating Republic day	7,000
28		Ranchi Ayyappa Seva Samithy	As donation towards contruction of the Sree Ayyappa Temple at Ranchi	250,000
29		Sunita Devi	In daughter's Marriage Tent and Rasion (food grains) support	73,267
30		Ashok Prasad Soni	Auto Repairing	29,750
31		Oldage & Orphanage Home	Provide necessary materials	204,953
32		Jyoti Kabra	Husband Crematon Support	50,000
33		Puja Devi Sah	LPG expenses support	6,666
			Subtotal 'B'	**2,559,105**
34		Rajkiya Madya Vidyalay, Ranchi Road	Bench-Desk- 20 nos. / Submersible with pipeline connection / Civil work for bathroom / Shatter gate for computer class room	178,487
35		Government School	Distribution of School bags & Geometry Boxes	300,230
36		UMMID SPECIAL SCHOOL (Cantonment Board)	Hearing Aids, Wheelchairs, Carom Board, Football, Wooden Puzzle, Kids Cartoon	89,950
37		Skill Development Assistance	Assembled Desktop Computer (20 Nos.)	386,130
38		Khushi Kabra (d/o Sanjay Kabra)	School Fees (Nov-22- Mar-23)	13,950
39		A1 Public School	Development Work	911,722
40	**EDUCATION**	Utkramit Ucchay Vidyalay Manua	School Development Work	68,812
41		Mr. Ranjit	Daughter's laptop repairing	2,797
42		Faruk Ansari	Higher educational of two years diploma course in **D.OPTH**	60,000
43		Rinki Kumari	2 Daughters education support	103,366
44		Sanjit Kumar	2 Daughters education support	15,300
45		Y.A.BENEFIT TRUST	For School development work at Gumla (Jharkhand) trible school	251,000
46		Sanjit Kumar	2 Daughters (Ms Sakshi & Sonakshi) education support	150,800
47		Govt. Middle School, Koritola	Provided 4 nos. of Library Almirah, drinking water facilities	77,970
			Subtotal 'C'	**2,610,514**

S. No.	Expenditure Heads	Benifeciary Name	Purpose	Amount INR
48	HEALTH & MEDICAL	Priti Pandey	Pancreas and Liver Cancer	175,000
49		Sanjay Kabra	Heart Failure (For Ventilator) / Heart Failure (Admitted in ICU)	200,000
50		Suman Acharya	Bone fracture (ILAIZAROV for infected IV fracture distal femur)	158,425
51		Abhishek Kumar Pandey	Accidentally suffering from Brain Hemorrhage & some bone fractures	23,389
52		Jay Prakash Singh	Umbillical Hernia with Liver Cirrhosis	192,053
53		Sagar Kumar Paswan	Ileostomy Closure Disease	94,438
54		Shankar Prasad	IBD patient	95,021
55		Harsh Gupta	Medical treatment (Accidental Victim)	439,533
56		Siddhi Vinayak Medical & Surgical	Medical Kit	12,321
57		Master SAMAR MISHRA	Treatment of Heart Disease	200,000
58		Daso Devi	Right leg fractured	73,847
59		Shri Krishn Bihari Pandey	Postrate Cancer	15,000
60		Narendra Sit	Hearing Aids Support	18,490
61		Tej Kumar Pradhan	Medicine expenses of Lungs Cancer patient	240,000
62		Dikshita Mahato	Bone Marrow Transplant	400,000
63		Ashwin Mathew	Liver Transplant	300,000
64		Chhaya Mandal	Brain Haemorrhage Treatment	300,000
65		Prem Chandra Kumar	Medical treatment his both leg (Amputated Leg)	386,350
66		Brajesh Prajapati	Mouth Cancer- Stage II Treatment Support	349,905
67		Rashid Ansari	Gallbladder Stone Surgery Support	43,725
68		Khwahish Goel	Medical Treatment	590,380
69		Sita Devi	Mother of Dipti Kumari (Archary) Medical treatment at Medanta	39,733
70		Mr. Dilip Senapati	Medical Treatment of L3-L4 Prolapsed Intervertenral Disc	300,000
			Subtotal 'D'	**4,647,610**
71	SPORT	Raj Sports Company	Being provided Football Jersey at Sagrampur,Gola	12,277
72		S M ENTERPRISES	Volleyball Jersey	13,500
73		Jharkhand State Table Tennis Association	Sponsered Table Tennis	175,000
74		Raising Cricket Academy	Sponsering T(12) Knokout Cricket Tournament	31,000
75		Yuva Cricket Tournament	Sponsering Cricket Tournament	15,000
			Subtotal 'E'	**246,777**
			Grand Total (A+B+C+D+E)	**10,244,989**

Bihar Foundry & Casting Ltd. Mural Ranjan

CORPORATE ENVIRONMENTAL POLICY

The "**BIHAR FOUNDRY & CASTINGS LIMITED.**" is committed for its contribution to the upliftment of the Society is forever committed to protect and save the Environment, keeping in mind the Sustainable Development.

Resolution: **BIHAR FOUNDRY & CASTINGS LIMITED** on **1st January 2023**, the Management has taken a decision on Environment Policy, that it is committed to operate the Ferro Alloys Plant at Plot No. 1405(P), Ramgarh Industrial Area, Marar Village, Ramgarh Tehsil & District Jharkhand with the following objectives.

Corporate Environment Responsibility Policy

As a Corporate Organization we believe that it is our primary purpose to give back to society. Giving and sharing what we have received is embedded deeply in us. We will actively pursue to raise the quality of life of the people around us. We hold hands in our joint effort to create better tomorrows.

- Strict monitoring and compliance of the conditions stipulated in Environmental clearance & Environment Protection Act & Rules.
- Strict monitoring and compliance of the conditions stipulated in Consent for Establishment issued by Jharkhand State Pollution Control Board (JSPCB).
- Ensuring Implementation and regular operation of air emission control measures.
- Periodical monitoring of all environmental parameters such as Ambient air quality, stack emission monitoring, water quality, noise levels, soil quality, etc. and submission of the same to statutory authorities periodically.
- Maintaining good housekeeping practices.
- The compliance of the EC conditions / JSPCB norms will be reported to the Board of Directors every Six (6) months.
- Appropriate corrective measures will be taken along with sanction of the budget.

Quality Policy

- Delivering the required products at the right place at the right time at the right cost from our Plant form the very backbone of our Principles of Manufacturing.
- We view improvement as a continuous process. We are constantly aspiring to achieve betterment of our core processes, be it manufacturing, quality control, sales or delivery. There is a joint effort to achieve Manufacturing Excellence.

Cont.....

Occupational Health & Safety Policy

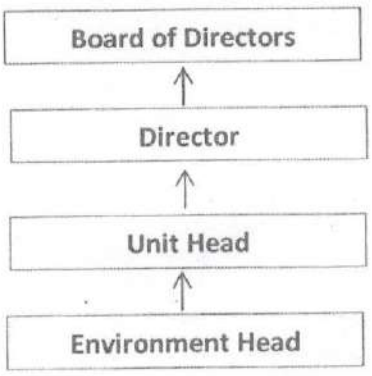
We follow the occupational health and safety policy as below

- Create an environment which is safe and secure for everyone in its vicinity, be it a worker, contractor, visitor and even the local community. All identifiable risks and hazards are treated with the gravest concern.
- To constantly endeavour towards the highest level of health and safety such that injuries, waste and emissions are reduced to the bare minimum.
- Train all employees to work safely and responsibly thus preventing injury to themselves and others.
- Ensure that optimum conditions exist for the proper execution of all the stipulated health and safety norms.

COMPLIANCE REVIEW MECHANISM

- Environmental Head will inform Non-compliances to the Unit Head.
- The Action plan and target date to close the non-compliance will be formulated by Unit Head in consultation with concern department.
- Unit head will inform to Director within 2 days.
- Director will inform the Board of Directors about the Non-compliances and Action plan within 3 days.
- This will be discussed with the Designated Director and necessary approval with Budget sanction will be made with 5 days after receiving information from Director.
- General Review of compliance on Environmental Clearance / JSPCB conditions by the Board of Directors will be carried out every Six months.

The following will be the communication chart for flow of the information pertaining to Environment Policy.



Place: Ramgarh
Date : 01.01.2023

For: Bihar Foundry & Castings Limited (Ferro Alloys Plant)

Gaurav Budhia
DIRECTOR

Annexure 9

Bihar Foundry & Castings Limited,Ferro Alloys Unit

Occupational Health Medical Examination

SL. NO	UHID NO	NAME	AGE	DATE
1	APP568	CHHOTE LAL PRASAD	45	24-12-2022
2	APP569	VIKASH NAYAK	22	24-12-2022
3	APP570	ANIL GHASI	32	24-12-2022
4	APP571	KAMLESH BEDIYA	36	24-12-2022
5	APP572	SANTOSH MAHTO	40	25-12-2022
6	APP573	RAMESH MAHTO	48	24-12-2022
7	APP574	RAKESH KUMAR	46	25-12-2022
8	APP575	VINOD TIWARI	50	25-12-2022
9	APP576	SURENDRA SINGH	37	24-12-2022
10	APP577	RAJENDRA PRASAD	60	25-12-2022
11	APP578	DHANESH BEDIA	40	25-12-2022
12	APP579	DIGAMBAR BEDIA	49	25-12-2022
13	APP580	KAMDEO MAHTO	42	24-12-2022
14	APP581	GANESH BEDIA-3	45	24-12-2022
15	APP582	KARTIK KARMALI	40	24-12-2022
16	APP583	ARJUN BEDIA	45	24-12-2022
17	APP584	RATHU MAHTO	55	24-12-2022
18	APP585	JAGLAL MAHTO	38	25-12-2022
19	APP586	TULESHWAR BEDIA	45	24-12-2022
20	APP587	DEV NARAYAN MAHLI	39	25-12-2022
21	APP588	MADESHWAR MAHTO	45	24-12-2022
22	APP589	RAJU BEDIA - 1	35	24-12-2022
23	APP590	LAL MOHAN MAHTO	57	25-12-2022
24	APP591	PAPPU PRASAD	36	25-12-2022
25	APP592	ARVIND MAHTO	45	25-12-2022
26	APP593	MOHAN PRASAD	28	25-12-2022
27	APP594	CHOTE LAL BEDIA	28	25-12-2022
28	APP595	RAM PRAVESH MAHTO	44	25-12-2022
29	APP596	VIKASH BEDIA	20	25-12-2022
30	APP597	BISHESHWAR KARMALI	49	25-12-2022
31	APP598	BUDHESWAR MAHTO	47	24-12-2022
32	APP599	KOLESHWAR RAJWAR	44	24-12-2022
33	APP600	AJAY KUMAR	24	25-12-2022
34	APP601	KEDAR NATH MAHTO	47	25-12-2022
35	APP602	VIJAY SHANKAR SHARMA	27	25-12-2022
36	APP603	MD. JAVED	25	25-12-2022
37	APP604	PRADEEP KUMAR HEMBROM	25	25-12-2022
38	APP605	UMESH BEDIA	38	24-12-2022
39	APP606	MANJAY SINGH	45	25-12-2022
40	APP607	MOHAN MAHTO	50	25-12-2022
41	APP608	DILIP KUMAR	30	25-12-2022
42	APP609	AGHNU BEDIYA	55	25-12-2022
43	APP610	RAJU BEDIA	28	24-12-2022
44	APP611	KISHUN PRASAD	29	25-12-2022
45	APP612	SUKLAL MUNDA	50	24-12-2022
46	APP613	NIMAI SINGH	50	24-12-2022
47	APP614	MAHESH RAM	55	24-12-2022
48	APP615	DILIP TOPO	30	24-12-2022

Bihar Foundry & Castings Ltd. Marar Ramgarh

SL. NO	UHID NO	NAME	AGE	DATE
49	APP616	TOOFAN RAJWAR	23	25-12-2022
50	APP617	SEEMA MAHTO	57	25-12-2022
51	APP618	RAM KISHOR BEDIA	51	24-12-2022
52	APP619	JAI PRAKASH THAKUR	46	24-12-2022
53	APP620	UTTAM CHAND MAHTO	48	25-12-2022
54	APP621	DINESH BEDIYA	32	25-12-2022
55	APP622	NANKU BEDIA	40	24-12-2022
56	APP623	SUJEET GAJANAN KAWARE	29	25-12-2022
57	APP624	KESHAV MAHTO	48	25-12-2022
58	APP625	BALESHWAR BEDIA - 2	42	24-12-2022
59	APP626	BALESHWAR BEDIA - 1	42	24-12-2022
60	APP627	MUKESH MUNDA	34	25-12-2022
61	APP628	VIJAY YADAV	46	25-12-2022
62	APP629	KISTO RAM BEDIYA	45	25-12-2022
63	APP630	ADITYA KUMAR	28	25-12-2022
64	APP631	SURAJ KUMAR	20	25-12-2022
65	APP632	HEERA LAL YADAV	47	24-12-2022
66	APP633	KISTO SINGH	45	24-12-2022
67	APP634	PUNCHDEV MAHTO	47	25-12-2022
68	APP635	UMESH BEDIYA	28	25-12-2022
69	APP636	NAGESHWAR GOPE	34	25-12-2022
70	APP637	NAGESHWAR BEDIA - 3	45	24-12-2022
71	APP638	RUPESH GOPE	28	25-12-2022
72	APP639	BHIMLAL KARMALI	35	25-12-2022
73	APP640	AGHNU RAJWAR	34	25-12-2022
74	APP641	SOBHANAND KARMALI	34	25-12-2022
75	APP642	SHIVNARAYAN BEDIA	45	25-12-2022
76	APP643	RAMESH KUMAR BEDIYA	23	25-12-2022
77	APP644	RAMESHWAR MAHTO	49	24-12-2022
78	APP645	RATHO BEDIA	45	24-12-2022
79	APP646	DURMIL MAHTO	55	25-12-2022
80	APP647	HARIDWAR KARMALI	50	25-12-2022
81	APP648	DASRATH BEDIA	43	25-12-2022
82	APP649	SANTOSH KUMAR	31	25-12-2022
83	APP650	SANJAY BEDIA	35	24-12-2022
84	APP651	SHYAM DEO BEDIA	33	24-12-2022
85	APP652	SAMSHED ANSARI	38	25-12-2022
86	APP653	VIJAY SAW	44	25-12-2022
87	APP654	ATIULLAH ANSARI	48	25-12-2022
88	APP655	DEEPAK THAKUR	38	25-12-2022
89	APP656	VISHAL BEDIA	23	25-12-2022
90	APP657	MUNESHWAR BEDIA	45	25-12-2022
91	APP658	AMAR RAVI DAS	23	25-12-2022
92	APP659	CHAMAN KARMALI	47	25-12-2022
93	APP660	MD. ANWAR ALAM	51	24-12-2022
94	APP661	SUNDAR LAL MAHTO	47	24-12-2022
95	APP662	ROHIT KUMAR	28	24-12-2022
96	APP663	MD. SAGIR	41	24-12-2022

SL. NO	UHID NO	NAME	AGE	DATE
97	APP664	SUNIL KUAMR PRASAD	32	24-12-2022
98	APP665	AYAN DUTTA	24	24-12-2022
99	APP666	SAMBHU KUMAR SINGH	45	24-12-2022
100	APP667	MANOJ KUMAR SINGH	46	24-12-2022
101	APP668	CHUDAMANI MALLAH	35	24-12-2022
102	APP669	KULDEEP PRASAD	51	24-12-2022
103	APP670	SHASHI KUMAR	28	24-12-2022
104	APP671	JITENDRA KUMAR	23	24-12-2022
105	APP672	SHABAZ ANSARI	34	24-12-2022
106	APP673	DEV KISUN BEDIYA	30	24-12-2022
107	APP674	BINDESHWAR MAHTO	40	24-12-2022
108	APP675	PANCHAM MAHTO	45	24-12-2022
109	APP676	RADHE PASWAN	53	24-12-2022
110	APP677	JAIPAL BEDIA	28	24-12-2022
111	APP678	LAXMAN BEDIA	35	24-12-2022
112	APP679	RUPLAL MAHTO	41	24-12-2022
113	APP680	RANJEET KUMAR SAH	41	25-12-2022
114	APP681	BRAJESH KUMAR JAISWAL	40	25-12-2022
115	APP682	HARIDWAR TIWARI	47	25-12-2022
116	APP683	SUHAIL ARIF	27	25-12-2022
117	APP684	RAM LAL RAJWAR	35	25-12-2022
118	APP685	BIKRAM KUMAR	32	25-12-2022
119	APP686	DEEPAK BEDIA	25	25-12-2022
120	APP687	NIRMAL BEDIYA	25	25-12-2022
121	APP688	KHIRODHAR RAJWAR	41	25-12-2022
122	APP689	SUJEET KUMAR	45	25-12-2022
123	APP690	MOTIRAM MAHTO	47	24-12-2022
124	APP691	CHARAN MAHTO	44	25-12-2022
125	APP692	SHIV KUMAR MISHRA	48	25-12-2022
126	APP693	SANJAY KUMAR	56	25-12-2022
127	APP694	PARWEJ ALAM	34	25-12-2022
128	APP695	RAMASHANKAR SINGH	52	25-12-2022
129	APP696	MANNU BEDIA	30	25-12-2022
130	APP697	SONU BEDIA	22	25-12-2022
131	APP698	BASUDEV KUMAR BEDIA	29	25-12-2022
132	APP699	MUKESH KUMAR	45	25-12-2022
133	APP700	PAWAN DEY	22	25-12-2022
134	APP701	MITHUN BEDIA	23	25-12-2022
135	APP702	MRITUNJAY KUMAR	27	24-12-2022
136	APP703	AMJAD HUSSAIN	37	25-12-2022
137	APP704	ANIL KUMAR GIRI	35	25-12-2022
138	APP705	SAMS TABREJ	30	25-12-2022
139	APP706	MAHADEV MAHTO	50	25-12-2022
140	APP707	ANAND KUMAR BEDIA	32	25-12-2022
141	APP708	MAHESH MAHTO	38	25-12-2022
142	APP709	NIRANJAN MAHTO	52	25-12-2022
143	APP710	MANOJ BEDIA	32	25-12-2022
144	APP711	KANCHAN MAHTO	47	25-12-2022

Bihar Foundry & Casting Marar Ramgarh

SL. NO	UHID NO	NAME	AGE	DATE
145	APP712	UTTAM SHIT	44	25-12-2022
146	APP713	RAMLAL RAI	37	25-12-2022
147	APP714	RAJESH MAHTO	44	25-12-2022
148	APP715	BIRJU BEDIA	39	24-12-2022
149	APP716	CHANDU KUMAR SHARMA	26	24-12-2022
150	APP717	JAMDEV GHASI	44	25-12-2022
151	APP718	GOPI MAHTO	49	25-12-2022
152	APP719	SONU KUMAR BEDIYA	29	24-12-2022
153	APP720	ARJUN BEDIYA	24	24-12-2022
154	APP721	PRABHU BEDIA	34	25-12-2022
155	APP722	SANTOSH KUMAR BEDIA	30	24-12-2022
156	APP723	KAMDEV BEDIA	22	25-12-2022
157	APP724	JAGESHWAR KUMAR MAHTO	22	25-12-2022
158	APP725	KULDEEP KUMAR	35	25-12-2022
159	APP726	REWALAL MAHTO	48	25-12-2022
160	APP727	ANAND KUMAR	28	25-12-2022
161	APP728	NANKU BEDIA	28	25-12-2022
162	APP729	SHANKAR BEDIA	30	25-12-2022
163	APP730	MD. ASFAK	47	25-12-2022
164	APP731	CHANDRADEEP PRASAD	35	25-12-2022
165	APP732	SANJAY KUMAR	25	25-12-2022
166	APP735	AKHTAR ANSARI	45	24-12-2022
167	APP737	BALKRISHNA MAHTO	29	24-12-2022
168	APP740	CHOTE LAL BEDIA	33	24-12-2022
169	APP741	DALESHWAR SAW	32	24-12-2022
170	APP742	SHUDHANSHU SHEKHAR PATHAK	35	25-12-2022
171	APP743	SANICHAR MURMU	28	25-12-2022
172	APP744	MAHBUB ANSARI	35	24-12-2022
173	APP745	DEENANATH DIWEDI	32	25-12-2022
174	APP746	ARJUN PRAJAPATI	41	25-12-2022
175	APP747	KANCHAN CHANDRA GUPTA	46	25-12-2022
176	APP748	RAM BRIKSH BEDIYA	36	25-12-2022
177	APP749	GAJADHAR KARMALI	54	25-12-2022
178	APP750	PRADEEP MUNDA	20	24-12-2022
179	APP751	PRAKASH KUMAR	37	24-12-2022
180	APP752	PRAN BEDIA	27	24-12-2022
181	APP753	RANJAN KARMALI	37	24-12-2022
182	APP754	SHRAVAN KUMAR	40	25-12-2022
183	APP755	RAJENDRA PRASAD	56	25-12-2022
184	APP756	RAJESH BEDIA	28	25-12-2022
185	APP757	JITENDRA BEDIA	30	25-12-2022
186	APP758	NAMESHWAR PRASAD	34	25-12-2022
187	APP759	RITU LAL BEDIA	42	24-12-2022
188	APP760	SANAULLAH ANSARI	40	24-12-2022
189	APP761	RAMTAHAL BEDIYA	54	25-12-2022
190	APP762	KAMLESHWAR BEDIYA	52	25-12-2022
191	APP763	RANJEET ORAON	32	25-12-2022
192	APP764	SONU KUMAR PATHAK	32	25-12-2022

SL. NO	UHID NO	NAME	AGE	DATE
193	APP765	SHASHI KUMAR BEDIYA	40	25-12-2022
194	APP766	RAJ KUMAR BEDIA	30	25-12-2022
195	APP767	BINOD BEDIYA	33	25-12-2022
196	APP768	JITENDRA KUMAR LOHRA	37	25-12-2022
197	APP769	VIKASH BEDIA	28	24-12-2022
198	APP770	BRIJLAL BEDIA	26	25-12-2022
199	APP771	PINTU PRASAD	33	25-12-2022
200	APP772	BAIJNATH MUNDA	37	25-12-2022
201	APP773	CHHOTE LAL BEDIA	25	24-12-2022
202	APP774	SHIV BALAK SINGH	46	25-12-2022
203	APP775	AJAY KUMAR BEDIA	31	25-12-2022
204	APP776	RAJESH MUNDA	48	25-12-2022
205	APP777	MAINEJAR BEDIA	35	24-12-2022
206	APP778	MANOJ BEDIA	26	24-12-2022
207	APP779	MD. ISLAM ANSARI	26	24-12-2022
208	APP780	ABID HUSSAIN	28	25-12-2022
209	APP781	MD. JAVED ANSARI	26	24-12-2022
210	APP782	SHASHI RANJAN KUMAR	20	25-12-2022
211	APP783	MITHU KUMAR BEDIYA	21	25-12-2022
212	APP784	SHAYAM DEO BEDIYA	33	25-12-2022
213	APP785	NARESH MAHTO	46	24-12-2022
214	APP786	BINOD BEDIYA	30	24-12-2022
215	APP787	SAHIL BEDIA	25	24-12-2022
216	APP788	SANTU BEDIYA	28	24-12-2022
217	APP789	ASLOK BEDIYA	22	24-12-2022
218	APP790	SURENDRA KUMAR BEDIA	27	24-12-2022
219	APP791	SURAJ PRASAD	27	24-12-2022
220	APP792	ANUJ KUMAR	34	24-12-2022
221	APP793	VISHAL KUMAR BEDIA	26	24-12-2022

Bihar Foundry & Castings Ltd. Marar Ramgarh

Annexure 10

M/s BIHAR FOUNDRY & CASTINGS LIMITED:FERRO ALLOYS UNIT

Expenditure incured for environment management

Period of October 2022 to March 2023

S.No.	Particulars	Amounts in Rs.
1	Air Pollution Control Equipments - Filter bags & maintenance	760590.72
2	Horticulture	89785
3	Preventive Civil Work(including Drain work & Coal shed)	1222324
4	OHC - medical checkup	386750
5	Environment monitoring & AMC CEMS	180085
	Total	**2639534.72**

Annexure 11

(10)

शिव शंकर मिश्रा
वार्ड पार्षद वार्ड सं0 09
रामगढ़ नगर परिषद
(झारखण्ड)

झारखण्ड सरकार

आवास : ग्राम + पो0 : मर
थाना : रामग
जिला : रामगढ़, (झारखण्ड)
Mob.:- 97981 789
96612 504

पत्रांक सं0 दिनांक .....

सेवा में,

मे० बिहार फाउंड्री एंड कास्टिंग्स लिमिटेड,
नरार, जिला -रामगढ,
झारखण्ड, 829117

विषय : पर्यावरणीय मंजूरी पत्र प्राप्ति के सम्बन्ध में।

महाशय,

कहना है कि हमें बिहार फाउंड्री एंड कास्टिंग्स लिमिटेड का पर्यावरणीय मंजूरी पत्र मिला था। इसमें दिए गए पर्यावरण सम्बंधित मापदंड में हमें आपत्ति नहीं है।

धन्यवाद।

Bihar Foundry & Castings Ltd. Narar Ramgarh

Bihar Foundry & Castings Ltd. Narar Ramgarh

दि० 21.04.16

शिव शंकर मिश्रा
वार्ड पार्षद सं0
रामगढ़ नगर परिषद (झा०)

Annexure 12

Ref. No. BFCL/ENV/2022/22

Dated: 22.11.2022

To,

Addl. Principal Chief Conservator of Forests (C),
Ministry of Environment Forest & Climate Change
Integrated Regional Office, Bungalow No. A-2,
Shyamli Colony, Ranchi- 834002
Email ro.ranchi-mef@gov.in

Sub- Half Yearly compliance status report of Environmental Clearance Conditions for the period of April 2022 to September 2022 in respect to Ferro Alloys Unit of M/s Bihar Foundry & Castings Limited.

Ref- Environmental Clearance Letter No. J-11011/384/2010-IA.II (I) dated 31.10.2011

Dear Sir,

We are pleased to enclose herewith six monthly compliance status report for the conditions stipulated in Environmental Clearance granted to Ferro alloys unit of M/s Bihar Foundry & Castings Limited at Plot no. 1405, Ramgarh Industrial Area, Marar Village, District: Ramgarh (Jharkhand).

We are also sending herewith the soft copy of the report to your good office via email ro.ranchi-mef@gov.in for your kind perusal.

Thanking You,

Received 30/11/22

Sincerely Yours,
For, Bihar Foundry & Castings Limited
Ferro Alloys Unit

(B. K. Gupta)
General Manager (Environment)

Bihar Foundry & Castings Ltd. Marar Ramgarh

Enclosures. As above

Copy to :

1. The Zonal Office Incharge, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th floors, 1582 Rajdanga Main Road Kolkata-700107 (W.B.)
2. The Member Secretary, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor) HEC, Dhurwa, Ranchi-834004
3. The Regional Officer, Jharkhand State Pollution Control Board, P.T.C. Chowk, Matwari Road, Dist- Hazaribagh (Jharkhand)-825301

O/C

Bihar Foundry & Casting Ltd. Marar Ramgarh

Annexure 13

BFCL™
Bihar Foundry & Castings LTD.

Ref: BFCL/ENV/2022/17

Dated: 06.09.2022

To,
The Member Secretary
Jharkhand State Pollution Control Board
T.A. Division Building (Ground Floor)
HEC, Dhurwa, Ranchi-834004

Sub: Submission of Environmental Statement of M/s Bihar Foundry & Castings Limited (Ferro Alloys Unit) for the Period of 2021-2022 in Form V.

Ref: (i) Environmental Clearance Letter No. - J-11011/384/2010-IA. II (I) Dated: 31.01.2011
(ii) Consent to operate Letter No. JSPCB/HO/RNC/CTO- 4412165/ 2020/1819 Dated 10.11.2020

Dear Sir,

With reference to the above we are hereby submitting the environment statement of /s Bihar Foundry & Castings Limited (Ferro Alloys Unit) for the period of 2021-2022 in Form V.

This is for your perusal and necessary record

Thanking you,
Sincerely Yours

B.K Gupta
General Manager (Environment)
Bihar Foundry & Castings Limited
(Ferro Alloys Unit)

Bihar Foundry & Castings Ltd. Marar Ramgarh

Encl. As Above.

Copy To:

1. The Addl. Principal Chief Conservator of Forests (C), Ministry of Env. Forest and Climate Change, Regional Office (ECZ), Bunglow No. A-2, Shyamali Colony, Ranchi- 834002.
2. The Regional Officer, Jharkhand State Pollution Control Board P.T.C Chowk, matwari Road, Dist- Hazaribagh.

07/9/2022

Bihar Foundry & Castings Ltd. Marar Ramgarh

Bihar Foundry & Castings Limited
Works :- Ramgarh Industrial Area, P.O.- Marar, Dist.- Ramgarh, Jharkhand - 829117.
Registered Office :- Main Road, Ranchi, Jharkhand - 834001.
CIN No :- U27100JH1971PLC000912 & GST No :- 20AABCB1852D1ZI
Landline :- 0651-2202699 Fax :- 0651- 2202799 Email :- bfclgfa@gmail.com

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